ACT

Alliance for a Clean Texas

Clean Energy:

Create a Separate Non-Wind Renewable Portfolio Standard of 4,000 MWs by 2020

Due to its vast size and diverse climate, Texas ranks first in the nation for its renewable energy resources. In 1999, the Texas Legislature took a bold forward step by creating a Renewable Portfolio Standard, which mandated that certain utilities – those known as retail electric providers – invest in, contract with or purchase credits from energy sources that were powered by renewable resources such as the sun, the wind, geothermal gases and biomass. While representing a tiny fraction of overall generation capacity at the time, the combination of the mandate and the creation of market-driven tradable Renewable Energy Credits spurred a nascent market in wind development. Texas has rapidly moved beyond those original goals. Indeed, the legislature acted again in 2005, raising the goal to 5,880 MWs by 2015, and also set up a process to create new transmission lines so that the wind from West Texas could meet the energy demand in East Texas. Perhaps surprising even wind's most ardent supporters, the pace of wind development has already outpaced the mandate and more than 5,000 MW of wind power has been added since 2001. The installed wind capacity in ERCOT will surpass the 2015 renewable portfolio standard goal of 5,880 MWs in 2009. Texas will have met the Renewable Portfolio Standard almost entirely through wind generation.

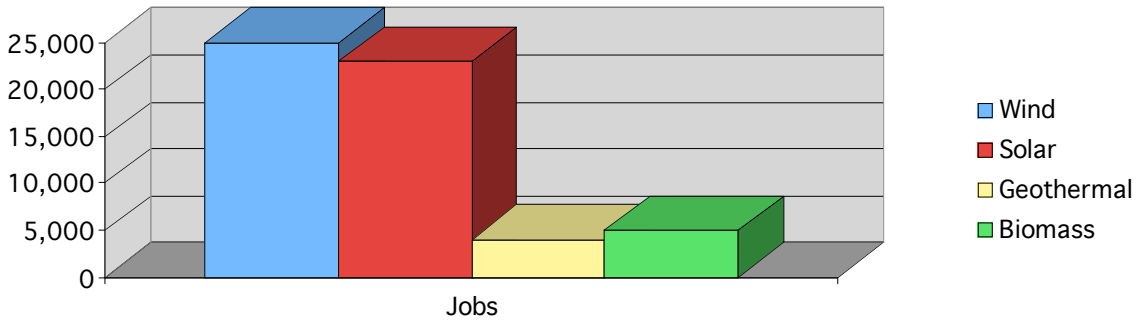
While wind is presently the most inexpensive renewable to develop and its production has been progressing, other renewable sources have not. Yet study after study has determined that the potential in Texas for solar power is even greater than that of wind, especially if one assumes the technology will continue to improve and the price to decline. The sun shines continually in Texas, and is most powerful at precisely those times of day when electricity is most needed – the early and late afternoon. In addition, Texas has an extensive network of oil and gas wells that could take advantage of natural steam and heat under the earth to produce geothermal power. Finally, Texas also has the potential to sustainably harvest agricultural and wood waste and others products for biomass energy production. While present law establishes a goal of 500 MWs of non-wind renewable energy by 2015, the goal is non-binding, and without further legislative action, Texas will not meet this goal. Instead, Texas should set a much more aggressive goal and require that by 2020, REPs provide roughly five percent of the state's peak demand – 4,000 MWs – through other forms of renewable power, like solar, geothermal and biomass.

While California invested in a series of parabolic trough off-site concentrated solar plants in the 1980s with mixed results, in the last three years, the states of Nevada, California, Arizona and New Mexico have either announced, begun or completed giant solar power plants in the desert. All of these are being built to meet specific RPS mandates in those states, but as it turns out, the prices are increasingly competitive with

other power sources, and are expected to come down over time. Texas has the potential for major off-site solar. The City of Austin has indicated it will make an announcement soon on a much more modest 30 MW photovoltaic solar plant, but it has also been exploring a much larger proposed plant in West Texas of 100 or 200 MWs that would depend upon other investors and better transmission infrastructure.

