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My view: Solar energy is Arizona's best export opportunity

Premium content from Phoenix Business Journal - by Jeffrey Luth

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Anyone who has driven around or, better yet, flown over the southeastern portion of Arizona would know vast areas of this region have been converted into mining operations. There's a reason for this: Arizona has the country's largest concentration of copper ore.

Students will remember being taught that copper is one of Arizona's five C's. This existence of such a high concentration of ore has allowed Arizona to become by far the country's largest producer of copper, responsible for some 60 percent of the nation's output.

This ore has extraordinary intrinsic value, to the extent that vast arrays of machinery, human capital and natural resources (including water) are deployed to extract, refine and export the ore. Economics 101 tells us Arizona has a comparative advantage in copper, and it follows that the state should exploit our advantage — which we do, quite profitably.

Now let's consider the idea of mining sunlight.

Twenty-nine states, including Arizona, have adopted renewable energy standards (RES) mandating that utilities increase their production of electricity from renewable sources. Arizona's RES require regulated utilities to increase the proportion of electricity generated from renewable sources to 15 percent by 2025. Giving effect to the Solana Solar Generating Station, other renewable energy projects and planned/projected energy development, Arizona utilities are making excellent progress toward satisfying the state's RES requirements.

By contrast, California's RES mandate is far more aggressive, calling for 33 percent by 2020. Moreover, California's population and industry base create an appetite for electricity that far outstrips that of Arizona. While California has been more actively developing solar projects, the sheer size of California's energy market and RES target should lead to a robust demand for renewable energy that is unlikely to be satisfied by California-based assets.

For this reason, California — in particular, Southern California — represents a natural market for Arizona-generated electricity. That's good news, because Arizona has the greatest solar energy generating potential of any state in the country.

The National Renewable Energy Laboratory estimates Arizona can generate 5.8 million gigawatt-hours of concentrated solar power, compared with 2.1 million GWh for California. However, Arizona's projected demand for electricity is far less than what can be generated from solar plants within this state. This greater potential, combined with a more favorable business climate, provides Arizona with a comparative advantage over California that can and should be exploited.

Of course, we can't simply will the creation of solar-generating stations, however attractive the economic development prospects might be. Numerous serious issues need to be explored, debated and intelligently considered. Among these issues are land and water use; permitting; transmission infrastructure and interconnection; project siting; technology options; and project economics, ownership and financing.

Several projects have been announced representing Arizona-based solar generation that will involve electricity being sold to California-based utilities. Several more are in the planning stages. Each of these projects requires an incredibly laborious and expensive development process, with numerous hurdles and no guarantee of success.

Arizona is faced with a historic opportunity to participate in the reshaping of America's energy industry, and we are poised to embark on a course that will diversify and strengthen our state's economy. It's time to get serious about capitalizing on the opportunities at hand. We need to commence a comprehensive dialogue that addresses the issues and advances a set of achievable recommendations.

Jeffrey Luth is president of LuthCommunications in Scottsdale. He can be reached at jeff@luthcommunications.com.