



**Tennessee Renewable Energy
Economic Development Council
February 24, 2012**

Volunteer State Solar Initiative

- \$62.5 million ARRA funds
 - DOE grant to ECD, State Energy Program
- A comprehensive solar energy and economic development program, focusing on job creation, education, renewable power production, and technology commercialization
 - Two related, but separate projects:
 - West Tennessee Solar Farm near Brownsville (\$31 M)
 - Tennessee Solar Institute – Solar Opportunity Fund (\$29.2 M)
- Designed to leverage existing solar base and support the growing solar industry in Tennessee



WEST TENNESSEE
SOLAR
FARM



TENNESSEE SOLAR INSTITUTE

- Solar Opportunity Fund
- Technical Assistance
- Workforce Development
- Education and Outreach
- Workforce Development Needs Assessment



SOLAR OPPORTUNITY FUND

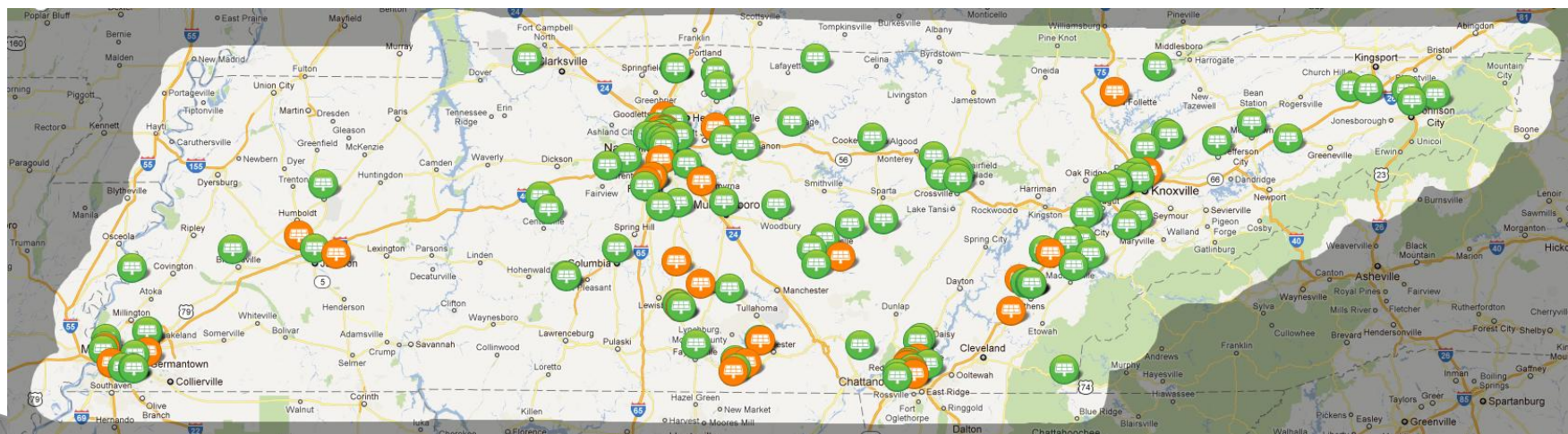
- Total award is \$23.5M
 - Installation Grants to speed the deployment of solar energy
 - Innovation Grants to encourage growth of Tennessee's solar industry



J&S Construction– Putnam County
37.5 kW ground mount

SOLAR INSTALLATION GRANT PROGRAM

- 156 - Grantees
 - 31 – Agricultural
 - 46 – Industrial
 - 79 – Commercial
- 41 - Counties
- >6.7 MW of New Clean Power
- 4.2 – 200 kW system sizes
- \$11.5M in incentives
- \$27.0M in leveraged funds



<http://solar.tennessee.edu>

SOLAR INSTALLATION PROJECTS



SOLAR INNOVATION GRANT PROGRAM

Purpose

- To facilitate the growth of companies in Tennessee's solar value chain
- Increase energy efficiency in the workplace
- Incorporate renewable energy in the workplace

