



GREATER PHOENIX
ECONOMIC COUNCIL

"ARRA"

ECONOMIC DEVELOPMENT OPPORTUNITIES IN THE AMERICAN RECOVERY AND REINVESTMENT ACT – SOLAR ENERGY

Presented by:

Roger K. Ferland

April 8, 2009

Quarles & Brady LLP

ARRA ENERGY CONTACTS



The Quarles & Brady/Triadvocates Arizona ARRA Energy Team

Joe Drazek
Loans, Loan Guarantees & Grants

Phone: 602.230.5335
E-mail: Joe.Drazek@quarles.com

Roger Ferland
Renewable Energy

Phone: 602.229.5607
E-mail: Roger.Ferland@quarles.com

Jeff Fugal
Tax Credits

Phone: 602.229.5257
E-mail: Jeffrey.Fugal@quarles.com

Jeff Peelen
Bonds

Phone: 414.277.5773
E-mail: Jeff.Peelen@quarles.com

Katea Ravega
Loans, Loan Guarantees & Grants

Phone: 602.230.5541
E-mail: Katea.Ravega@quarles.com

Jennifer Woods
Government Relations



Phone: 602.229.5538
E-mail: Jennifer@triadvocates.com



THE SETTING

Quarles & Brady LLP

The Problem

-  90% of worldwide photovoltaic manufacturing occurs outside U.S.
-  Over 50% of concentrating solar (parabolic, tower, dish) components manufactured outside U.S.

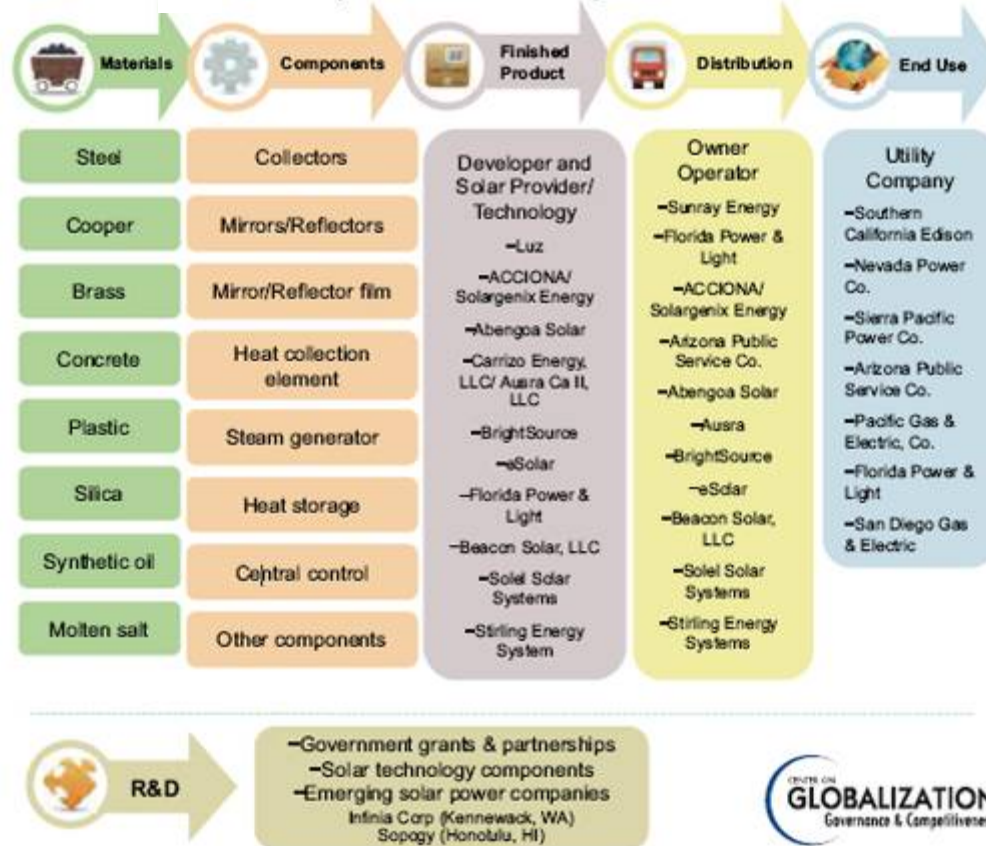


RELEVANT ELEMENTS OF ARRA



www.quarles.com

Simplified Concentrating Solar Power Value Chain



Source: CGGC, based on company annual reports, individual interviews, and company websites.

