SBIR-STTR Awards Under ARRA				
Company	**City**	**State**	**Amount**	**Summary**
Advanced Building Air Conditioning and Refrigeration, Thermal Load Shifting, and Cool Roofs				
Chelix Technologies Corporation	Sunnyvale	CA	$150,000	In this project we'll develop novel roof paints that are highly reflective of the invisible solar heat radiation leading to significant reduction in cooling loads, global warming and greenhouse gases. The new paints will not alter the roofs' visual appearance which is a necessary requirement for their wide acceptance by the consumers
Ergenics, Inc.	Ringwood	NJ	$150,000	Ergenics Corp. in Ringwood, NJ is developing a new air conditioning and refrigeration system that operates on heat from the sun and does not use ozone damaging or global-warming-potential refrigerants. The technology lends itself to mass production and should be cost competitive with today's air conditioners.
Kazak Composites, Inc. (kci)	Woburn	MA	$150,000	A highly automated manufacturing process for producing mass market structural plastic building panels will be used to provide an OSB sheathing replacement that will reduce energy required for heating and cooling by up to 70% by selectively storing and releasing heat as needed to smooth out daily highs and lows.
Machflow Energy, Inc.	Worcester	MA	$149,700	Machflow Energy, Inc. develops novel air conditioning and refrigeration technology that can be used for residential, commercial, and automotive cooling. Cooling systems built around the technology will be light, inexpensive, and environmentally friendly, producing no direct greenhouse gas effect.
Magnetic Development, Inc.	Madison	CT	$149,964	A novel air-conditioning technology is proposed that is solar powered and uses natural refrigerants instead of Freons. It eliminates ozone depletion effect and greenhouse gas emissions and additionally cuts the electricity use by 90%. A residential air-conditioner best suited for Southern states will be developed first with other applications to follow.
Mainstream Engineering Corporation	Rockledge	FL	$149,979	Mainstream Engineering is developing an active thermal energy storage that combines the best features of existing chilled water and ice-storage systems. The system will allow for significant shifting of the demand load from peak hours to off-peak hours resulting in substantial cost savings.
Mer Corporation	Tucson	AZ	$144,507	An enhanced thermodynamic cycle to improve performance and simultaneously reducecost of magnetic refrigerators and air conditioners will be tested in a breadboard prototype refrigerator. Results of the tests will be applied to design a new generation magnetic refrigerator that can compete favorably with modern commercial devices.
Nanotrons Corporation	Woburn	MA	$149,836	Current highly IR reflective roof paintings which reduce the energy cost to cool the building cannot last long due to UV radiation. The proposed clear UV protective coating can increase the coating lifetime, but not add much cost.
Pax Scientific, Inc.	San Rafael	CA	$149,974	PAX Scientific Inc. of San Rafael, California has developed a novel air conditioning system that can cut electricity demand by up to 80%. This technology uses liquid desiccants – liquids that absorb water from the air – to dehumidify air prior to cooling, which can result in dramatic energy savings
Rocky Research	Boulder City	NV	$149,427	Appliances for cost-effective solar-powered building cooling are being developed. These appliances combine low-cost medium-temperature solar collectors with advanced high-efficiency heat-driven cooling systems, resulting in a truly cost-effective means for utilizing solar heat to provide building air conditioning
Strategic Polymer Sciences, Inc.	State College	PA	$148,053	This project will develop and design high efficiency, low cost and environmentally friendly refrigeration systems using ECE materials. The technology can be used in various refrigeration systems for building air conditioning, food preservation and cryogenic equipment
Technova Corporation	Okemos	MI	$150,000	Recent advances in nanotechnology will be employed towards development of lightweight and cost-competitive building components capable of storing the excess thermal energy through solid-state phase transformation. These components will enable shifting of the utility peak loads and effective use of solar energy for greatly lowering the heavy energy, environmental and economic demands associated with air conditioning of buildings
Tiax Llc	Cambridge	MA	$149,799	A breakthrough in fire safety performance of thermal energy storage materials enables realization of peak load shifting potential, contributing to energy savings and emissions reduction. The innovative materials can help offset current demands for energy, as well as future projected net increases in energy demand driven by climate change
Trinity Thermal Systems	Wichita Falls	TX	$150,000	This project will develop a novel thermal energy storage system that can be retrofitted onto air conditioning and heat pump systems in small to mid-sized commercial buildings. This cost effective technology will help utilities reduce peak demand, increase overall efficiency, and integrate renewable energy systems into a smart electric grid
United Environment & Energy Llc	Horseheads	NY	$149,990	This project aims to develop a bio-based intelligent roof coating technology to reduce both heating and cooling loads of buildings, which will bring significant energy and cost savings to the end-users, protect the environment and improve human health, and reduce the use of petroleum based fuel.

