

Round One Awards



Small Business Vouchers Pilot

ENERGIZING THE CLEAN ECONOMY

March 10 Round one of the DOE/EERE Small Business Vouchers Pilot (SBV) culminated with 33 vouchers awarded in 9 technical areas for a total of \$6.7M. Awardees are listed below.

ADVANCED MANUFACTURING

- iBeam Materials, Inc. Santa Fe, New Mexico
iBeam Materials seeks to disrupt the Lighting, Display and Wearable Electronics industries by creating new game-changing LED products.
Working with Sandia National Laboratories
- Glucan Biorenewables. St. Louis, Missouri
Glucan Biorenewables will characterize and test lignin as a carbon product to advance its unique *gamma*-Valerolactone (GVL)-derived lignin toward a functional, commercial carbon material.
Working with Oak Ridge National Laboratory
- Grid Logic, Inc. Auburn Hills, Michigan
Grid Logic will develop a method for additively manufacturing large-scale metallic parts through In-Process Binder Decomposition and the Sintering of 3- dimensional parts formed with a metal injection molded process.
Working with Oak Ridge National Laboratory
- GVD Corporation. Cambridge, Massachusetts
GVD will use measurement results to improve barrier coatings in an iterative fashion, resulting in the faster development of more effective coatings.

Working with Oak Ridge National Laboratory

- Mithra Technologies, Inc. Foley, Missouri
Mithra's prototypes could greatly enhance existing TAP reactor systems. This project will demonstrate how its tools support a unique approach to catalyst development.

Working with Idaho National Laboratory

- Widetronix, Inc. Ithaca, New York
Widetronix, Inc will leverage equipment infrastructure and technical expertise to the formation of the metal tritide beta source on the surface of the textured betavoltaic device to increase betavoltaic power output to medical devices.

Working with Lawrence Livermore National Laboratory

BIOENERGY

- Lygos. Emeryville, California
Lygos will utilize capabilities in fermentation and aspects of separation and product purification to de-risk aspects of its business, an important step towards scaling production and enabling commercial partnerships and applications.

Working with the National Renewable Energy Laboratory/Lawrence Berkeley National Laboratory

- Visolis. Berkeley, California
Visolis will utilize fermentation and catalysis focused on biofuel and bio-based products to produce performance measurements and validate its process to ascertain product purity meets required specifications.

Working with the National Renewable Energy Laboratory/Pacific Northwest National Laboratory

BUILDINGS

- Be Power Tech, Inc. (BPT). Fort Lauderdale, Florida
Be Power Tech will test and obtain operational performance measurements, allowing BPT to compare various system configurations, characterize system performance across weather and load conditions, and observe system reactions to transient conditions that approximate real-world use cases.

Working with Oak Ridge National Laboratory

- KCF Technologies. State College, Pennsylvania
KCF will demonstrate its cost effective, wireless sensor for measuring pump efficiency. Doing so will expand KCF's suite of predictive maintenance tools to target a potentially rich market and broaden its business sector.
Working with Oak Ridge National Laboratory
- Lucid Design Group. Oakland, California
Lucid design will combine its aggregate data and statistical tools with the lab's/DOE's reference data sets and physics modeling tools to create more actionable feedback for buildings and users in a way that is currently not possible without heavy investment in hardware and services.
Working with Lawrence Berkeley National Laboratory
- NorthWrite, Inc. Tualatin, Oregon
NorthWrite will implement and demonstrate advanced automated performance monitoring and diagnostic algorithms for equipment and systems of small and medium commercial buildings in a scalable, cloud-based software architecture, validated using experimental data and field tested on multiple real world buildings.
Working with Pacific Northwest National Laboratory

FUEL CELLS

- Altery Systems. Folsom, California
Altery will create a multi-physics model of its proton exchange membrane (PEM) fuel cell stack design using computational fluid dynamics (CFD) simulation modeling. This work will contribute to design improvements for increased power density/current density uniformity.
Working with Sandia National Laboratories
- Amsen Technologies. Tucson, Arizona
Amsen will characterize its new polymer electrolyte membranes and evaluate against DOE targets for fuel cell applications. Results will optimize the development process of membranes for fuel cells.
Working with Los Alamos National Laboratory

- Sustainable Innovations. East Hartford, Connecticut
Sustainable Innovations will validate its unique and innovative multi-channel hydrogen fuel quality monitor through testing and performance characterization to optimize design.