Outcomes

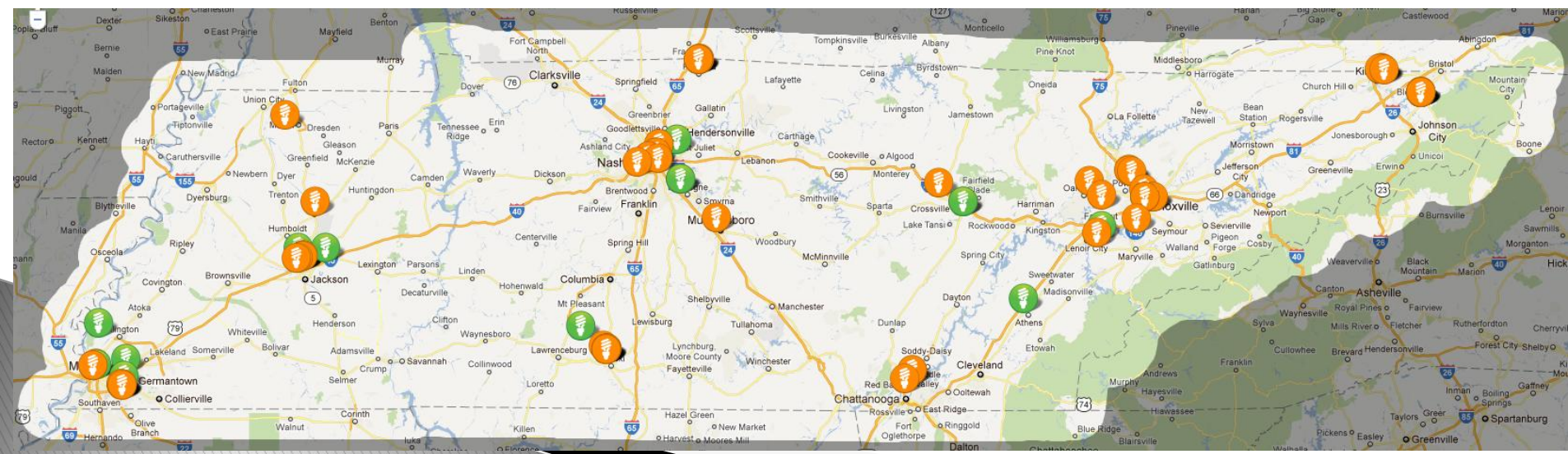
- Create jobs
- Strengthen Tennessee's solar value chain
- Increase competitiveness
- Reduce energy costs and greenhouse gas emissions

SOLAR INNOVATION GRANT PROGRAM

- Technical Assistance
- Workforce Development
- Renewable Energy Products
- Process Improvements
- Technology Improvements
- Facilities & Equipment Improvements

Summary

- \$12.1M in 80 awards to 34 solar firms across the state
- \$14.0 M in cost-sharing



TENNESSEE SOLAR MANUFACTURERS



SH

solar

MidSo
Energo

DIV
PO

INTER
LLC

WORKFORCE DEVELOPMENT

“New skilled workers required for expansion.”

SHARP.

WACKER

AGC

**DIVERSIFIED POWER
INTERNATIONAL, LLC**

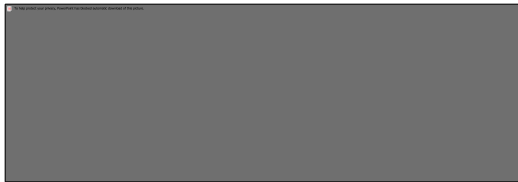
**OUTPOST
SOLAR**

CaraSol
solar energy products

HSC
HEMLOCK
SEMICONDUCTOR
Powering Tomorrow with Proven Performance

Soltility

shoals technologies group



A-1 Electrical Contractors Inc



Appalachian
Renewable
Resources

SUSTAINABLE FUTURE

Zuercher Electric Co

“Technology is being updated rapidly.”