Water Usage in Electric Power Production				
Nanoasis Technologies, Inc.	Richmond	CA	$149,855	This project aims to develop a next generation, high permeability, chemically-robust membrane to be used for brackish water desalination. This membrane promises to significantly reduce energy and water costs for power generation as well as for drinking, agriculture and other uses
Nanotrons Corporation	Woburn	MA	$140,800	Water quality is an issue that affects industry, drinking water and the third world. Agiltron proposes to construct a water filter that can be inserted into existing filter systems and that can process water more than 100 times faster than the best technology available today. The implications for desalination of sea water and purification of polluted water around the globe is enormous.
Nrgtek Inc.	Yorba Linda	CA	$149,920	A low-cost, low-energy, solar-assisted seawater and 'produced water' desalination system will be developed, and a 5 gallons per day plant will be demonstrated to show the efficiency and efficacy of the proposed technology. The process will exhibit capability of desalination at one-third the cost of conventional desalination processes
Piedmont Biofuels Industrial	Pittsboro	NC	$139,249	The biodiesel industry must develop processes which push deeper into the waste stream for feedstock sources while minimizing negative environmental impacts. This project will develop an enzymatically catalyzed biodiesel process, allowing the use of low quality and waste feedstocks, eliminate process waste water, and dramatically improve glycerin quality.
Tda Research, Inc.	Wheat Ridge	CO	$150,000	TDA Research Inc is developing a technology that will permit fossil fuel and nuclear power plants, as well as petroleum refiners and other industries that use large amounts of cooling water to significantly reduce their demand for fresh water by using non-fresh water resources for cooling that are currently unsuitable because of their inherent levels of contamination.
Tusaar Inc.	Boulder	CO	$148,320	University of Colorado, Boulder, has developed a relatively simple, economical and low capital intensive method of removing dissolved heavy metal contaminants from water. This method will be applied and optimized for process and waste waters generated by coal fired power plants enabling water recycling and reducing environmental pollution.
Power Plant Cooling				
Mesocoat, Inc.	Euclid	OH	$150,000	This SBIR program will demonstrate the use of sub-micron cermet materials for improving the operating temperatures and lifetime of advanced heat exchangers for improved efficiency energy production
Advanced Gas Turbines and Materials				
Aerodyne Research, Inc.	Billerica	MA	$147,327	Improved gas turbines for power generation will provide decreased power cost and atmospheric emissions. This program will lead to demonstration of advanced cooling of the performance limiting turbine components, enabling improved efficiency, and directly impacting emissions and cost.
Candent Technologies, Inc.	Greenfield	IN	$147,355	Candent Technologies, an engineering research company located in Mt Comfort, Indiana, is developing an advanced technology, low cost, high efficiency, multi-fuel, small gas turbine engine, which is suitable for power generation and propulsion (marine, aviation) applications, and which will greatly reduce fossil fuel consumption as well as green house gas emissions.
Florida Turbine Technologies, Inc.	Jupiter	FL	$149,917	This project will verify and validate testing of innovative new Spar-Shell turbine component designs to clear the technology for full engine test and to eventually facilitate revolutionary advances of power plant performance, efficiency and clean operation.
Mer Corporation (materials And Electrochem	Tucson	AZ	$149,985	The very low cost titanium manufacturing developed in this program will provide a dramatic reduction in the cost of heat exchangers used for desalination. In addition to the increased availability of potable water, this will provide a major commercial advantage for domestic corporations for the sale and operation of these plants
Mesocoat, Inc.	Euclid	OH	$150,000	This SBIR program will demonstrate the use of self-lubricating nanocomposite cermet advanced coatings to produce a 10X life improvement in zinc galvanizing rolls
Modumetal, Inc.	Seattle	WA	$146,757	The proposed project seeks to develop structural materials for operation well above the melting points of most metals.
Physical Optics Corporation	Torrance	CA	$149,999	DOE is seeking development of new nondestructive evaluation (NDE) methods to assess materials' microstructures used in high temperature applications. MicroCITO is a new one-sided 3D imaging tomography system for the NDE of these materials *in situ* , in one pass, providing accurate identification of internal microstructures using 3D high-resolution X-ray imaging
Physical Sciences Inc.	Andover	MA	$149,996	Guided laser drilling of small holes will help maintain American leadership in gas turbine technology by enabling production of engines with higher efficiency and lower greenhouse gas emissions. The technology will additionally benefit the automotive and electronics industries, enabling improved fuel economy and competitive advantages in next generation handheld devices

Questek Innovations, Llc	Evanston	IL	$146,092	QuesTek Innovations proposes to use its *Materials by Design*® technology to develop a novel new oxide dispersion strengthened steel composition that can withstand the extremely high temperatures (>650°C) and service conditions relevant to next-generation ("Generation IV") nuclear power generation (fission and/or fusion) applications
Touchstone Research Laboratory, Ltd.	Triadelphia	WV	$149,998	Touchstone Research Laboratory is working to develop a new industrial high-temperature furnace insulation material that will dramatically decrease heat loss and reduce energy and maintenance costs.
