DOE announces $60M for solar power research
www.energy.gov/sunshot

Building on President Obama's broad-based plan to cut carbon pollution and support clean energy innovation across the country, Energy Secretary Ernest Moniz announced in October 2013 about $60 million to support innovative solar-energy research and development. As part of the Department of Energy's (DOE) SunShot Initiative, the purpose of these awards is to help lower the cost of solar electricity, advance seamless grid integration, and support a growing US solar workforce.

According to DOE, over the last three years, the cost of a solar-energy system has dropped by more than 70%. DOE will award approximately $16 million to four projects that will help develop solar devices that are near the theoretical efficiency limits of single junction solar cells, or about 30% efficiency. DOE will also award about $7 million to develop stronger, more reliable solar components as well as dependable performance tests for microinverters and microconverters. They provide easier installation and more effective capture of energy for both photovoltaic and concentrating solar power systems. Together, these awards are expected to help accelerate research breakthroughs in solar-energy conversion efficiency and performance—driving further cost reductions.

During President Obama's first term, the United States more than doubled the generation of electricity from wind, solar, and geothermal sources, according to DOE. The President has now set a goal to double renewable electricity generation once again by 2020. As the cost of solar energy continues to fall and deployment expands, seamless and efficient grid integration will help make variable clean energy resources even more affordable. To this end, DOE is investing about $8 million to help utilities forecast and integrate high levels of renewable energy generation into the grid, while ensuring reliable and affordable power.

To help support the necessary solar workforce, DOE is also awarding about $1 million to Delaware State University and the University of Texas at San Antonio to provide solar-energy research and education opportunities to minority students.

Canada launches Industrial Biomaterials Program
www.nrc-cnrc.gc.ca

Greg Rickford, Minister of State (Science and Technology) for Canada and the National Research Council of Canada (NRC), announced the launch of the Industrial Biomaterials Program, a new initiative designed to help create more fuel-efficient vehicles and greener construction materials.

"This new program will strengthen Canada's role as a leader in the development of innovative, and sustainable materials and technologies," said Rickford. "This is yet another example of how we're ensuring more ideas get to the marketplace, as this program integrates the expertise of the NRC with the business know-how of Canadian industry leaders to manufacture new lightweight, cost-effective, and bio-sourced materials for next-generation vehicles and homes."

The Industrial Biomaterials Program is a $55 million initiative over five years consisting of a Can$30 million investment by the NRC, and Can$25 million generated through collaborative projects with industry, academic institutions, and other government departments.

Canadian firms will now be able to transform agricultural and forestry by-products to create new materials and reduce the use of petroleum-based polymers (plastics). Bioresins, biofibers, and biocomposites made from Canadian non-food biomass (such as wood, lignin, grain husks, flax, and hemp stems) are environmentally friendly and provide alternative ecological options. These will provide manufacturers sustainable and durable green products to use in next-generation automobiles and building materials.

"Agricultural and forestry by-products will be integrated into new materials, which will ultimately reduce the use of petroleum-based polymers," said John R. McDougall, president of the National Research Council of Canada. "These biomaterials promise to be as safe as the materials currently in use by industry, inexpensive to produce, and the ideal lightweight technology for the automotive and construction sectors."

The program will combine resources from Canadian businesses to advance research and development in the manufacturing of industrial biomaterials. It will also help Canada's transportation and construction industries remain competitive in global markets by ensuring that automotive parts' manufacturers and green building material suppliers can adopt these leading-edge technologies. □

https://doi.org/10.1557/mrs.2013.326 Published online by Cambridge University Press