In addition to the components listed in Figure 4-3, concentrating solar power plants have many other elements not outlined here because they represent standard technology for generating electricity. These include a natural gas boiler, steam turbine, steam generator, condenser, and cooling tower. These components would certainly be a part of the production process for any CSP plant and would contribute to further manufacturing and construction needs.

THE SETTING



Other states offer significant incentives for locating solar component manufacturing and solar use

- **New Mexico attracted Advent Solar, Schott Solar, Signet Solar primarily with package of tax incentives, infrastructure improvements. Also, Sandia Labs, a pioneer in energy technology**
- **Oregon (with no sun) attracted Solaicx, Solar World AG with, among other incentives, Business Energy Tax Credit of 50% of cost of renewable manufacturing facilities**



THE SETTING

Quarles & Brady LLP

- 🌍 Arizona does not offer these incentives and has high business property taxes
- 🌍 More importantly, the State is not committed at the highest levels to the promotion of solar energy.



www.quarles.com



IS The Tide Turning?

- 🌍 Can states that offer incentives now afford to do so?
- Neither Oregon nor New Mexico are considered business-friendly states



THE SETTING



National Renewable electricity standard creates significant new demand for solar

- House/Obama: 25% of power must be from renewables by 2025
- Senate: 20% of power must be from renewables by 2021
- California even more aggressive



THE SETTING



- 🌍 **American Recovery and Reinvestment Act (“ARRA”) may level the playing field if the state is committed to promoting solar power and the Arizona Energy Office is given the resources to do its job**

Programs in the ARRA That Create Renewable Manufacturing Jobs

- 🌍 **Loan guarantees – may free up credit**
 - Adds new eligible projects including applicability to manufacturers of renewable energy-related components
 - DOE can guarantee up to 80% of a renewable manufacturer's cost



RELEVANT ELEMENTS OF ARRA



- **Drawback: Significant up front costs to qualify and long approval period**
- **Must commence construction by 9/3/2011**



Advanced energy tax credit

- 30% tax credit for, among other things, a manufacturing facility for fuel cells, smart grid components, manufacturing equipment for solar, wind, geothermal, etc.
 - Treasury Department has not established implementation policy



Drawbacks:

- Requires large enough revenues for tax credits to offset
- Requires completion of project to generate revenues





Grants in lieu of tax credits

- Same qualifications and purposes, but dollar cap
- Cap varies depending on nature of project



Research and Development



- Grants (\$3.4 billion)
- Carbon capture projects, energy efficiency improvement projects, etc.

Programs That Create Jobs By Creating Renewable Energy Generation

- Same tax credit and grants available to build renewable power generation
- Clean Renewable Energy Bonds
 - Limited to power generation by government, tribes, public power providers, electric coops
 - Provides interest-free money



Programs That Create Institutional Infrastructure for Renewable Energy Industry

-  Goal is to create the infrastructure necessary to attract renewable energy-related manufacturers and generation
-  Job training
 - Competitive grants to train workers in energy efficiency and renewable energy
 - Portion of funding can be used at colleges and universities to facilitate green-collar workforce





www.quarles.com

- **DOC grants, through Economic Development Administration, for projects to "diversify the economic base." Grantees include economic development entities (See March 10, 2009 funding announcement).**



Energy Efficiency And Conservation Actions That Create Jobs



Block grants to state and local governments

- **Formula grants, e.g., City of Phoenix gets \$15 million, larger community-based**
- **Competitive grants for smaller communities based on competitive application process administered by Arizona Energy Office**



- **DOE, in its March 26, 2009 announcement, described purposes of grants including**
 - **Building energy audits**
 - **To NGOs for retrofits to improve energy efficiency**
 - **Renewable energy technologies on government building**
 - **Weatherization of low income houses**





National Competitive Block Grants

- To be defined by DOE



Brownfield Grants

- Companies, state and local governments can use funds to clean up contaminated property so it can be returned to productive use





Large increase in funding for state energy offices

- Conditions attached including mandatory adoption of energy saving provisions in local building codes





GREATER PHOENIX
ECONOMIC COUNCIL

"ARRA"

ECONOMIC DEVELOPMENT OPPORTUNITIES IN THE AMERICAN RECOVERY AND REINVESTMENT ACT – SOLAR ENERGY

Presented by:

Roger K. Ferland

April 8, 2009

Quarles & Brady LLP