Wilson Turbopower, Inc.	Woburn	MA	$149,607	Candent Technologies, an engineering research company located in Mt Comfort, Indiana, is developing an advanced technology, low cost, high efficiency, multi-fuel, small gas turbine engine, which is suitable for power generation and propulsion (marine, aviation) applications, and which will greatly reduce fossil fuel consumption as well as green house gas emissions.
Sensors, Controls, and Wireless Networks				
Analysis And Measurement Services Corpor	Knoxville	TN	$149,733	As nuclear power plants apply for license renewals for 60-year operation, management of aging assets has become a growing concern. In response, this proposal offers a holistic approach for cable aging management which includes comprehensive condition monitoring of aging wires and cables to reduce mishaps due to unexpected failures.
Argos Intelligence, Llc	Roswell	GA	$140,870	Argos Intelligence, LLC, proposes to develop the Advanced Remote Combustion E_ciency Monitoring (ARCEM) System to remotely measure are combustion e_ciency and to identify and quantify the emission products from ares. The ARCEM System combines image processing and models to monitor are combustion e_ciencies and their resulting gas emissions in real-time
Enertechnix Inc.	Maple Valley	WA	$149,950	Enertechnix, a Washington company, with the University of Washington and Simpson Tacoma Kraft, proposes to develop a novel terahertz imaging system that will provide improved control capability to boiler operators in the Pulp & Paper, Electric Utility, and Petrochemical industries. This technology offers substantial energy, economic, and environmental benefits.
Fieldmetrics Inc.	Seminole	FL	$150,000	The multi-function integrated sensor platform is an enabling technology for the smart grid. The project creates sensors for immediate deployment on the power grid to detect energy theft, improve energy delivery efficiency, provide early warning of grid instability and accurately monitor renewable energy resources
Luna Innovations Incorporated	Roanoke	VA	$149,958	A high stability temperature sensor with materials characterization capabilities is proposed for nuclear reactor use which supports the Gen-IV and Nuclear Hydrogen Initiatives. This sensor will enable safe operation of these new reactors at peak efficiencies, which in turn will reduce the US dependency on foreign oil while simultaneously reducing emission of green house gasses.
Mainstream Engineering Corporation	Rockledge	FL	$149,656	Mainstream has developed a wireless Remote Monitoring System that automatically monitors and detects problems in residential air conditioning systems thereby saving valuable energy, reducing homeowner expenses, avoiding unexpected failures, and creating jobs in Florida (since this product, like all Mainstream products, is Made in the USA
Nemometrics Corp.	Boston	MA	$150,000	NEMOmetrics Corp. and MIT are developing an inexpensive, easy to install system to measure accurately, monitor and optimize utility usage individually in each of the many devices and appliances used in a home or industrial facility without needing to put sensors on each of the devices being monitored
Og Technologies, Inc.	Ann Arbor	MI	$150,000	To improve the efficiency of dimension control and the safety of the steel workers, a new product will be developed with innovations in the areas of imaging, software algorithms and wireless communication. The expected benefits include enhanced safety, energy savings, improved yields, and reduced carbon dioxide release in the steel industry, as well as job creation
Smallfoot Llc	Boulder	CO	$150,000	This project will develop a low cost solution for reducing peak energy demand in commercial buildings. The wireless system is simple to install and automatically lowers peak demand, utility costs, power grid stress, and utility generation needs without affecting occupant comfort or productivity.
Spectral Sciences, Inc.	Burlington	MA	$149,965	Spectral Sciences Inc. (Burlington, MA) is inventing a spectral imager that will enable the continuous, autonomous and real-time monitoring and control of combustion flare emissions. This monitoring and control technology promises to optimize flare performance and minimize the emission of ozone-producing volatile organic compounds and human carcinogens
Syntrotek Corporation	Boulder	CO	$148,897	Syntrotek Corporation is working on the commercialization of new, in-situ process controlsensors for enabling up to $4 billion in annual savings to the U.S. Power Industry by improvingthe energy efficiency of critical power plant equipment (i.e., boilers, steam turbines and cooling towers).
Translume, Inc.	Ann Arbor	MI	$148,032	The US petroleum refining industry is the largest in the world and employees over 65,000 personnel. Translume proposes to manufacture an in-line, real-time spectrometer to monitor refining process, helping the petroleum refinery industry to remain competitive by lowering its fuel consumption and by reducing its environmental impact

Advanced Water Power Technology Development				
Columbia Power Technologies, Llc	Charlottesville	VA	$150,000	Present technology requires gears or hydraulics to address low drive shaft speeds in renewable energy systems, but operation and maintenance for gears and hydraulics are costly. This research develops a high torque, low speed and low cost direct connected rotary generator for renewable energy applications to reduce cost of energy
Composite Technology Development, Inc.	Lafayette	CO	$149,937	Energy havesting from our ocean's tides and river's currents will be an important part of the future renewable energy portfolio of the United States. This work seeks to develop reliable, cost-effective, manufacturing techniques that will improve the economic viability of these systems for the generation of renewable power
Concepts Eti, Inc D.b.a. Concepts Nrec	Woburn	MA	$149,789	Concepts NREC is proposing a means of significantly improving the efficiency of the high speed air turbine that is used with a water wave energy recovery system. The improvement uses the actual aerodynamic forces that are caused by the air flow across the turbine blades to provide the motive force to rotate the blade into an optimum position to affect maximum energy recovery from the wave while also eliminating the secondary, electrical feedback controls that are typically used in such applications. A total system cost per kWe reduction of as much as 30% is predicted
Dehlsen Associates, Llc	Carpinteria	CA	$150,000	The 4.5MW Centipod ocean wave generating system, a horizontally stable floating platform, optimally yawed (active) to wavefront exposure has 56 80kW flotation pods driving hydraulic rams. Fluid drives the hydroelectric generating system providing cost competitive electric power. Inherent survivability in extreme seas uses methodologies from offshore oil production. This project will provide complete detailed engineering of the commercial prototype.