Working with Los Alamos National Laboratory

- Element One. Boulder, Colorado
Element One will validate the performance of its sensors for commercialization in several different markets.

Working with the National Renewable Energy Laboratory

- Midwest Energy Group. Carbondale, Illinois
MEG will conduct membrane stability and performance testing and evaluation of its prototype to move closer to field usage.

Working with the National Renewable Energy Laboratory

- KWJ Engineering: Fabricate and deliver sensor and conduct product characterization to develop the next generation of gas-sensing system for hydrogen and other gases.

Working with Los Alamos National Laboratory/ the National Renewable Energy Laboratory

- Treadstone Technologies. Princeton, NJ
Treadstone will analyze the potential for deploying its patented coating and processing technologies in the electrolyzer and battery markets. This work will contribute to low-cost, metal bipolar-plate manufacturing processes and quality control system development.

Working with Oak Ridge National Laboratory/Los Alamos National Laboratory

GEOTHERMAL

- FastCAP. Boston, Massachusetts
FastCAP has developed technical solutions to power downhole tools while operating at extreme high temperatures. This work will demonstrate that the technology is ready for use in a geothermal well.

Working with Sandia National Laboratories

- Geothermal Design Center. Asheville, North Carolina
Geothermal Design Center will perform validation to improve geothermal heat pump (GHP) loopfield designs, which will provide the GHP industry with new capability to qualify GHP equipment.

Working with Oak Ridge National Laboratory

SOLAR

- Renewable Power Conversion. San Luis Obispo, California
RPC will address areas for critical enhancements directly relevant to the commercialization of its marco-micro inverter.
- SkySun, LLC. Bay Village, Ohio
Skysun will perform detailed systems modeling on a novel working prototype of a ganged heliostat with the potential to drastically reduce both component and installation costs.

Working with Sandia National Laboratories

VEHICLES

- Big Delta Systems, Inc. Houston, Texas
Big Delta will demonstrate that the new process at the core of its technology is scalable, reliable and significantly reduces the cost of manufacturing high-performance Li-ion cells.
- Connected Signals. Eugene, Oregon
Connected Signals will obtain traffic signal data and demonstrate the benefits of real-time signal-state information for vehicles and drivers.
- Transient Plasma Systems. Torrance, California

Transient Plasma Systems will enhance the understanding of its technology by applying performance metrics. If successful, this work will accelerate development and acceptance in the automotive marketplace.

Working with Argonne National Laboratory

- Cool-X LLC. Amherst, Massachusetts

Cool-X will investigate the potential of nanolubricants, in particular nanodiamond additives, to improve the performance of high mileage vehicles by modifying surface finishes.

Working with Oakridge National Laboratory

- United Silicon Carbide (USC). Monmouth Junction, New Jersey

USC will demonstrate the performance benefits of a SiC JFET cascade-based motor drive inverter through lab validation and provide system level efficiency and cost impact analysis.

Working with Oakridge National Laboratory

- Envia Systems. Newark, California

Envia will conduct diagnostic investigations of positive and negative electrode materials to understand their exact function and operation in Li-ion batteries.

Working with Lawrence Berkeley National Laboratory

- XG Sciences, Inc. Lansing, Michigan

XGS will accelerate product development and reduce the risk associated with advancing XG SiG™ composite silicon/graphene anode materials to meet the lithium-ion battery performance targets of the DOE's, *EV Everywhere* Program.

Working with Lawrence Berkeley National Laboratory

WATER POWER

- Percheron Power. Kennewick, Washington

Perchcon Power will focus on the development and deployment of an advanced hydroelectric turbine for low head applications.

Working with Pacific Northwest National Laboratory

- Columbia Power Technologies. Charlottesville, Virginia

Columbia Power will work with the labs to accelerate the commercialization timeline for a proprietary wave energy conversion system—the StingRAY—that converts ocean waves into clean, cost-competitive, utility-scale electricity.

Working with National Renewable Energy Laboratory/Sandia National Laboratories

WIND POWER

- Micron Optics, Inc. Atlanta, Georgia
Micron will focus on product testing and validation. If successful, Micron Optics will use this work to eliminate market barriers for the seamless integration of fiber optic systems in commercial wind turbines.

Working with Sandia National Laboratories