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Siemens to Give University of Maryland's Research Institute Boost towards Carbon Reduction Goals

- *Facility Improvement Measures to Help Reduce Energy, Track Energy Usage*
- *Onsite Micro Combined Heat and Power Systems to Generate Reheat Water*
- *Maryland Clean Energy Center Facilitated Project Finance and Performance Contract*

Siemens has begun working on infrastructure improvements for the University of Maryland's Institute for Bioscience & Biotechnology Research (IBBR) campus in Rockville. Valued at more than \$6 million, the 14-year performance contract is projected to generate annual energy savings through the use of two small-scale combined heat and power systems, LED lighting upgrades, and a demand response program, among other energy efficiency measures. The upgrades are expected to reduce energy usage by an estimated 2.9 million kW annually at all three of IBBR's specialized research laboratory buildings. The Maryland Clean Energy Center helped facilitate the project development by securing a \$4.6 million loan, backed by the projected energy savings of the performance contract.

IBBR is a world-class research institute between the University of Maryland, College Park and Baltimore campuses, and the National Institute of Standards and Technology. In addition to developing cutting-edge technologies, over the last 10 years IBBR has reduced its carbon footprint by 27 percent, with the goal of being carbon-neutral by 2040.

"IBBR and College Park's Facilities Management are committed to fiscal responsibility and upholding the President's Climate Action pledge," said Jim Johnson, IBBR's Director of Facilities and Lab Services. "The ability to save energy and minimize infrastructure costs was extremely attractive to the institute."

Siemens will install its Navigator cloud-based energy and sustainability management platform, which will allow IBBR to collect and analyze large volumes of building performance data such as energy consumption, system performance, and energy supply. The data will be used for Energy Star Reporting as well as for optimizing building performance and usage.

In addition, Siemens will also provide capacity charge management services, which will involve retrofitting IBBR's natural gas generator to operate for non-emergency use during peak capacity periods. This energy usage alternative is expected to save IBBR more than \$104,000 over a three-year period.

Other facility improvement measures will include upgrades to the Siemens APOGEE® building automation system, as well as to LED lighting in the greenhouse and environmental growth chambers. Domestic water conservation retrofits and upgrades are expected to help reduce the water usage by 139,000 gallons annually, while two onsite natural gas micro-combined heat and power systems – at 10 kW and 35 kW – are being used to supplement the reheat hot water requirements. A modular magnetic levitation chiller will replace two existing reciprocating chillers in

the oldest of the three buildings, and the existing plants in each of the three buildings will be interconnected to provide for chilled water redundancy across the campus. In addition, mechanical upgrades will be made to the existing walk-in coolers, and high efficiency transformer upgrades are being implemented.

“MCEC is pleased to help facilitate the financing and development of another university energy efficiency project,” said Wyatt Shiflett, Director of Finance Programs, Maryland Clean Energy Center. “Leveraging various financial resources like grant funding from the Maryland Energy Administration, utility rebates and loan financing were instrumental in developing a project that not only assists the university in meeting its sustainability goals but also makes great business sense.”

“We’re excited to work with the university again as well as MCEC on creating a strategic plan that addresses IBBR’s infrastructure needs,” said Dave Hopping, President of the North American-based Siemens Building Technologies Division. “By using an energy savings performance contract, IBBR will benefit from energy and operational cost savings, onsite energy generation, and data analytics that help track and measure its environmental footprint.”

The University of Maryland IBBR campus is familiar with Siemens’ solutions, having installed its first building automation system controls almost 30 years ago. Siemens has also been providing mechanical and other services to buildings across the campus.

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Media Contact

Allison Britt
Siemens
Media Relations
+1-630-399-2587
allison.britt@siemens.com