E3tec Service, Llc	Clarksville	MD	$137,838	OTEC should be an important part of the portfolio of future U.S. energy supply. Advanced modular heat exchangers and their innovative integration with the OTEC platform are crucial for commercialization of OTEC plants
Lucid Energy Technologies, Llp	Goshen	IN	$150,000	Power pipe is a renewable energy system that will generate electricity by extracting energy from the excess head pressure in water transmission pipelines. The innovative technology has the capacity to generate millions of kilowatt-hours from an abundant source of energy which, to date, has been wasted
Makai Ocean Engineering, Inc.	Kailua	HI	$149,993	Ocean Thermal Energy Conversion (OTEC) can supply massive quantities of renewable and clean energy but costs are too high for the continental US market. This program will evaluate whether a unique Mist Lift Open Cycle process in a large OTEC plant can significantly lower OTEC costs.
Natel Energy, Inc.	Alameda	CA	$111,403	This SBIR Phase 1 Project optimizes the blade design of a novel low head hydropower technology that has the potential to cut the capital cost of low head hydromachinery in half.
Ocean Renewable Power Company	Portland	ME	$150,000	Ocean Renewable Power Company will work with the University of Maine to perform testing of tidal power generator devices in the university's water tow testing tank. Testing of scale models will allow the company to optimize its design of full scale units which will generate electricity from tidal currents.
Resolute Marine Energy, Inc.	Boston	MA	$150,000	Resolute Marine Energy, a Massachusetts-based company that is developing technologies for harnessing the power of ocean waves, has submitted a grant proposal to the Department of Energy that will develop an innovative means of adjusting the geometry of wave energy converters to improve their performance and safety
Rotating Composite Technologies, Llc	Kensington	CT	$149,824	An innovative water turbine power system is being developed that is anticipated to produce constant electrical power (does not vary output based on wind/sun/wave availability) that is competitive with coal and can provide substantial "green" energy when installed in rivers or ocean currents (e.g. Gulf Stream). The design, making use of both existing and patent pending technology, can create thousands of high value jobs in America and supports the country's goal of achieving energy independence
Synkinetics, Inc.	Framingham	MA	$148,475	Unique technology allows more efficient power generation from moving water by capturing additional energy that would otherwise escape, and by permitting turbine blades to rotate more slowly. Slower rotation is correlated with increased fish survival rates through the turbine and combines environmental with efficiency benefits
Smart Controllers for Smart Grid Applications				
Coincident, Inc.	Lakeville	MA	$149,940	Coincident is developing an energy management product for consumers and small businesses to help them realize the fi nancial, social, and environment benefits promised by smart grid and smart metering initiatives.
Encryptor, Inc.	Plano	TX	$148,459	We will develop a semiconductor chip to be embedded inside all electrical consumer appliances automatically reducing the power consumption of this appliance during times of peak electrical demand each day. This almost billion-unit (yearly) sub-$1.00 chip will directly impact electrical generation infrastructure investment and reduce pollution
Infotility, Inc.	Boulder	CO	$146,440	This research involves the development of intelligent software applications that provide plug-in electric vehicle (PEV) owners and grid operators with Smart Controllers that managing large numbers of PEVs on the grid, based on both local and grid conditions. The software will run at distributed locations on the energy network to improve the reliability, efficiency, security, and stability of the U.S. electrical transmission and distribution network

M2m Communications Corporation	Boise	ID	$140,000	Device that allows farmers to turn their equipment off and on based on preset parameters or on demand. This device will work anywhere in the world and allows access from a phone, smart phone, or computer to receive status reports or turn equipment off or on.
People Power Company	Palo Alto	CA	$142,053	People Power Company of Palo Alto CA, is using the SBIR funds to provide household energy management controller that will enable automated energy management and conservation within the residential community
Peregrine Power, Llc	Wilsonville	OR	$149,978	A smart, programmable controller will be developed that enables the charging of PEVs when it is advantageous in terms of price and grid stress. The controller and associated charging/storage system also will add significant energy storage, which encourages the use of renewables and which can be used to provide support for the grid and the customer's onsite loads
Springboard Engineering, Inc.	Newton	IA	$150,000	This proposal deals with researching smart devices that would enable the millions of existing appliances to connect with the Smart Grid. This device will disable and/or discourage appliance use during peak demand times in order to reduce the need to expand the power generation infrastructure and to reduce electricity costs.
