

TENNESSEE SOLAR INSTITUTE

Solar Industry Needs Assessment

September, 2010



Tennessee Solar Institute

- ▶ Long-term vision:
 - Bring researchers, policymakers, and industry together to generate transformative changes to the field of solar energy production
 - Facilitate deployment of new solar technology
 - Promote economic development in Tennessee

Tennessee Solar Institute



Tennessee
Solar
Industry

T E N N E S S E E
SOLAR
I N S T I T U T E

**OAK
RIDGE**
National Laboratory

TENNESSEE
DEPARTMENT OF ECONOMIC & COMMUNITY DEVELOPMENT

**Grow the Solar
Industry**

Solar Industry Needs Assessment

- ▶ **Purpose:**

- Develop an understanding of the solar industry value chain, current and potential participants, and actions needed to increase the development of solar industry in Tennessee

Solar Value Chain for PV

R&D

- Includes firms that participate in the research and development of technologies that contribute to the value chain.

Materials

- Includes firms that focus in raw materials that are used in the manufacturing of the components used in Solar Systems.

Manufacturing

- Includes firms that manufacture components used in Solar Systems.

Distributors

- Includes firms that act as an intermediary between manufacturers and primary installers.

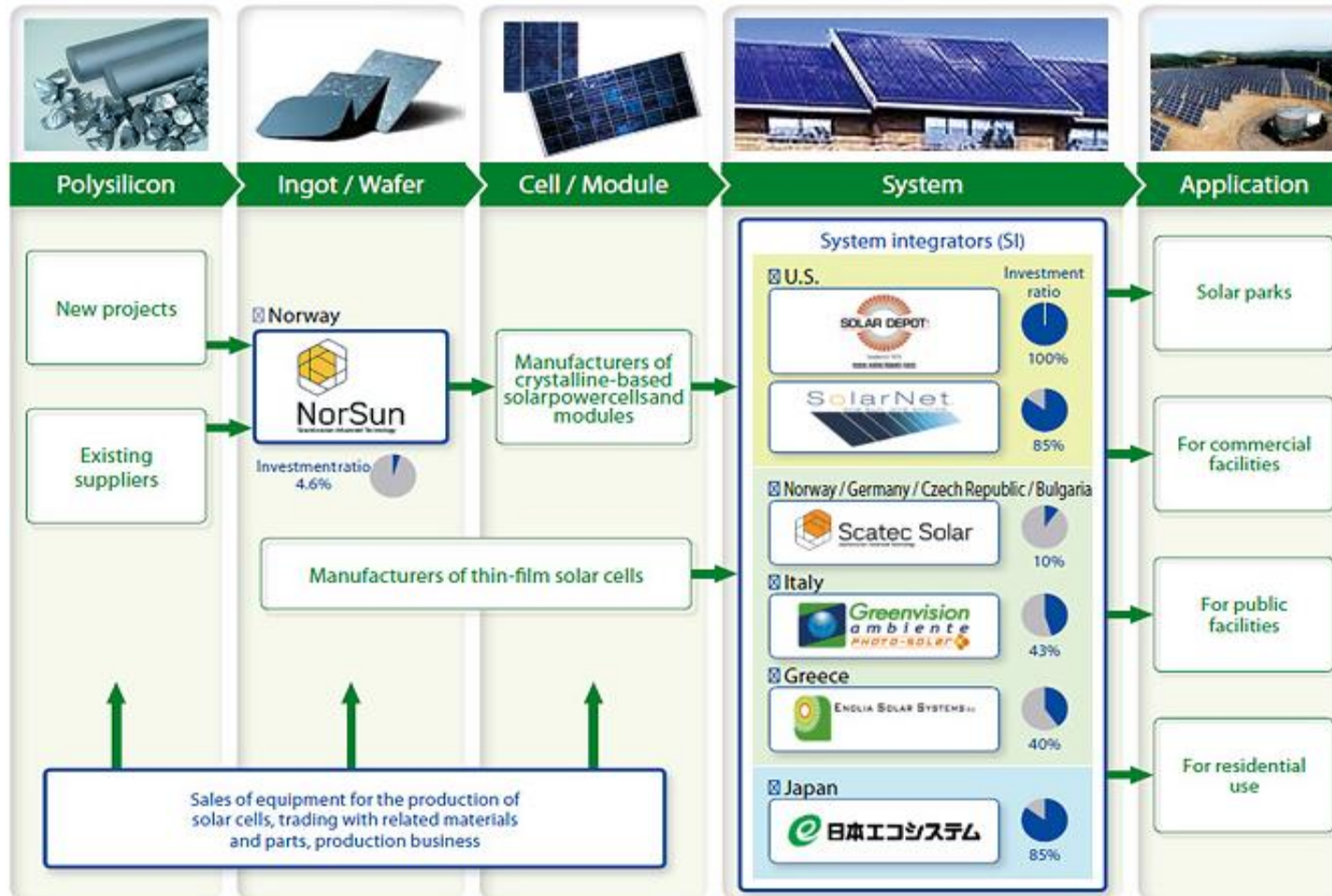
Installations

- Includes firms that provide complete installation services to consumer and commercial customers.

