

For Immediate Release

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Ohio's Advanced Energy Sectors Receive Ohio Third Frontier Support

Columbus, Ohio – The Ohio Third Frontier Commission today recommended more than \$14 million in funding through the Ohio Third Frontier's Photovoltaics Program, Fuel Cell Program, and Advanced Energy Program.

"With Ohio's rich history in manufacturing, we want to continue to stay on the cutting-edge of advanced energy, allowing our companies to grow and create good-paying jobs," said Mark D. Kvamme, Director of the Ohio Department of Development.

The three programs work to accelerate the development and growth of some of the state's most promising green technologies. The grants and loan will benefit both the industry and its supply chain by providing direct financial support to organizations seeking to investigate near-term specific commercial objectives; commercialize new products; commercialize manufacturing processes or technologies, or adapt or modify existing components that can reduce the cost and improve the efficiency of photovoltaic systems, fuel cell systems, or other advanced energy technologies; address technical and commercialization barriers; or demonstrate market readiness.

Fiscal Year 2011 Ohio Third Frontier Photovoltaics Program Awards

Case Western Reserve University (Cleveland, Cuyahoga County) will receive \$899,818, in collaboration with Replex Plastics, for the project *Mirror-Augmented Solar Photovoltaic Systems: Durability and Lifetime Validation*. The project is further addressing the degradation mechanisms of photovoltaic materials, components, and systems and will provide proof that using Replex's ultraviolet-absorbing mirror to increase light exposure on flat-panel modules for solar energy systems will result in additional power gains.

DyeTec Solar, Inc. (Toledo, Lucas County) will receive \$950,000, in collaboration with Pilkington North America, Inc., for the project *Dye-Sensitized PV Architectural Glass*. The project is further developing DyeTec's dye-sensitized photovoltaic cell technologies for application in architectural glass, which will be used in commercial and residential window applications for electricity generation.

Energy Focus, Inc. (Solon, Cuyahoga County) will receive \$1 million, in collaboration with Replex Plastics, The Ohio State University, and Lighting Services, Inc., for the project *High Efficiency Photovoltaic Enable Off-Grid System*. The project is further developing photovoltaic technology for a cost-effective building exterior, parking lot, and driveway lighting wall pack unit that will reduce the amount of electricity and costs required to run such lights.

GreenField Solar Corporation (Oberlin, Lorain County) will receive \$1 million, in collaboration with the Edison Materials Technology Center and The Ohio State University, for the project *Low Cost Concentrated PV Design*. The project is further improving GreenField's StarGen™ concentrated

photovoltaic solar energy technology and will help drive a decrease in the cost of solar electricity.

Process Technology (Mentor, Lake County) will receive \$357,713, in collaboration with Cleveland State University and The Ohio State University, for the project *Commercialization of Inline Heater for use in Photovoltaic Solar Cell Manufacturing*. The project is further developing a heater for the acids, bases, and solvents to meet all of the cleaning, etching, and stripping applications of the photovoltaics industry.

Fiscal Year 2011 Ohio Third Frontier Fuel Cell Program Awards

Rolls-Royce Fuel Cells Systems (US), Inc. (North Canton, Stark County) will receive \$999,875, in collaboration with RoviSys Company, for the project *Automation and Demonstration of Pilot-Scale Manufacturing for SOFCs*. The project is further developing a measurement system for assessing real-time print quality of fuel cell layers and implementing a system for automated process control and traceability from raw materials to finished products.

Fiscal Year 2011 Ohio Third Frontier Advanced Energy Program Awards

Adsorption Research, Inc. (Dublin, Franklin County) will receive \$1 million, in collaboration with Rumpke Consolidated Companies, Civil and Environmental Consultants, Sauer, GSF Energy, Dublin Technical Systems, and Clean Fuels Ohio, for the project *Upgrading Landfill Gas to Pipeline Quality Natural Gas via Pressure Swing Adsorption*. The project is developing a pressure swing adsorption technology to upgrade methane-rich landfill gas to a high Btu renewable gas suitable for commercial pipelines, compressed natural gas, or liquefied natural gas.

Advanced Battery Concepts, LLC (Port Clinton, Ottawa County) will receive \$1 million, in collaboration with Crown Battery and the University of Toledo, for the project *Rapid Commercialization of GreenSeal™ Advanced High Energy Batteries*. The project is further developing bipolar electrode technology that will enable a substantial increase in the lifetime energy, power density, and environmental friendliness of traditional lead-acid batteries.

Delphi Automotive (Warren, Trumbull County) will receive \$1 million, in collaboration with Youngstown State University, for the project *Aluminum Shielded Large Size Battery Cable Development for Electric Vehicle/Hybrid Electric Vehicles (EV/HEV)*. The project is further developing the materials, products, and processes necessary to produce aluminum-shielded, large-size battery cable to replace current copper cables used to supply voltage in electric and hybrid electric vehicles.

GEM Energy Management, Inc. (Walbridge, Wood County) will receive a \$1 million loan for a two year term, in collaboration with JDRM Engineering and the University of Toledo, for the project *Modular Integrated Energy Systems for Critical Operations*. The project is further developing a heat and power generation system that will be integrated into customers' existing infrastructure and provide a continuous, uninterruptable power supply without regard to electric grid availability, intermittent solar radiation, or wind resource potential.

Inorganic Specialists, Inc. (Miamisburg, Montgomery County) will receive \$1 million, in collaboration with Mound Technical Solutions, EaglePicher Technologies, Ultramet, and Southeast Nonwovens, for the *Lithium Ion Material Commercial Demonstration Project*. The project is further developing silicon-coated carbon nanofiber paper for applications including lithium ion battery anodes, other battery materials, composites, electromagnetic shielding, resistive heating products, and fuel cell gas diffusers.

MesoCoat Inc. (Euclid, Cuyahoga County) will receive \$2 million, in collaboration with the University of Akron, for the project *High Power Density Powder Coating System for Infrastructure*. The project is further developing an advanced coating material technology and process to increase wear and corrosion resistance for energy infrastructure like boilers and heat exchangers.

SuGanit Systems, Inc. (Toledo, Lucas County) will receive \$2 million, in collaboration with the University of Toledo, for the project *Pilot Scale Demonstration of Ligno-Cellulosic Fuel Ethanol*. The project is further developing a cellulose to ethanol process and could lead to the first commercial cellulosic ethanol plant in Ohio.

For more information on the Ohio Third Frontier, please visit www.OhioThirdFrontier.com.

***Ohio Third Frontier**, an unprecedented and bipartisan commitment to create new technology-based products, companies, industries, and jobs, has attracted more than \$5.2 billion in other investments to Ohio, and has a nearly 9:1 return on investment since its inception. The Ohio Third Frontier has also assisted in the creation and retention of more than 60,000 direct and indirect jobs for Ohioans.*

*Working with partners across business, state and local governments, academia, and the nonprofit sector, the **Ohio Department of Development** works to attract, create, grow, and retain businesses through competitive incentives and targeted investments. Engaged every day in marketing, innovating, investing, and collaborating, the **Ohio Department of Development** works at the speed of business to accelerate and support the teamwork that is necessary for success by providing financial, informational, and technical assistance to those making an investment in Ohio's future.*

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