Wattminder	Sunnyvale	CA	$140,001	This project entails the fault detection and estimation of building integrated photovoltaics systems and provides an alert notification for maintenance scheduling
Advanced Solar Technologies				
Accustrata, Inc.	College Park	MD	$150,000	AccuStrata is developing a real time optical control system to improve the thin film solar panel manufacturing process. This technology will reduce the time it takes for solar energy to reach grid parity by increasing the conversion efficiency and reducing product cost of the solar panels.
Ald Nanosolutions, Inc.	Broomfield	CO	$150,000	This project will develop a high-throughput powder coating reactor to scale-up a process known to significantly improve the quality of battery materials, while using lean manufacturing techniques. This process is easily scalable, energy efficient and can ultimately be used to supplant coating processes in many industries where precision is paramount
Alphabet Energy, Inc.	Oakland	CA	$150,000	Alphabet Energy will generate clean electricity from the waste heat in industrial exhaust streams from heavy manufacturing and power plants. Our technology, an innovation from the Lawrence Berkeley National Laboratory, is the first genuinely low-cost thermoelectric material, a solid-state device that converts a temperature gradient into electricity
Applied Colloids	Elk River	MN	$142,568	This project develops technology to improve biofuel production, such as ethanol. It will also help to reduce greenhouse gas emissions
Applied Thin Films, Inc.	Evanston	IL	$149,952	Fouling and corrosion of heat exchangers is a major source of energy consumption and efficiency loss in many industries. Under this effort, a revolutionary and unique coating material will be used to mitigate these effects.
Aspen Systems, Inc.	Marlborough	MA	$150,000	During Phase II program, we will scale-up this process to develop and demonstrate this successful cost effective technology for mass production with proven optimized process parameters based on Phase I data to produce a prototype large nano-Al alloy composite sheet and billet with superior properties. The material thus developed will suit automotive applications and also has future commercial potential in aerospace and defense applications
Asylum Research Corporation	Santa Barbara	CA	$146,777	Micro□and nanoscale probing and testing is essential to rapid evaluation and development of candidate photovoltaic materials and cells. Asylum Research has submitted a proposal to the Department of Energy to develop a Nanoscale Probe System to quickly evaluate these materials for their potential for increasing solar cell efficiency and for monitoring and performing quality and failure analysis in the production environment
Cobb Design Inc	Saint Petersburg	FL	$145,472	The project will allow Cobb Design to refine a design for components of a solar energy system that generates power at a cost competitive with fossil-fuel sources. Commercialization of this system will generate new green jobs to expand use of technology that reduces both energy imports and greenhouse gases.
Compact Membrane Systems, Inc.	Newport	DE	$150,000	Develop and commercialize stable nanoparticle catalysts for enhancing production of industrial chemical while reducing energy and capital costs for production.
Compact Membrane Systems, Inc.	Newport	DE	$150,000	Acid dehydration by distillation is the most energy and capital intensive chemical unit operation. This program will dramatically reduce the energy and capital costs of acid dehydration
Compact Membrane Systems, Inc.	Newport	DE	$150,000	Solvent recovery by distillation is the most energy and capital intensive chemical unit operation in chemical, petrochemical, pharmaceutical and food processing industries. This program will develop novel technology to significantly reduce the energy and capital costs of solvent recovery processes
Compact Membrane Systems, Inc.	Newport	DE	$150,000	This membrane process will save significant amounts of energy and reduce the generation of grrenhouse gases. The technology can serve many areas, such as the drying of alcohols and other azotropes, drying of other organics, drying of process fluids and water removal to enhance chemical reactions. It is estimated that implementation of the proposed concept will reduce the energy consumption in specific applications by about 50% relative to the conventional process

Covalent Solar, Inc.	Cambridge	MA	$149,813	The proposed technology uses a sheet of coated glass to concentrate sunlight onto a very small area of solar cells situated at the edges of the glass. Using fewer solar cells greatly reduces the cost of solar power and can make solar power competitive with the retail grid.
