

Wingate Solar Array Case Study

“Renewable energy installations like Wingate aid the movement toward clean solar energy powering homes and businesses across the country.”

-Jeffrey Burkett, President



Location: Murphy, North Carolina
Utility: Tennessee Valley Authority
System Size: 999kW
Footprint: 5 acres
Scope of Work: EPC, O&M and Monitoring
Construction Start Date: May 2011
Construction Completion Date: May 2011
Modules: Canadian Solar CS6P-P 235kW
Inverters: Advanced Energy 260kW
Monitoring System: ESA Renewables
Annual output: 1.3 million kWh
Annual CO₂ avoided: 936 tons

ESA Renewables, LLC (ESA) secured a Power Purchase Agreement from Tennessee Valley Authority and Blue Ridge Mountain EMC to construct a 999kW solar system. The five acre Wingate site, located in Murphy, North Carolina, was built up 36 feet to level the terrain for installment. The contour of the land had to be adjusted to ensure high levels of energy production and to mitigate potential erosion issues. The entire installation, from permitting to commissioning, was completed in three weeks.

The solar system will produce approximately 1.3 million kWh of electricity annually for the community of Cherokee County. This amount of energy is equivalent to the power consumed by 150 average sized homes. In addition to power efficiency, the Wingate solar plant reduces carbon emissions by 936 tons each year, comparable to 4,681 sequestered trees. The installment has also largely impacted the Murphy, North Carolina community by providing jobs to local electricians, engineers, supervisors, and construction workers.



ESA Renewables, LLC