



AMERICAN
SOLAR
ENERGY SOCIETY

UTAH ENERGY FORUM

October 21, 2008

Brad Collins

ASES Executive Director

Publisher, *SOLAR TODAY*
Magazine

Manufacturing Location Consideration

- Labor Costs
- Labor compatible skill sets
- Energy Costs
- Capital Costs (Subsidy availability)
- Ready markets – local retail/wholesale opportunities

Labor Costs

- Manufacturing is far less labor intensive than sales / installation labor force
- Most manufacturers have minimum sales levels prior to site considerations

National Statistics

Industry	Revenues (billions)	Direct Jobs (thousands)	Total (direct plus indirect) Jobs Created (thousands)
Renewable Energy	\$39.2	194	446
Energy Efficiency	932.6	3,498	8,046
TOTAL	\$971.8	3,692	8,492

Source : Management Information Services, Inc. and American Solar Energy Society, 2007.

National Forecast

	Revenues (Billions of 2006 Dollars)			Total Jobs Created (Direct Plus Indirect – Thousands)		
	Base Case	Moderate Scenario	Aggressive Scenario	Base Case	Moderate Scenario	Aggressive Scenario
RE	\$95	\$227	\$597	1,305	3,138	7,935
EE	1,818	2,152	3,933	14,953	17,825	32,185
Total	\$1,913	\$2,379	\$4,530	16,258	20,963	40,120

Ohio Statistics

Industry	Revenues (millions)	Direct Jobs	Total (direct plus indirect) Jobs Created
Renewable Energy	\$785	2,880	6,615
Energy Efficiency	50,120	205,780	496,535
TOTAL	\$50,905	208,660	503,150

Source : Management Information Services, Inc. and American Solar Energy Society, 2007.

Ohio Forecast

	Revenues (Billions of 2006 Dollars)			Total Jobs Created (Direct Plus Indirect – Thousands)		
	Base Case	Moderate Scenario	Aggressive Scenario	Base Case	Moderate Scenario	Aggressive Scenario
RE	\$2.0	\$5.7	\$17.7	21	56	174
EE	96.7	114.7	202.6	964	1,150	2,096
Total	\$98.7	\$120.4	\$220.3	985	1,206	2,270

Preliminary Data from New York State

Less than 10,000
jobs in an economy
of 11 million
employed!

Colorado – Success is possible

- AB – 37 Citizen’s Initiative
- Voter Directed RPS
- Governor Bill Ritter - Doubled RPS two years after it was launched
- “New Energy Economy as State Policy”

Colorado RENEWABLE ENERGY MAGNET

Legislative sampler

- HB 08 – 1335: \$1 Billion over 5 years for High Performance Schools
- SB 08 –147: \$1 Billion over 10 years for High Performance Buildings *if funded through the Department of Local Affairs – approval through Office of State Architect*
- HB 07 –1037: Instructs Colorado Gas & Electric IOUs to invest in DSM \$1 Billion in 10 years
- HB 07 – 1146: IECC 2003/6 Building Code for all local governments that have a building code
- GEO to invest \$10 million this year in local communities – DOLA Initiative

Colorado RENEWABLE ENERGY MAGNET cont.

RESULTS...

- VESTAS WIND SYSTEMS A/S of Denmark has a **600 employee** wind turbine manufacturing plant in Windsor CO **Last month, VESTAS announced that they would add an additional 1800 jobs!**
- AVA SOLAR INC solar manufacturing plant in Longmont, CO – **500 workers**
- BLUE SUN BIODIESEL LLC of Golden CO
- COLLABORATORY FORMED – a joint venture of the University of Colorado at Boulder, Colorado State University, the Colorado School of Mines and the National Renewable Energy Lab

Colorado RENEWABLE ENERGY MAGNET cont.

- 02/11/2008 – ASCENT SOLAR TECHNOLOGIES relocating to Thornton, CO. To produce 100 megawatts of solar panels per year by 2011, creating **300 jobs**
- 02/21/2008 - ABENGOA SOLAR PLANS WORLD'S LARGEST SOLAR POWER PLANT – Lakewood, CO based Abengoa Solar announced a 280 MW plant to be built near Gila Bend AZ. **1500 construction jobs and 85 full-time workers** once operational

Colorado RENEWABLE ENERGY MAGNET cont.

- Renewable Energy Systems America Inc. (RES), a British developer and builder of wind energy farms, is moving its headquarters from Austin, Texas to Broomfield. Involved in 12 percent of US wind farm installations, **including the 300 MW Cedar Point Wind Project in CO.** It **employs 140** people in Broomfield and 90 others in the US
- 06/03/2008 – SIEMENS PICKS BOULDER FOR R&D CENTER. Siemens Energy will establish a new US wind turbine research and development center in Boulder. Launching with 12 employees and growing to **50 employees** by 2013

Colorado RENEWABLE ENERGY MAGNET cont.

- 06/06/2008 – CALIFORNIA SOLAR FIRM EXPANDS OPERATIONS TO COLORADO. “Taking advantage of Colorado’s ‘generous incentives’ for businesses to install solar-electric systems, California-based REC Solar Inc has set up a commercial division in Westminster, CO

Colorado RENEWABLE ENERGY MAGNET cont.

- 06/18/2008 – CONOCOPHILLIPS PLANS FOR **7000 JOBS**. ConocoPhillips new Colorado campus in Louisville should open earlier than expected and will be able to support 7000 employees the company announced today. Located on the 432 acre former Storage Technology campus will bring a core group of managers to the new site, but the rest will be new employees. It will create an “international learning center and alternative energy/advanced research center at the end of 2011.

Colorado RENEWABLE ENERGY MAGNET cont.

- 06/20/2008 – IBM OPENS ‘GREEN’ DATA CENTER ON BUILDER CAMPUS
- The 115,000 square foot, \$350 million center will provide data services for 16 clients. The building will take advantage of Colorado’s low humidity and cooler temperatures – using a water-cooling system to save energy when conditions are favorable.

What Lessons Have We Learned?

- Leading states show that the road to the new energy economy is short and smooth
 - Ready Market
 - Welcome Environment
 - Executive Leadership

A READY Market

- Robust state tax incentives to create a local market
- Renewables technology pulls energy efficiency along

A Welcoming Business Environment

- A suite of incentives for business
- Property tax relief, relocated assistance, etc.

Aggressive Executive Leadership

- Governor must be leader in promoting the environment for these businesses to accept being wooed
- Must be accessible and a positive spokesperson

THANK YOU



AMERICAN
SOLAR
ENERGY SOCIETY

Brad Collins
ASES Executive Director
Publisher, SOLAR TODAY Magazine

bcollins@ases.org

2400 Central Ave Suite A

Boulder, CO 80301

303.443.3130

www.ases.org

www.solartoday.org

American Solar Energy Society



AMERICAN
SOLAR
ENERGY SOCIETY