E3tec Service, Llc	Clarksville	MD	$141,476	U.S. process industry is at a turning point to be competitive and energy efficient on a global market. Thermal separation processes are capital intensive and the workhorses of the process industry that require a paradigm shift for achieving DOE's energy efficiency goals
Eltron Research & Development, Inc.	Boulder	CO	$150,000	Eltron Research & Development proposes a novel process, electroosmotic-assisted mechanical dewatering, that reduces the energy requirement in paper production by as much as 40%. The process can be adopted by paper manufacturers without significant equipment modification, and enhances the global competitive position of U.S. papermakers
Fractal Systems Inc.	Belleair Beach	FL	$149,718	Low cost solar power based on organic materials has the potential to reduce security and reliability risks and to reduce environmental impacts and will find uses in homes and commercial buildings as well as in military gear and equipment
Giner Electrochemical Systems, Llc	Newton	MA	$149,684	Inexpensive, renewable hydrogen production is crucial to the strategy of efficiently powering our vehicles with clean fuels. GES proposes to advance solar hydrogen development efforts by further improving Hybrid Sulfur electrolyzer components and, thereby, enhance the efficiency and economic viability of this thermochemical cycle for concentrated solar power applications
Gr Silicate Nano-fibers And Carbonates, Llc	Federal Way	WA	$145,477	GRSNFC has patented technologies to capture GHG/CO_2/industrial waste from power, steel, and cement plants and convert them into value added products for energy-efficient building materials and composites for fuel-efficient automobiles. This will increase energy efficiency, reduce the environmental footprint, improve the economy, and create "green" jobs.
Houghton Cascade Holdings, Llc	Tacoma	WA	$133,775	This project will help the pulp and paper industry become more competitive and reduce their greenhouse gas emissions. The success of project will further transform the industry into a green workforce
Innosense, Llc	Torrance	CA	$150,000	This project will support President Barack Obama's emphasis on stimulating the U.S. economy by accelerating the development of cost-effective, clean and renewable solar energy technologies for our nation by 2015. Solar energy is also a key element in combating global climate change.
Innovative Energy Solution	Highland, IN	IN	$150,000	This project will improve a technology to recover free hydrogen from the toxic waste gas, hydrogen sulfide, found in oil and natural gas processing. Using the hydrogen for combined electricity and steam generation will reduce the carbon emissions and increase the energy efficiency and competitiveness of refineries and gas plants while creating jobs
Kse, Inc.	Sunderland	MA	$150,000	Poly(vinyl butyral) (PVB) is a key component in laminated safety glass used in essentially every automotive vehicle produced. Current production of PVB is highly energy intensive and costly, primarily due to a complex manufacturing process requiring extensive purification steps. Great energy savings can be realized by utilizing a novel reactive distillation process for the production of PVB. The new technology will achieve energy savings of up to 10 trillion BTU's per year, reduce greenhouse gas emissions, reduce costs for U.S. automotive manufacturers for laminated safety glass, and improve employment in the U.S. chemical industry. Other applications abound for use of the novel technology to conserve energy in the manufacture of industrial chemicals.
Kse, Inc.	Sunderland	MA	$150,000	Production of acetic acid is highly energy intensive, due to the energy required to dehydrate the acetic acid. The new technology, utilizing energy-efficient dehydration methods, will achieve energy savings of 10 trillion BTU's per year, reduce greenhouse gas emissions, extend the use of energy efficient membranes, and improve employment in the U.S. chemical industry.
Luminit, Llc	Torrance	CA	$149,999	DOE is seeking advances in hybrid solar technologies for the co-generation of heat and electrical power. The proposed technology will effectively split the solar spectrum into two spectral bands using Holographic Optical Elements, and increasing conversion efficiency of the PV cells two to three fold without heating up the PV cells/modules.
Luna Innovations Incorporated	Roanoke	VA	$150,000	Development of a new manufacturing process at Luna Innovations Incorporated will make organic solar cells more efficient and affordable
Lynntech, Inc.	College Station	TX	$150,000	The proposed technology is an enabling system designed to make significant improvements to the countries capability to compete in nanomaterials manufacturing. As a result of this technology new jobs will be generated in a range of fields energy storage and conversion, medical sensors and products, defense technology, and new electronics

Mainstream Engineering Corporation	Rockledge	FL	$149,938	Cement manufacturing is inefficient, consumes large amounts of energy, and emits large volumes of greenhouse gases. Mainstream will demonstrate an environmentally-friendly, cost-effective, commercially-viable manufacturing improvement to reduce energy loss, reduce emissions, and make the US cement industry (3rd in the world) more competitive while creating additional US jobs
Mainstream Engineering Corporation	Rockledge	FL	$149,956	New distributed power systems produce waste heat that is either not used or combined with a waste heat recovery system, which uses a working fluid with high global warming potential. Mainstream will develop a new commercially-viable system that increases efficiency, reduces pollutant emissions, and uses an environmentally-sustainable fluid.
Mechanical Solutions, Inc.	Whippany	NJ	$149,995	This project will convert steam energy wasted in thousands of steam plants (industrial plants, manufacturing facilities, universities, hospitals, process plants, commercial buildings, and government complexes) into useful electric power by developing an oil-free, high speed, compact radial steam turbine generator that operates on foil (air) bearings. 1,000 of these generators will save enough energy to eliminate the need for 41 Exxon Valdez-size tanker shipments of imported oil annually. There a tens of thousands potential installation sites.