Long Term Benefits to the SVC

- Increased marketing and sales
- Trained workforce
- Incorporation and demonstration of renewable energy to showcase products
- Incorporation of energy efficiency and new technology into manufacturing
- Reduced facility energy usage



Citizens National Bank –
Madisonville
24.3 kW roof mount

A stronger, more competitive,
solar value chain in Tennessee

Workforce Development

- Conducted 7 Basic Photovoltaic Training Workshops
- Trained 150 individuals
- Interest is strong across the state
- Next classes
 - Mar 26–30 in Memphis
 - Apr 16–20 in Spring Hill



Hands-on PV training class
January 30 – February 3, 2012

THE TENNESSEE SOLAR VALUE CHAIN: A Workforce Development Needs Assessment

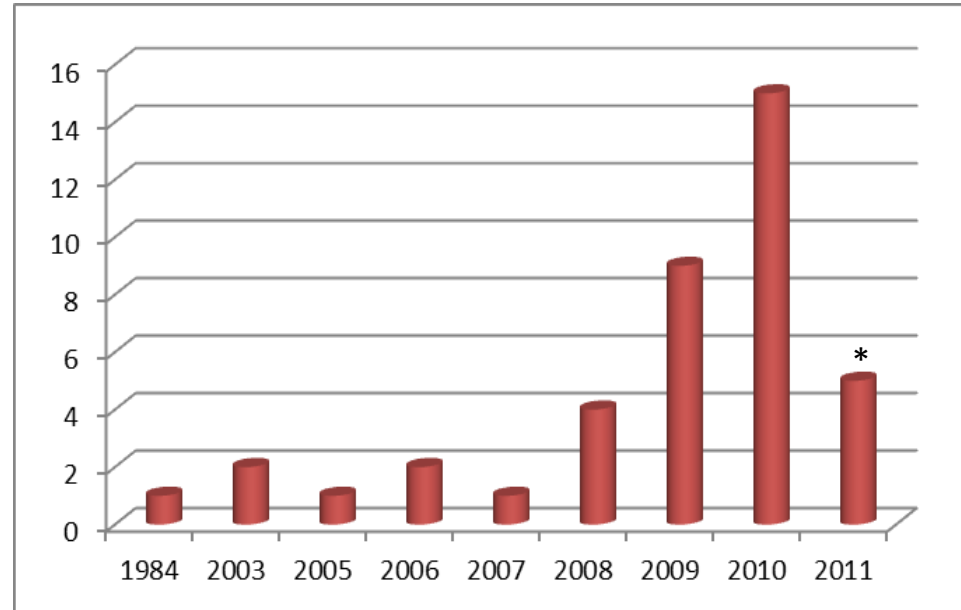
- \$260 Billion industry worldwide
- Solar industry grew by 69% last year
- High-level view of Tennessee's solar value chain
 - What businesses are in the solar value chain in Tennessee?
 - What do they need to be competitive?

REPORT HIGHLIGHTS

- In 2008, <0.1 MW PV installed
- In 2011, 17 MW PV installed (cumulative)
 - Enough to power 1300 homes.
- In 2012, an additional 10–15 MW?
- 242 organizations in TN's solar value chain
 - 180 for-profit firms
 - 62 non-profit firms
- ~6400 jobs in the solar industry [MTSU report]
- 8.3% growth rate in the clean energy sector from 2003–2010

