



Commissioned on April 21, 2009, with the Tennessee Valley Authority (TVA) and Middle Tennessee Membership Corporation (MTEMC), Franke's 51.24 kW solar PV system is the largest solar installation in Middle Tennessee.

The Array

LightWave Solar Electric LLC designed and installed this 51.24 kW photovoltaic solar electric system for the Franke facility in Smyrna, TN. The array consists of 168 SunPower 305 watt mono-crystalline silicone photovoltaic panels and one SatCon 50 PVS Gen II inverter. The panels carry a 25-year limited warranty with a life-expectancy of 40-50 years, and the inverter carries a five year warranty with a life-expectancy of 20 years. The system performance is monitored and managed in real-time via the Fat Spaniel online monitoring system.

With 2,950 square-feet of high capacity solar panels, the array produces 51.24 kW of peak power, generating approximately 64,000 kWh per year. This production will offset Franke's energy costs by almost \$13,000 annually, based on current utility rates. In addition, Franke was granted a TN Clean Energy Technology (TN-CET) grant, a Federal Energy Investment Tax Credit (ITC), and federal depreciation benefits (MACRS), which all told, covers approximately 65% of the cost of the system.

LightWave Solar Electric LLC

With over 40 years of combined experience in the field, LightWave Solar Electric LLC brings state of the art technology and trusted and experienced services to homes, businesses, schools, and industrial and federal facilities across the state.

Employing four NABCEP-certified Solar PV Installers™ (North American Board of Certified Energy Practitioners) and holding a TN State Electrical Contracting License, LightWave Solar Electric is a leader in TN's solar industry. LightWave Solar Electric's award winning photovoltaic systems qualify for state and federal incentive programs and make a difference in our communities every day.



Specifications

System Size:	51.24 kW peak
Location:	Smyrna, TN
Solar Module:	SunPower 305
Inverter:	SatCon 50 PVS Gen II
Mounting System:	SunPower T-10
Est. Annual kWh:	64,000 kWh

Economic Incentives

- TVA's Generation Partners Energy Credit (20 cents per kWh)
- TN-CET State Grant (40% Total Cost or \$75,000 max.)
- Federal Tax Credit (30% Total Cost)
- Federal Accelerated Depreciation

Environmental Impact

Over the 25-year warranted panel life, system will offset emissions of:

- Carbon Dioxide (CO₂): 2,301,957 lbs
- Nitrous Oxide (NO_x): 3,459 lbs
- Sulfur Dioxide (SO₂): 10,632 lbs

Equivalent to planting 320 acres of trees!