Media And Process Technology Inc.	Pittsburgh	PA	$149,999	Heat and water vapor losses in industrial gas exhaust streams are estimated to be on the order of 1,800 trillion BTU/year. The proposed Transport Membrane Condenser technology can potentially save ~ 25% of this energy while simultaneously recovering several 100million gallons of water per year.
Media And Process Technology Inc.	Pittsburgh	PA	$149,957	Distillation is required to meet the proposed cold soak test specification for biodiesel in the US, resulting in tremendous energy consumption on the order of 1.6 trillion BTU/year per billion gallons of biodiesel produced. The technology proposed by Media and Process Technology Inc. will deliver on-spec biodiesel, replace energy intensive distillation, save biodiesel producers hundreds of millions of dollars per year, and promote job growth in this green industry
Membrane Technology And Research, Inc.	Menlo Park	CA	$150,000	Refinery/petrochemical distillation separations use 5 to 6 quads of energy annually in the United States. The new combination distillation membrane separation processes to be developed in this project could cut the energy used in these separations in half
Nano-c, Inc.	Westwood	MA	$148,771	The aim of this work is to improve the efficiencies of printable, flexible Organic Solar Cells, using a novel approach to creating the active layer of these devices allowing for their commercialization. Nano-C will work with and leverage the device capabilities of the National Renewable Energy Lab in Boulder, Colorado.
Nanolab, Inc.	Newton	MA	$134,940	This proposal seeks funding to scale up the ISG process from a batch mode to a continuous roll to roll process.
Nanomech, Llc	Fayetteville	AR	$150,000	This proposal addresses scale-up and commercialization of novel nanoparticles-based lubricant additives for harsh boundary lubrication regimes (ball bearings, gears, and other related equipment) saving hundreds of millions of dollars from fuel savings, reduced vehicle exhaust emission, reduced friction and wear to improve energy efficiency and durability of US industries
Ngimat Co.	Atlanta	GA	$150,000	The goal of this project is to scale-up a versatile nanomaterials fabrication process to enable high-volume materials manufacturing for energy-storage and energy conversion. Nanomaterials enabled by this process will reduce our dependence on foreign energy sources, decrease harmful green-house gas emissions and forge a resurgence of the US manufacturing sector
Optical Physics Company	Calabasas	CA	$149,996	Solar energy is the ultimate renewable source, but so far solar panels have been too expensive for the great majority of consumers. This technology brings the cost of going solar down from 14 cents per kilowatt hour to less than 2 cents per kilowatt hour
Phasiks, Inc.	Los Alamitos	CA	$150,000	The work proposed in this program will lead to the devel-opment of a technology for deployment of safe, economical, and efficient concentrating solar power systems in distributed applications. The technology will substantially reduce the cost and increase the deployment of rooftop, parking lot, and other community□based solar power sys-tems.
Phycal, Llc	Highland Heights	OH	$147,942	This research project demonstrates the feasibility of manufacturing arrays for a novel separation technology cost-effectively such that they can be used economically to remove algae and other particles from aqueous suspension. This technology has the potential to significantly reduce production costs of algal biofuels and other industrial processes requiring particle separation
Physical Optics Corporation	Torrance	CA	$149,987	Electrical And Thermal Energy (HEATE) system. By combining holographic concentrating solar PV cells and thermoelectric generator technology, highly efficient and cost-effective electric power can be supplied, together with the cogeneration of heat (< 5 ¢/kWhr). POC's proposed HEATE system offers solar energy and heat conversion with much higher efficiency, as well as reduced overall weight and size of current electrical power systems
Physical Optics Corporation	Torrance	CA	$149,989	The Department of Energy is seeking an efficient and economical method to convert solar energy to fuel that can be stored. This research addresses the problem by improving the efficiency of hydrogen generation from sunlight by using both the light and heat energy to drive the reaction

Physical Sciences Inc.	Andover	MA	$149,816	Incorporating nanostructures on organic thin film solar cells will allow for increased power conversion efficiency beyond the 10% threshold necessary for commercialization. Successful commercialization of thin-film organic solar cell technology will allow for solar energy harvesting on residential and commercial rooftops. Due to their flexibility, organic solar cells are being considered for insertion into every day objects such as windows and fabric
Plextronics, Inc.	Pittsburgh	PA	$150,000	Plextronics, Inc and Solarmer Energy, Inc are world-leaders in developing clean energy technology. In this program with the DOE, the two US-based companies will collaborate to develop high performing, low-cost solar cells based on organic photovoltaic technology, which is expected to have tremendous potential as a low-cost renewable energy source.
Porogen Corporation	Woburn	MA	$150,000	Lightweight and efficient plastic heat exchanger will be developed by PoroGen Corporation. Improved efficiency and weight reduction will provide large energy and fuel savings for chemical process industries, aviation and automotive sectors.