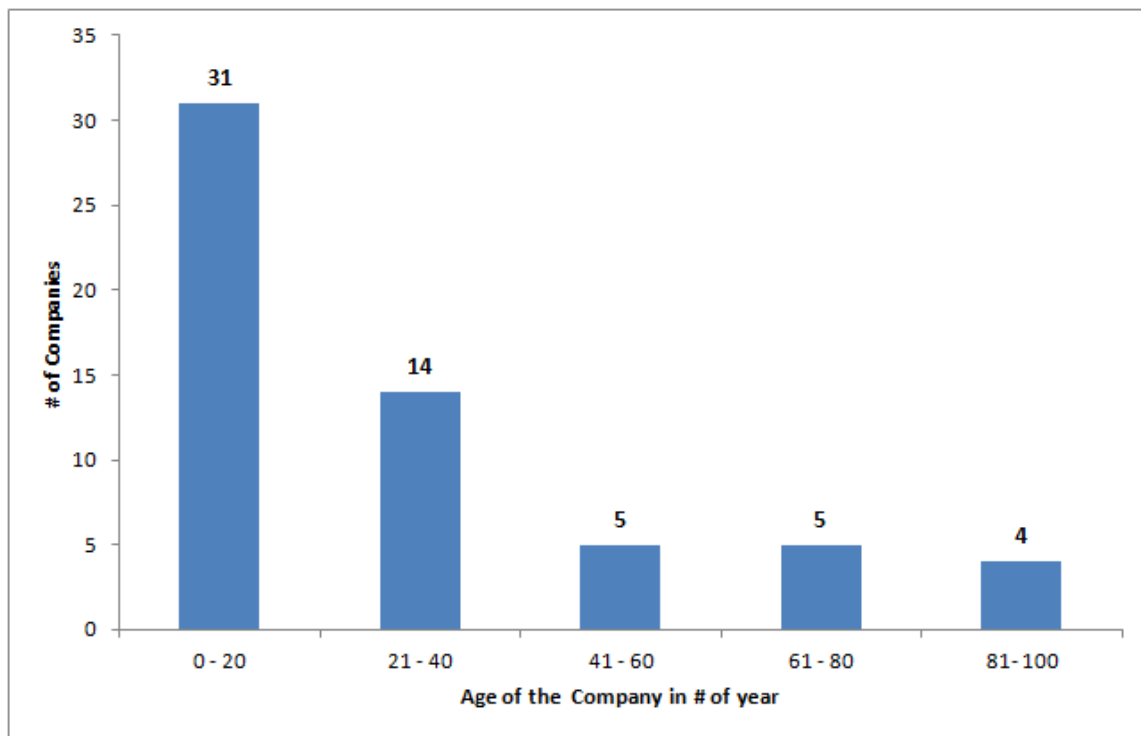
MAIN POINTS

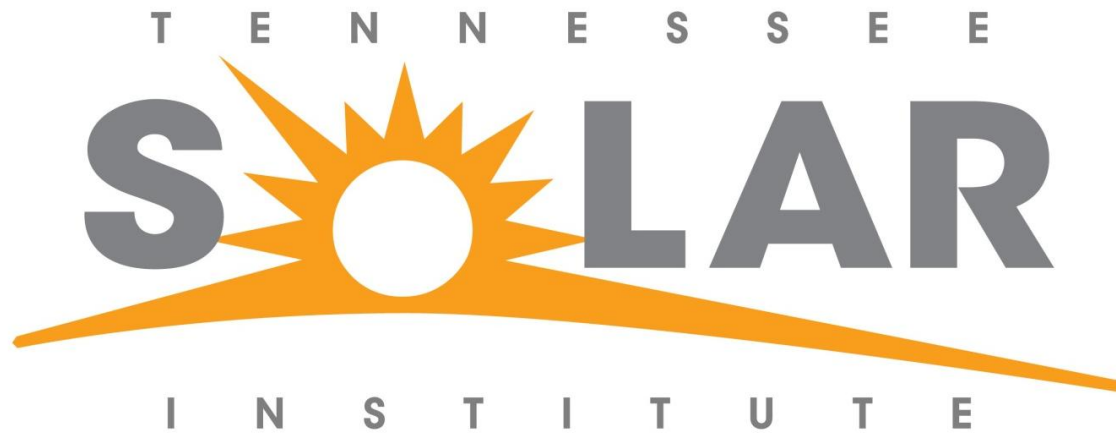
- Tennessee's solar energy industry is growing rapidly
- Genuine economic opportunity for the state
- Several firms (large and small) export to the rest of North America and the globe.



