

POWER PRODUCTION...

Solar Farm 2.0

The new solar array, located just south of the Urbana campus, began energy production at the end of January 2021. The latest addition to the university’s energy portfolio added more than 20,000 megawatt-hours per year (MWh/year) of renewable energy, more than tripling sustainable power output.

Throughout installation of the array, the Waste Transfer Station worked with the contractors to collect and process all the materials so everything that can be recycled was recycled. More than 90 percent of all the packaging and installation related materials was recycled through this collaboration with F&S. Recyclable items included cardboard, scrap metal, wooden pallets, and other construction and demolition materials.

As a part of the project, the Waste Transfer Station was able to divert more than 90% of that from the landfill to be recycled.

“Solar Farm 2.0 addresses many sustainability goals as part of the Illinois Climate Action Plan (iCAP),” said Morgan White, associate director for Sustainability. “Every aspect of this project matters, including the energy production from the sun-tracking panels, the installation of pollinator-friendly plantings, and the diversion of construction waste.”



Installation of the Solar Farm 2.0 array included 31,122 panels that can track the path of the sun. Each panel on each row is on a north-south single axis self-powered tracker that allows for more efficient collection of solar power.



91%
of waste
recycled

WASTE COLLECTED
SINCE OCTOBER 2020

Pounds collected: 116,230
Pounds recycled: 105,580



“Every aspect of this project matters, including the energy production from the sun-tracking panels, the installation of pollinator-friendly plantings, and the diversion of construction waste.”

Morgan White, associate director of Sustainability

Photo courtesy of Jim Baltz

Through Sustainability

Geothermal Energy

F&S, the Institute for Sustainability, Energy, and Environment (iSEE), and the Illinois Water Resources Center formed the new Illinois Geothermal Coalition (IGC) with the goal of making the university a leader in geothermal energy research and achieving iCAP goals. This coalition will work together to strengthen and advance the implementation and design of geothermal energy systems in the Midwest, which will establish the university as a leader in geothermal energy and renewable energy innovation.

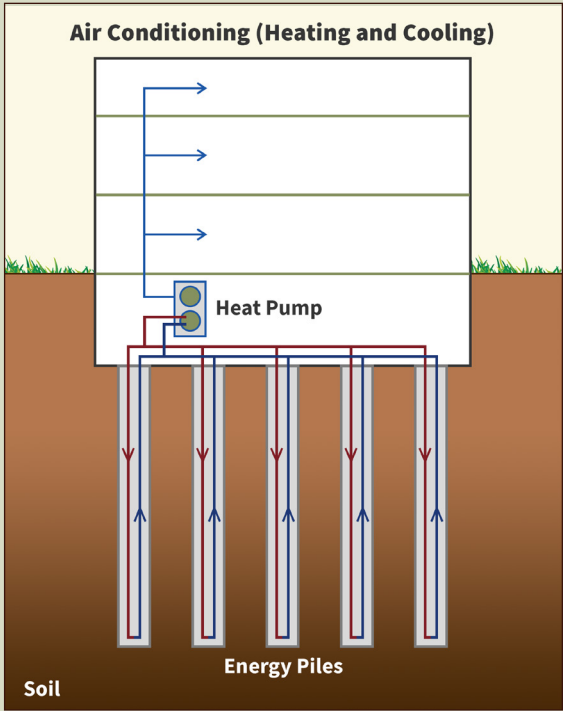
Additionally, the IGC will help in developing policies for integrating groundwater and geothermal systems within the campus energy mix, including the impact of geothermal systems in energy generation and storage on campus energy management.

“Geothermal energy is an emerging and effective way to sustainably heat and cool buildings,” said White. “By helping to establish the IGC, the campus and local communities can equally benefit in multi-faceted ways. F&S’ ability to connect with academic units on campus will benefit the greater good, like that at the Campus Instructional Facility (CIF).”

The new 112,000 gross square feet CIF is scheduled for substantial completion this year. It will utilize a ground source heat exchange system from 40 boreholes arrayed under the Bardeen Quad. A separate borehole was also constructed nearby for monitoring and research purposes.



Core samples taken at the geothermal energy drilling site at the Campus Instructional Facility (CIF). Geothermal energy will help the CIF use less energy to heat and cool the building, reducing energy consumption, carbon footprint, and expenses in the long run.



How does geothermal energy work?

Hundreds, or even thousands of feet under the earth’s crust, the temperature is warmer than it is on the surface. So, geothermal energy rods and plumbing reach deep down into the earth, gather the warmth radiating from the earth’s 10,000° F core. Pump systems either transfer the heat into the home or building, or pump the heat out from a building in order to cool it.