Service

- Includes firms that provide post-installation services. Also includes firms that focus in data management for solar systems.

Solar Value Chain for PV



Solar Industry Needs Assessment

- ▶ Identify technology and labor needs of industry in the solar value chain
 - Identification of applicable PV related technologies and workforce demands
 - Building of partnerships to train a high quality workforce
 - Leveraging of support for new solar initiatives
- ▶ Identify job skills available in the solar value chain workforce
 - What deficiencies exist
 - Develop appropriate training programs
 - Develop strategic partnerships to meet stakeholders needs

Solar Industry NAICS Codes

- ▶ 221119 Electric power generation, Solar
- ▶ 221119 Power generation, Solar electric
- ▶ 237130 Alternative energy (e.g., geothermal, ocean wave, Solar, wind) structure construction
- ▶ 237130 Solar power structure construction
- ▶ 238160 Solar reflecting coating, roof, application
- ▶ 238220 Solar heating equipment installation
- ▶ 333414 Solar energy heating equipment manufacturing
- ▶ 333414 Solar heating systems manufacturing
- ▶ 334413 Solar cells manufacturing
- ▶ 334519 Solarimeters manufacturing
- ▶ 335121 Solar lighting fixtures, residential, electric, manufacturing
- ▶ 335122 Solar lighting fixtures (except residential), electric, manufacturing
- ▶ 423330 Solar reflective film merchant wholesalers
- ▶ 423690 Solar cells merchant wholesalers
- ▶ 423720 Solar heating panels and equipment merchant wholesalers
- ▶ 926130 Solar energy regulation

Manufacturing Firms with the Technical Potential to Enter the Solar PV Market*

NAICS Code Description

- ▶ 325211 Plastics Material and Resin Manufacturing
- ▶ 326113 Unlaminated Plastics Film and Sheet (Except Packaging) Manufacturing
- ▶ 327211 Flat Glass
- ▶ 331422 Copper Wire (except Mechanical) Drawing
- ▶ 332322 Sheet Metal Work Manufacturing
- ▶ 334413 Semiconductors and Related Devices
- ▶ 334515 Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals
- ▶ 335313 Switchgear and Switchboard Apparatus Manufacturing
- ▶ 335911 Storage Batteries
- ▶ 335931 Current-Carrying Wiring Device Manufacturing
- ▶ 335999 Electronic
- ▶ *Source : Sterzinger 2005, p. 9*

* Tennessee Department of Labor and Workforce Development Report – “*Growing Green: The Potential for Green Job Growth in Tennessee*” – November 2008

Industry Assistance and Workforce Development

Workforce Needs Assessment

- Identify key firms and contacts currently operating in solar value chain in Tennessee
- Compile a database of targeted firms currently in the solar value chain or with the potential to enter the solar value chain
- Conduct interviews & surveys to assess workforce development needs
- Evaluate findings and plan course of action for workforce development



SOLAR OPPORTUNITY FUND

Solar Innovation Grant Program

Solar Opportunity Fund

- ▶ Solar Innovation Grant Program
 - To encourage growth of Tennessee's solar industry
 - Any Tennessee company in, or seeking to enter, the solar value chain is eligible
- ▶ \$14.5M Available
- ▶ 6 Topic Areas
- ▶ Form of Intent – due September 17, 2010
- ▶ Proposals – due September 24, 2010
- ▶ Anticipated Award Announcements – Early November

Solar Innovation Grant Program

- **Technical Assistance** – to assist applicants in obtaining the tools, resources, and assistance needed to implement applicant-specific sustainable clean energy programs that support job creation and energy reductions in their place of operation.
- **Workforce Development** – fund applicant specific workforce development projects.
- **Renewable Energy Products** – provide applicant-specific assistance for the incorporation of Renewable Energy (RE) products for the purpose of reducing energy consumption in the place of operation.
- **Process Improvements** – to reduce the energy consumed in the applicant's manufacturing, assembly or distribution processes of products in the solar value chain.
- **Technology Improvements** – to modify how a product is manufactured, specific to the applicant, by the incorporation of new technologies into the existing manufacturing line.
- **Facilities and Equipment Improvements** – to upgrade applicant-specific facilities & equipment by implementing, expanding or upgrading traditional Energy Efficient (EE) retrofits, equipment and materials for use in their operations, with the goal of reducing energy consumption.



**To participate in the Industry Needs
Assessment or if you have questions,
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