

5 MW Solar Array Pennyrile RECC and Fort Campbell

Project Description

Fort Campbell will soon be home to Kentucky's largest photovoltaic solar array east of the Mississippi. Pennyrile Rural Electric Cooperative Corporation (RECC), the United States Army (USA) at Fort Campbell and the Cabinet are partnering to develop a 5 megawatt (MW) solar array. Pennyrile RECC will be financing approximately 500 kilowatts of the array and Fort Campbell will be entering into a power purchase agreement for the remainder. The Cabinet awarded Pennyrile RECC a \$3.1 million grant to fund 1.3 megawatts (MW) of the 5 MW array. The total project represents an investment of more than \$19.5 million.

The USA directed Fort Campbell to reduce its energy intensity by 3 percent annually through 2015 or by 30 percent by 2030. To achieve this standard Fort Campbell has been evaluating alternative energy portfolios that include biomass, natural gas from local shale formations, energy efficiency, geothermal and solar. Through this partnership Fort Campbell will be able to accelerate the solar phase of their portfolio. This is the Army's first partnership between its local energy provider and its state to support an on-post photovoltaic solar array.

The solar array is expected to produce approximately 6,651 megawatt-hours a year, enough electricity to power about 460 average homes. This will avoid about 4,700 tons of carbon dioxide emissions a year which is equivalent to removing 1,160 cars from the road. Design and engineering work will begin on the project in summer of 2013, but the majority of the panels will be installed in 2015.

Project Objectives

- Installation of a 5 MW photovoltaic solar array at Fort Campbell.
- Contribute to the U.S. Army's renewable energy goal.
- Contribute to energy independence and security.
- Reduce the emissions associated with Fort Campbell's energy consumption.

Time-line

- August, 2013 – Design and Engineering, including switchgear, racking, and conduit layout
- October, 2014 – Contracts completed between Fort Campbell and Pennyrile and Fort Campbell's PPA provider
- January, 2015 – File for interconnection; Procure Materials; Secure Labor
- March, 2015 – Begin construction on site; place ballasts
- April, 2015 – Erect Racking; Set Solar Modules; Run Conduit and Wire
- August, 2015 – Testing and Commissioning of 5.0 mW DC/4.1 mW AC system