Seldon Technologies, Inc.	Windsor	VT	$138,161	The solution to the problem of inseparability of water from biodiesel is very important for the development of biodiesel market. Seldon proposes to use its proprietary technology of carbon nanotube containing media (nanomesh), also utilized in other Seldon filtration products, to develop a cost-effective solution to this problem
Shakti Technologies, Inc.	Palo Alto	CA	$149,966	A new technology for manufacture of nanomaterials and fabrication of batteries and super-capacitors will re-establish the domestic manufacturing capability to serve the automobile, power tools and electronics industry. Our energy and defense security will be enhanced by the development of this technology
Signalogic, Inc.	Dallas	TX	$148,250	First generation Signalogic DSP arrays have been built and tested in servers for voice applications. The next development step is to adapt Signalogic DSP arrays to parallel processing software methods for heterogeneous CPU environment based on OpenCL (from Apple) and Chimera (from Lockheed-Martin Advanced Technology Laboratory). The software development effort required for this step, with objective to produce a combined hardware and software demonstration, is the subject of this application for SBIR funding.
Solarno Inc	Coppell	TX	$149,000	Solarno, Inc. and NanoTech Institute, University of Texas at Dallas, propose to develop innovative nanotechnology for manufacturing of high efficiency, flexible photovoltaic cells (OPVs). Furthermore, the proposed technology is cost-effective and resolves limitations in device lifetime. The numerous commercial applications include power generating rooftops, charging of portable electronic devices and light weight space exploration devices
Structured Materials Industries, Inc.	Piscataway	NJ	$150,000	A new relatively lower cost, more environmentally friendly high efficiency solar cell will be fabricated and commercialized, which will greatly improve the nation's energy independence.
Svv Technology Innovations, Inc.	Elk Grove	CA	$95,929	This project will develop and demonstrate a new approach for making inexpensive modular systems for co-generation of heat and electricity from sunlight. It will make viable the large-scale, distributed energy production from renewables and help meet the national goals of energy independence, reduction of carbon emissions and fostering the job growth and economic progress
Tda Research, Inc.	Wheat Ridge	CO	$150,000	For ultracapacitors to be used as high-power energy sources for electric and hybrid vehicles, inexpensive nanoporous carbons (the key component of the devices) are needed. To reduce the cost of ultracapacitors, inexpensive sugars will be used to make nanoporous carbons that cost less and outperform the best materials currently available.
Tda Research, Inc.	Wheat Ridge	CO	$150,000	TDA Research will develop a new process for making biodiesel that can use ANY oil or fat feedstock, including unrefined vegetable oils and waste greases. The use of low-cost feedstocks will reduce the price of biodiesel and expand the nation's production beyond what is possible from refined soybeans or canola.
Techfish, Llc	Charleston	SC	$148,500	This new process will increase production rates of papermaking operations and allow power companies to achieve renewable energy goals, both for low-capital and operating expense. These new facilities distributed around the country will increase jobs nationwide. This technology also applies to enzymatic biomass-to-ethanol plants under development
Telaztec, Llc	Burlington	MA	$150,000	District 007, Massachusetts. TelAztec has developed low-cost, scalable manufacturing methods for producing nano-scale surface relief textures that can be used to enhance the efficiency of solid state lighting materials based on organic light emitting diodes, or OLEDs. Working with Pacific Northwest National Laboratory (PNNL) and ARKEMA Corporation, TelAztec will investigate various nano-structure designs that have the potential to yield dramatic increases in light efficiency, reducing energy costs for industrial and residential lighting. Applications include industrial and commercial lighting, residential lighting, computer, automotive, and video displays, and solar cells based on similar PV materials
Tetragchem, Llc	Troy	NY	$148,840	The need for new enabling technology for carbon nanotubes will be developed that employs a new medium that is simple to prepare, easy to remove, reusable, scalable, economical, biocompatible and tunable

Triton Systems, Inc.	Chelmsford	MA	$149,990	Triton's lightweight composite is currently being evaluated in as a 1:1 replacement to steel in aerospace applications offering a 60% weightsavings. This effort will look to transition the material and weightsavings to automotive applications.
Versatilis Llc	Shelburne	VT	$150,000	Versatilis proposes the world's first "electretic" solar cells based on incorporating electrets with permanent electric charge (the electrical analog to magnets), into organic solar cell structures to dramatically improve their efficiency
Vision Dynamics Llc	Louisville	KY	$150,000	This proposal details a nanomanufacturing scaling up nanocomposite production applying green nanoscience principals through the complete process
Weidlinger Associates, Inc.	New York	NY	$149,041	Solar panels have not achieved market penetration due to high initial costs and inefficiency, but our hybrid building integrated panels will be part of the building's skin and significantly more efficient. These less costly and more durable panels are suitable for residential and commercial projects for new construction and renovations.
Y-carbon, Inc.	King of Prussia	PA	$149,938	Large scale manufacturing of advanced nanomaterials developed by Y-Carbon are anticipated to be less expensive to manufacture than currently used materials while offering breakthrough performance. Nanomanufacturing of such tunable nanoporous carbon is expected to have a major impact on fields ranging from electrical energy storage to medicine and water desalination
	TOTAL		$18,471,209	