

# natural energy group



**SHARP**  
solar electricity



**PV Powered**<sup>®</sup>  
AN **ΔE** ADVANCED ENERGY COMPANY



*-January 27, 2011-*

## **1 MW solar photovoltaic installation The largest PV array in the 7 state TVA region**

**Project:** **American Drive Solar Farm**  
**Project Owner:** Natural Energy Group, Knoxville, TN  
**Project Designer/Installer:** Efficient Energy of Tennessee, LLC, Powell, TN  
**Property Owner:** Jackson Industrial Holdings, LLC, Jackson, TN  
**Drawings:** Michael Brady Inc., Knoxville, TN

**Solar Panels:** 4704 Sharp ND-224UC1 Panels (1 MW portion of System)  
210 Sharp ND-224UC1 Panels (47 kW portion of System)  
**Inverters:** 4 PVP-260LV-480 by PV Powered (1 MW portion of System)  
1 PVP50-208 by PV Powered (47 kW portion of System)  
**Mounting:** Terrafix Solarpark Ground Mount

**Construction Began:** November 22, 2010  
**System Commissioned:** January 18, 2011

The Project is installed on a 5.5 acre portion of the 55 acre site that comprises the American Drive Business Center. The Project consists of a 1 MW PV array that is grid tied to Jackson Energy Authority under the TVA Generation Partner's Program as well as a 47 kW PV array that is tied directly into the facilities utility infrastructure. The 1 MW array will provide enough electricity to power approximately 200 average sized homes in the area. The 47 kW site will provide power to offset the facilities utility usage.

**Power Production: 1,500,000 kwh annually**

Enough to power 200 of homes.

### Jackson Energy Authority Involvement

Bruce Dorris Commercial Relations Manager  
Billy Gordon Electric Project Engineer

### Local Company Involvement:

Trees were cut by Bryant Tree Service, Jackson, TN  
Landscaping was done by Morris Nursery, Jackson, TN  
Site work was completed by Jimmy Brittain's Construction, Jackson, TN  
Labor provided by Labor Finders, Jackson, TN

*annual carbon offset savings of:  
CO2 emissions from 96,853 gallons of gas consumed  
CO2 emissions from 2,002 barrels of oil consumed  
CO2 emissions from the electricity use of 104 homes  
Carbon sequestered from 184 acres of pine forest*

**Links:** <http://www.adbcjackson.com/>  
<http://www.eetenn.com>  
<http://gosolar.ning.com/>  
<http://www.pr.com/company-profile/overview/128409>

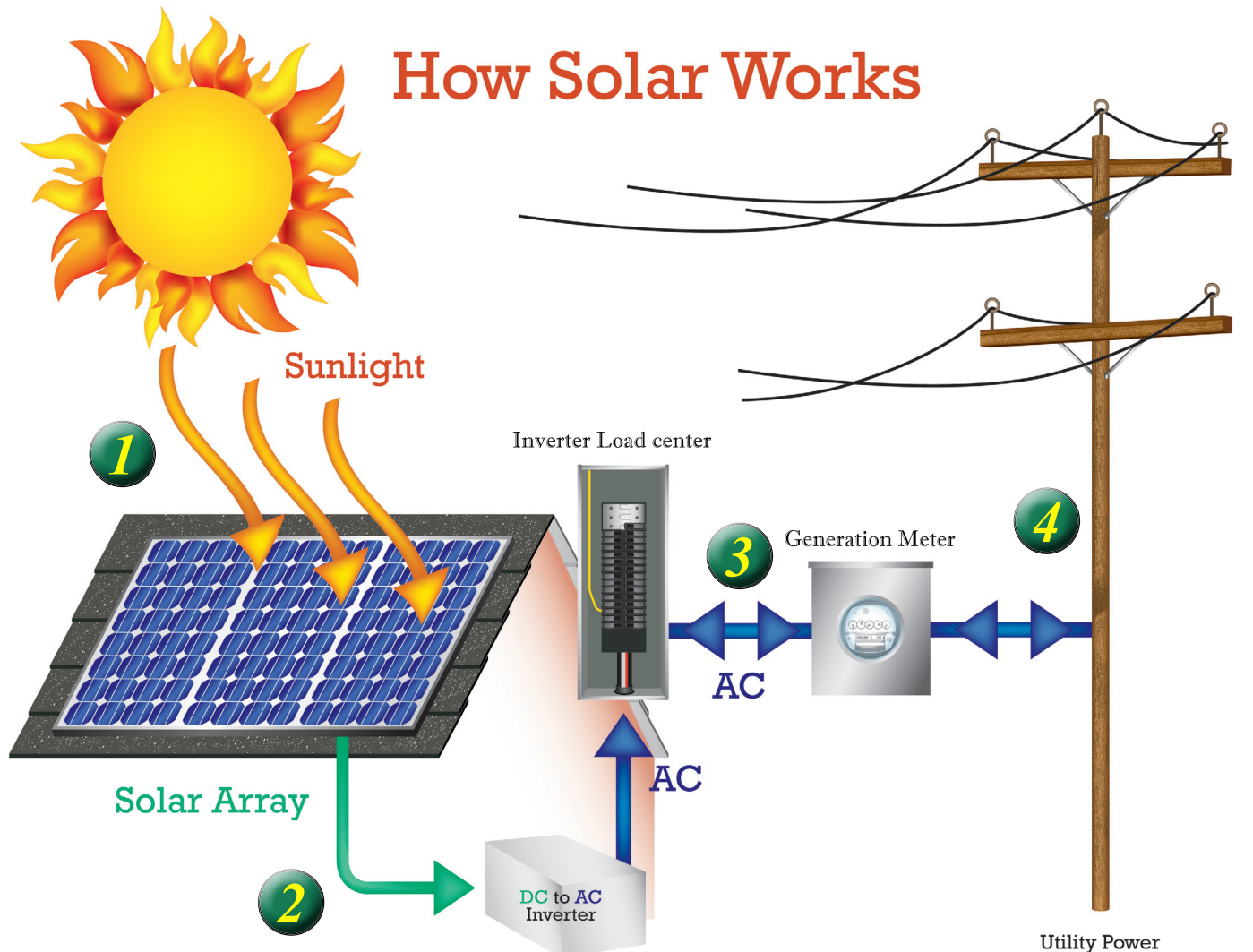


Illustration courtesy of City of Knoxville, Solar America City

1. Crystalline solar panels absorb the sun's rays and convert the light to a Direct Current (DC) electric output.
2. The DC from the solar panels is supplied to one or more inverters which convert the DC electrical output to an Alternating Current (AC) electrical output which is compatible with most electric systems. Inverters also supply the output at various voltage levels (208, 240, 277, 480) depending on the system requirements. In some cases, the voltage is transformed up to an even higher voltage (ex. 13.4 kv) in order to be supplied directly to the three phase electrical grid.
3. The electricity produced passes through a generation meter which calculates the total amount of power produced over time. Under the TVA Generation Partner Program, this meter is read monthly and the reading is used to determine the revenue to be credited to the customer by the utility.
4. The AC power is supplied to the local utility grid and supplements the existing power from other sources.



**Efficient Energy of Tennessee**  
*NABCEP Certified Solar PV Installers*  
 Residential, Commercial and Utility Scale  
 Contact: Robbie Thomas, President  
 Harvey Abouelata, VP Sales & Marketing

