

Can Green Save The Day?

Leaders across the Valley and state are betting that sustainability will help lead to economic stability

BY KASIA MARCISZEWSKA

Search for the word “sustainability” on Google and you’ll end up with nearly 25 million hits. But what does sustainability mean to Arizona, especially as the state’s economy crawls out of the crater left behind by the recession?

“The word sustainability and the word green mean different things to different people — it’s more than just environmental technologies ... The real question is how is the concept of sustainability affecting businesses at large. Because sustainability is a business issue,” said Rob Melnick, executive dean of the Global Institute of Sustainability/ School of Sustainability at Arizona State University.

Though 2009 proved to be a difficult year economically, it was a landmark year for the green industry in the Grand Canyon State.

In October 2009, Clean Edge Inc., a research and publishing firm devoted to the clean-tech sector, listed Phoenix in the top 15 U.S. metro areas for clean-tech job activity. Phoenix was in the company of established cities in the industry such as San Francisco, Oakland and San Jose, Calif., as well as Denver, Boulder and Greeley, Colo.

A month later, Gov. Jan Brewer signed Senate Bill 1403 into law, creating the Renewable Energy Incentive Program, which provides refundable tax credits and property tax reductions for manufacturers.

"That sent a resounding alert to the industry that Arizona was serious about becoming a global leader in the renewable energy sectors," said David Drennon, spokesperson for the Arizona Department of Commerce.

And on the federal level, President Barack Obama in January unveiled \$2.3 billion in Recovery Act Advanced Energy Manufacturing tax credits for clean energy manufacturing projects across the United States. Companies with plans to build in Arizona requested nearly \$30 million in tax credits.

Slow Beginnings

Although the Renewable Energy Incentive Program signaled the state's shift toward a valid future in the green sector, Arizona still has a way to go.

A new study by the nonprofit research group Next 10 found that between 1995 and 2008, California had a 2.4 percent annual growth rate in its core green-economy employment. The study also found that although total jobs in California decreased 1 percent between January 2007 and January 2008, green jobs increased 5 percent.

"The state has to make some strategic investments," Melnick said. "It's got to be creative about regulation, work force development, finance and marketing itself. Right now, no one is saying Arizona is the green job capital of the world. We really could have been the solar capital of the world 20 years ago. We were growing so fast and so rich, but now we need it."

Barry Broome, president and CEO of the Greater Phoenix Economic Council (GPEC) echoes these sentiments.

"We have to think critically about energy policy, planning and community economic development," he said.

Green Jobs

The burgeoning sustainability industry is growing green jobs, bringing the prospect of much-needed employment to the state.

One of the world's largest solar-cell manufacturers, China-based Suntech Power Holdings, will bring its U.S. headquarters to the West Valley this year. Suntech, a multibillion-dollar corporation that makes photovoltaic solar cells and solar electric systems, will potentially be one of the first companies eligible for the Renewable Energy Incentive Program.

"We did quite an extensive search around the country," said Steven Chan, chief strategy officer of Suntech Power Holdings. "(Arizona) had a combination of a strong potential market, very supportive policies and incentives, and very good educational institutions."

The plant is set to open in Goodyear and is expected to begin production in the third quarter of this year, with an initial production capacity of 30 megawatts. Suntech announced it is expecting up to 150 jobs for the company's first phase — 75 at launch, with the potential to double within the year. The plant will have a variety of jobs that will be focused mostly on manufacturing and operations.

Another manufacturer also has announced plans for an Arizona presence. Tower Automotive, a producer of structural metal components for the automobile industry, plans to invest \$50 million in an Arizona plant. The decline of the U.S. auto industry hurt the company and spurred it to diversify its product line. The plant will manufacture mirror assemblies for solar-power systems and will employ about 200 people.

In Tucson, the construction of the Bell Independent Power Corp., plant will employ 75 workers. In addition, seven full-time positions will be established for the operation of the facility. The Rochester, N.Y.-based company develops thermal storage technology for concentrated solar power.

But solar is not the only renewable energy making an economic impact on Arizona. In October 2009, Arizona's first commercial-scale wind farm, Dry Lake Wind Project, opened near Heber. The estimated annual economic impact for the wind farm is \$640,000, not including jobs.

Indeed, the future economic promise of wind energy in general appears encouraging. In calculations done by Northern Arizona University for a briefing to the Legislature, the total economic benefit of 100 megawatts of new wind development may result in a \$164.9 million economic impact on the state in 20 years. The industry also is expected to create 495 jobs during construction and 21 to 30 long-term local jobs.

One critical aspect in getting green jobs, along with incentives, is creating a capable work force. To that end, Brewer announced in her State of the State address that she will be devoting \$10 million in one-time federal stimulus funds for job training.

"Part of the region's attractiveness and future competitiveness for green technology — solar and sustainable — is due not only to the favorable tax climate, but its prepared work force," said Patrick J. Burkart, assistant director of the Maricopa County Human Services Department.

