

The construction of utility scale generation plants has multi-fold economic impact to the state: direct construction numbers, manufacturing facilities and employment, once constructed full-time employment, infrastructure upgrades, and creation of renewable energy source for sale.

“Leadership is key in renewable energy as we look to creating jobs that are at the core of our economic recovery.”

Governor Jan Brewer
Arizona

With 360 days of sunshine a year and a multitude of wide open space available, Arizona is looked at as the obvious leader in renewable energy technologies. In the past 15 years, Arizona has worked hard to make this a reality.

The Arizona Department of Commerce, Office of Innovation & Technology has said Arizona has one of

the nation’s leading capacities to generate solar power, “A 2005 study by the National Renewable Energy Lab of the U.S. Department of Energy estimates that Arizona has the capacity to generate approximately 2.5 gigawatt of solar power. To put this into perspective, the electric generating capacity of the entire U.S. is approximately 1,000 gigawatt.”

The first solar power plant in Arizona was opened in 1997 and is a 95 kilowatt photovoltaic plant in Flagstaff, it is operated by Arizona Public Service. Most recently, in July 2010, President Obama announced a \$1.45 billion loan guarantee to Abengoa Solar, Inc. for the construction of the Solana Generation Plant in Gila Bend. The project is scheduled to begin operation in 2013 and create 1,600-1,700 new construction jobs, and operation of the plant will add another 85 permanent jobs. These construction and operating jobs will create a few thousand additional indirect jobs.

In 2009, the Dry Lake Wind Power Project, located in Navajo County, Arizona, was the state’s first commercial-scale wind farm. The 30 turbines at this wind power project generate 63 megawatts (MW) energy. At maximum levels, it will generate power for more than 15,000 average homes, according to the American Wind Energy Association’s calculation. (SITE)



Renewable Energy Standard

Arizona Corporation Commission established the Renewable Energy Standard (RES) in 2006, requires regulated utilities to derive 15% of their electricity from renewable resources by

2025, with 30% of that to be obtained from distributed energy technologies. Unlike some states, Arizona does not have solar specific requirements in the RES; it can be met by solar and other renewable sources: wind, water, geothermal and biomass.

According to the Arizona Commerce Authority and the Greater Phoenix Economic Council, the RES:

- ✓ Is the single-most important policy driving local market demand for solar panels and utility-scale generation projects;
- ✓ Has helped to attract manufacturers to supply the market, installers to service the market and generation project for utility-scale generation plants; and,
- ✓ The distributed generation requirement is met largely by rooftop solar panel installations.

To further push renewable energy focused businesses to Arizona, Governor Brewer signed the Renewable Energy Tax Incentive Program in 2009. This program provides tax incentives to companies in the solar, wind, geothermal and other renewable energy industries who are expanding or locating in Arizona by offering two benefits: a refundable income tax credit and real and personal property tax reduction. Alone, this program has drawn eight companies, 1,350 jobs, and \$153.2 million in capital investment since January 2010.

Challenges

While Arizona is in the road to moving to renewable energy sources as reliable form of energy, still many challenges lie ahead. Utility scale generation plants for renewable energy sources like solar and wind are still very expensive to build and produce energy. Developing additional aggressive incentives for businesses to invest in the large utility scale projects will bring more business and manufacturing interesting in investing in renewable energy to Arizona.

The U.S. Department of Energy says, “Without dramatic improvements and upgrades over the next decade our nation’s transmission system will fall short of the reliability standards our economy requires, and will result in higher electricity costs to consumers.” Today’s transmission lines are becoming overburden by the growing population. Bringing RES into the mix creates an additional concern the demand on transmission lines. Transmission lines and further development of the smart grid will enable a mix use of generation technologies available to the consumer in a reliable and affordable form.

AZAGC Message:

- **Create a long-term statewide renewable resource plan.** As technology advances, a mix of generation technologies will allow for renewable energy to become more reliable and affordable for the customer.
- **Encourage Renewable Energy Standards.** RES allow for the development and growth of emerging technologies, research and development for renewable energy. Without RES, there is no incentive to move away from traditional energy sources.
- **Invest in upgrading transmission lines.** Invest in the infrastructure needed distribute energy in a reliable and efficient manner.
- **Balance environmental regulations with economic benefits to the region, state and municipalities.** In order to utility scale generation plants to move forward with construction, local elected officials and industry stakeholders must work together to agree on sustainable options to issues dealing with the environment.
- **Need stability in incentives to create a healthy and growing demand for renewable energy.** Incentives should include long-term use for the consumer.
 - Example: Feed-In Tariff programs (FIT), California uses a FIT program and allows consumers to enter into a 10-, 15- or 20-year contracts. FIT typically include three key provisions:
 - Guaranteed grid access;
 - Long-term contracts for the electricity produced; and,
 - Purchase prices that are based on the cost of renewable energy generation and tend towards grid parity.
- **Develop state and local grant programs which encourage renewable energy systems.** In other solar competitive states, localities offer grants to offset the cost of the renewable energy projects. At this point Arizona does not offer any of these programs.
- **Continue to invest in Science Foundation Arizona (SfAZ).** The Arizona legislature appropriates \$10 million in funds to SfAZ per year. It is imperative to continue this, even during difficult economic times for research and development. For every dollar the state appropriates in funds, SfAZ leverages \$3 in private funds. This is a long term investment into technology, research and economic development in renewable energy for Arizona.