

**U.S. Department of Energy  
National Energy Technology Laboratory**

# ***NETL NEWS***

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## **Four New Technologies Proposed by NETL for Transition to the Marketplace to Receive DOE Funding**

Four innovative energy technology research initiatives proposed by the National Energy Technology Laboratory (NETL) and involving partnerships with the private sector are among 54 projects at 12 national laboratories that will receive \$16 million worth of funding to help move promising energy technologies to the marketplace.

The funding is being awarded through the Technology Commercialization Fund (TCF), which is administered by the U.S. Department of Energy's (DOE's) Office of Technology Transitions (OTT). The focus of OTT is to expand the commercial impact of DOE's portfolio of research, development, demonstration, and deployment activities.

The NETL projects, the amount of the award, and the private sector partner are as follows:

- Cooperative Development of NETL Electrode Engineering Process for SOFC Commercialization, \$250,256: Acumentrics, Westwood, MA—NETL's nanofabrication process could allow the deployment of less expensive materials improving the reliability of solid oxide fuel cells (SOFC). Solid oxide fuel cells can be used for cathodic protection (rust inhibition), military applications and other energy uses.
- Development of Spouting Bed Reactor for Reduction of Hematite to Magnetite, \$749,781: Siox, LLC. Louisville, KY—The proposed effort could reduce the energy needed to convert a steel manufacturing byproduct called iron oxide hematite into a salable magnetite product that can be used in the removal of sulfur from Marcellus shale gas, the manufacture of fertilizer, automotive brake pads, corrosion inhibitors, water filtration systems, and as a food additive.
- Laser Induced Breakdown Spectroscopy (LIBS) Subsurface Sensor Maturation, \$246,423: Applied Spectra, Inc., Fremont, CA—The LIBS sensor is a miniaturized solid state laser designed for long-term optical measurements of subsurface water quality and composition. The sensors can be used for long-term water monitoring at or near sites or

areas where subsurface activities could potentially have a negative impact on water quality.

- Raman Gas Analyzer (RGA) Cooperative Development, \$106,640: Oxergy, Inc., Juneau, AK—Originally designed to monitor large natural gas turbines in power plants, improve the manufacture of optical fibers used in RGAs, and reduce the size of the RGA, the technology will lower the cost of the RGA system and make it more attractive for use in applications like monitoring renewable energy plants that use biomass-digesters or gasifiers and monitoring processes in the chemical and pharmaceutical industries that manufacture products in large vessels.

DOE's National Labs have supported the critical research and development that led to many technologies in the marketplace today, including the batteries powering electric vehicles, the foundation of Internet servers, and the optical digital recording technology behind DVDs. The TCF selections will increase return-on-investment from federally funded research and give more Americans access to cutting-edge energy technologies.

OTT announced the first solicitation to NETL and other DOE National Laboratories for TCF funding proposals in February, 2016. It received 104 applications from across the laboratory system for projects in two topic areas:

- Topic Area 1: Projects for which additional technology maturation is needed to attract a private partner
- Topic Area 2: Cooperative development projects between a lab and industry partner(s), designed to bolster the commercial application of a lab developed technology.

NETL's awards are under Topic Area 2. All projects selected for the TCF will be leveraged against an equal amount of non-federal funds from the private sector partner to match the federal investment.

NETL is a U.S. Department of Energy (DOE) national laboratory that produces technological solutions to America's energy challenges. For more than 100 years, the laboratory has focused on developing tools and processes to provide clean, reliable, and affordable energy to the American people. Three NETL research sites—Albany, Ore., Morgantown, W.Va., and Pittsburgh, Pa.—conduct a broad range of energy and environmental research and development activities that support DOE's mission to advance the national, economic, and energy security of the United States.