An important aspect for growth in this sector is the diverse pool of jobs associated with the sustainability industry.

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— Rob Melnick, Arizona State University



The School of Sustainability at Arizona State University has done much to advance the state's reputation in the global green industry. Photo: Mark Bosclair



Maricopa Solar in Peoria is a result of a partnership between Salt River Project (SRP) and Tessera Solar. Photo: Tessera Solar

"It turns out there all sorts of jobs that may not have the 'S' word in them, but are de facto sustainability jobs," said ASU's Melnick. "You might find a job in public works, planning, etc., or work with corporate partners on achieving sustainable goals."

GPEC played a pivotal role in getting SB 1403 into the Legislature, and the economic development organization is positive that jobs will follow shortly.

GPEC's Broome predicted there will be at least 25,000 to 50,000 green jobs created in Arizona within the next 10 years.

Renewable Energy Power

With more than 300 days of sunshine a year, it would seem natural that Arizona would have a thriving solar industry. Obviously, more was needed. Now, the Renewable Energy Incentive Program is seen as a critical step in attracting companies specializing in all forms of renewable energy.

"Senate Bill 1403 is a tangible piece of evidence that Arizona is starting to understand that it needs to be competitive," said Steve Cowman, CEO of Stirling Energy Systems (SES), a Scottsdale-based solar company founded in 1996.

An old hand in the Valley, Stirling is being joined by more solar companies and projects. Along with Suntech Power Holdings from China, Maricopa Solar is another project that was recently announced in the Valley. Salt River Project (SRP) and Tessera Solar — SES' sister company based out of Houston — partnered on the 1.5 megawatt solar project in Peoria. This will be the first commercial-scale solar facility to be built with the SunCatcher concentrating solar-thermal technology, which is manufactured by SES.

"This is actually going to be the world's first commercial power plant using this technology, right here in Arizona," said Lori Singleton, manager of sustainability initiatives and technologies at SRP.

But the state's push in the renewable industry isn't focused completely on solar. The Dry Lake Wind Project near Heber is capable of producing 63 megawatts of power for 15,000 homes. The project was realized through a partnership between Iberdrola Renewables, SRP, the Bureau of Land Management, the Arizona State Land Department, Navajo County and Rocking Chair Ranch.

A Bright Green Future

Cities across the Valley already have embraced programs and initiatives aimed at propelling the green industry well into the future.

Scottsdale's Green Building Program encourages design and building techniques to reduce environmental impact and decrease energy consumption. Anthony Floyd, the green building program manager for Scottsdale's Office of Environmental Initiatives, noted that solar permits increased significantly in 2009.

Phoenix also has bold plans. Mayor Phil Gordon has a goal of making Phoenix the first carbon neutral and sustainable city in America. The plan calls for conservation and renewable energy projects, between 8,000 and 12,000 new jobs (50 percent of which

are green jobs) and many more green-focused partnerships and enterprises.

Local and state governments also will have to continue to provide favorable tax incentives for companies looking to relocate to the state.

"Statewide collaboration has brought, and will be required to maintain, sustainability as a pinnacle in the state economy," Drennon of the Arizona Department of Commerce said.

He noted the significance of ASU's School of Sustainability in research, development and educating a quality work force for the industry. But, he also acknowledged the crucial importance of all entities working together.

"The private sector/existing business must support it," he said. "Economic development (organizations) such as commerce, GPEC, TREO and others must embrace and follow this leadership."

The role sustainability plays in Arizona's economic recovery will be determined by a number of factors, including cooperation and collaboration.

"We have several strong economic development organizations and nonprofit civic groups that are a tremendous resource to both government and the business sector in efforts to kick-start our lagging economy and in creating sustainable jobs," said Diane Brossart, president of Valley Forward.

All signs point to Arizona's economy shifting, as this relatively new industry asserts itself in the economic landscape of the state.

"If Arizona gains a reputation for environmental technologies sustainable business development and it hits a critical mass," ASU's Melnick said, "people will start coming, businesses will take note." **AB**

Green Phoenix Plan

- ▶ Energy actually generated through photovoltaic: 600 million kWh a year
- ▶ Energy cost savings from solar pv: \$57 million a year
- ▶ Cost savings through energy efficiencies: \$15 million a year
- ▶ Jobs created: 8,000-12,000 new jobs, 50 percent of which are "green jobs"

Source: Green Phoenix

In 20 years, the total economic benefit of 100 megawatts of new wind development could result in \$164.9 million, 495 jobs during construction and 21 to 30 long-term local jobs.

Source: "Wind Energy and Arizona" briefing to Arizona State Legislature Ad Hoc Committee on Energy and Water Development



The estimated annual impact of the Dry Lake Wind Project near Heber is estimated at \$640,000, not including jobs. Photo: SRP



This year, Suntech Power Holdings out of China will be building a manufacturing plant in Goodyear. Photo: Suntech Power Holdings

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