Main Points

- A young and growing industry in the state with new players
- 58% have less than 25 employees
- 78% have less than 100 employees





April 10–11, 2012

**TENNESSEE VALLEY SOLAR SOLUTIONS
CONFERENCE**

**Cook Convention Center
Memphis, TN**

www.tnsolarsolutions.org



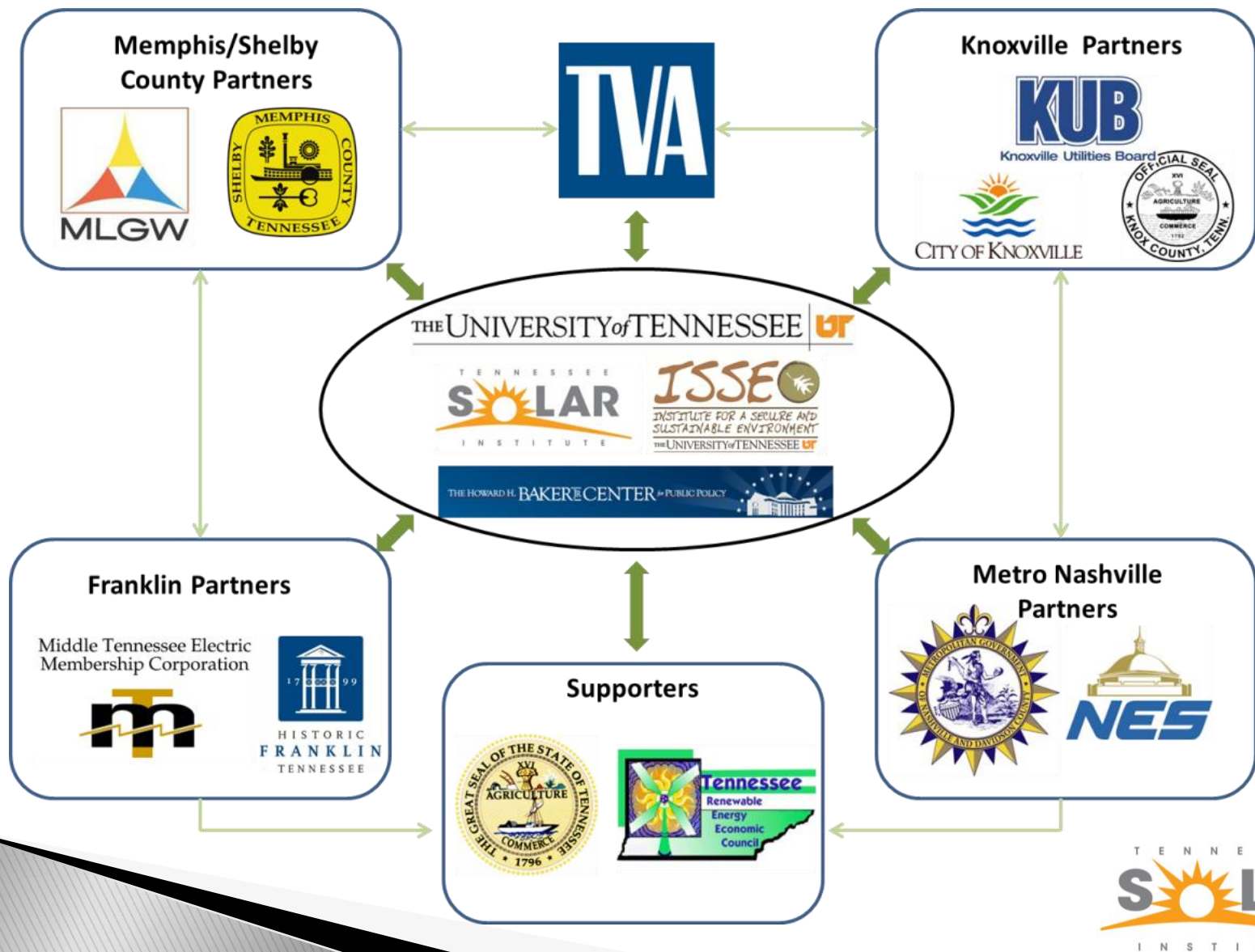
Rooftop Solar Challenge: Inducing PV Market Transformation in Tennessee



Project Objectives

- Increase market penetration of solar photovoltaic (PV) installations in the State of Tennessee.
 - Streamline processes related to permitting and interconnection applications
 - Standardize interconnection codes and requirements for PV installations
 - Develop alternative financing models for funding solar projects
 - Develop unified planning and zoning criteria for adoption by local governments.

Phase I Project Partners and Supports



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The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.



Madison Park Center – Athens
20.16 kW – roof mount