The creation of a specific renewable portfolio standard carve-out for non-wind renewables would help create a market for non-wind Renewable Energy Credits and give investors more regulatory certainty. The increased cost of traditional power plants coupled with the increased cost of natural gas has made solar look much more attractive than could have been imagined five years ago. The solar requirement would also be a boon for manufacturing jobs, as well as construction and installation jobs at a time when the economy is suffering from high food and gas prices. A recent study on the impacts on jobs of a 20 percent RPS nationwide found that more than 60,000 full-time equivalent jobs would be created in Texas, second only to California, including some 23,000 in the solar industry, and roughly 5,000 jobs from geothermal and biomass.[1]

Estimates of Full-Time Equivalent Manufacturing Jobs Created in Texas by 20 percent Renewable Portfolio Standard



Source: Renewable Energy Policy Project, State Manufacturing Reports, available at www.REPP.org.

On-site renewable generation – solar PV panels on rooftops – is another potential source of electricity, although it can also be created through incentives within the energy efficiency programs (see Recommendation on On-Site Renewable Program). We recommend that Retail Electric Providers be allowed to contract with wire companies and solar installers to help meet their RPS requirements with on-site solar as well as utility-scale projects. One recent report predicted that with the right incentives in place, jobs in the Solar PV industry nationwide would jump from 20,000 in 2005 to 62,000 in 2015, with Texas gaining 5,567 jobs in manufacturing, installation and construction, and nearly $4.5 billion in investments by 2015.[2]

Geothermal energy also has a bright future in Texas, given the right incentives. The State of Texas holds massive potential for the development of clean, reliable, renewable geothermal power plants, as well as on-site building scale systems. A recent Texas Bureau of Geology study estimated that as much as 20,000 MWs of geothermal power lies under the States, most of it near the coast[3]. It is estimated that if Texas were to develop 1,000 MWs of baseload power from approximately 30 small-scale utility geothermal plants (30-35 MWs each), it would produce 8,250 construction jobs and 300

[1] George Sterzinger, (March 2008). Energizing Prosperity: Renewable Energy and Re-Industrialization, Economic Policy Institute Discussion Paper, Briefing Paper #205.
[2] George Sterzinger and Matt Svrcek. 2005. Solar PV Development: Location of Economic Activity (Renewable Energy Policy Project Technical Report).
[3] Some of the leading counties for geothermal energy include Cameron, Hidalgo, Zapata, Duval, Kenedy, Colorado, Webb, Waller, Montgomery, Galveston, Austin, Aransas, Jefferson, Brazoria, Matagorda, Goliad, Dewitt, San Patricio, Nueces, Kleberg, Liberty and Harris.

permanent jobs, resulting in $1.9 billion in investment. These gains would come with virtually no emissions and a resource that is produced on-site.

Because of solar, geothermal and biomass's great potential to produce electricity and jobs with limited resource use, we recommend mandating purchase of 4,000 MWs by 2020 of non-wind renewables and that retail electric providers be allowed to pick the technologies that would get them there–from thermal solar plants, photovoltaic, integrated solar, on and off-site geothermal, and small or larger scale biomass plants. In this way, electricity would be generated without pollution, and jobs would be created in a variety of new technologies.

Recommendation: Create a required Non-Wind Renewable Portfolio Standard of 4,000 MWs by 2020.

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For further information about ACT 2009 Clean Energy recommendations, please see www.acttexas.org/issues/renewables

Non-Wind Renewable Portfolio Standard

SB541 - Senator Watson: Relating to incentives for Texas renewable energy jobs and manufacturing.

> This bill creates a "Made in Texas" incentive for renewable energy credits generated by generation equipment that is wholly produced or substantially transformed by a Texas workforce. The bill also establishes a **goal** of 3,000 MWs of capacity from non-wind renewable energy technology by 2020.

SB620 - Senator Shapleigh: Relating to the state's goal for non-wind renewable electric generating capacity.

> The bill increases the state's current Renewable Portfolio Standard from 5,880 to 6,880 MWs by 2015, and establishes a **target** of 1,500 MWs of capacity from non-wind renewable energy technology by 2015.

Overall Increase in Renewable Portfolio Standard

SB435 - Senator Ellis: Relating to a statewide goal for electric energy generation during peak load periods from renewable energy technologies.

> This bill requires retail electrical providers, municipally owned utilities, and electric cooperatives to generate no less than 3,000 MW of renewable energy during peak load periods by 2020. The bill also establishes a peak load renewable energy credits trading program.

SB436 - Senator Ellis: Relating to a statewide goal for electric energy generation to meet base load demands from renewable energy technologies.

> This bill requires retail electrical providers, municipally owned utilities, and electric cooperatives to generate no less than 3,000 MW of renewable energy to meet base load demands by 2020. The bill also establishes a base load renewable energy credits trading program.

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