July 29, 2013
Milan Simonich msimonich@tnmnp.com

Dear Mr. Simonich,

In reading your recent article on SunZia, "Military, power line at odds," I see that you are making the same error that others have in referencing the "43,000 construction jobs" associated with the project. First of all, these are not jobs, and secondly, the majority of them are not in construction. These are job-years or man-years of work. They are also global, and they also include jobs in service industries created by spending wages. If you speak with Alberta Charney and Anthony Popp, who oversaw the studies, they will confirm this. Half or more of the jobs would go to workers who physically reside outside New Mexico or Arizona.

These economic studies were paid for by SunZia in the form of grants to the University of Arizona and New Mexico State University. If both universities received similar support, the studies cost approximately $200,000. The work was done by undergraduate and graduate students with oversight by faculty. One report addresses the economic impact of building SunZia, and a second addresses the potential economic impact of building enough renewable energy generation facilities to fill up SunZia's capacity. Data units are mislabeled throughout the reports. Faculty advisors did not correct these errors.

Most of the job-years of work from these studies are associated with building the hypothetical renewable energy generation facilities that might use SunZia. In calculating these numbers, the modelers greatly overemphasized solar use, photovoltaics most importantly, and the number of workers used to model building such facilities was a factor of 3-4 larger than for any known, current projects. This greatly inflated job numbers. These reports do not give the source of their starting numbers, which makes it very difficult to ascertain what the source of the error is.

What are the real job numbers then? If you reduce job-years of work to actual jobs, and if you build all facilities simultaneously with different workers – a highly unlikely scenario – the number of actual workers needed to construct them would be 4,000-5,000. The majority would be hired from states other than Arizona and New Mexico. If you add the workers involved in manufacturing the materials needed to build these facilities, that adds another few thousand workers, almost all in other states or nations, and if you include the workers supported by jobs created by spending wages, you can reach a total worldwide instantaneous employment of approximately 16,500. These people would be employed globally, not merely in Arizona and New Mexico. These are very, very rough figures and prone to much uncertainty themselves.

As stated above, the majority of job-years of work would go to workers outside Arizona and New Mexico, and approximately 85% would be associated with building hypothetical renewable energy facilities. It will likely take more than 20 years to build these facilities, if they are all ever built. Workers will likely work on several facilities, which will greatly reduce the actual employment associated with them.

Constructing SunZia's two lines and all four substations simultaneously with separate workers – a somewhat unlikely scenario – would require somewhat more than 600 people. Seventy percent

of them will be on crews brought into Arizona and New Mexico from outside these states. That is, approximately 180 people will be hired in Arizona and New Mexico to build SunZia. Of those, approximately two-thirds will be hired in New Mexico, or 120 people. This is the baseline construction employment for SunZia.

Most of the materials jobs associated with SunZia will go to workers outside these states. Manufacturing the steel for the transmission towers and possibly all of the transmission cable will go to overseas workers in India or China. The largest number of jobs that will go to Arizona and New Mexico will go to people in service jobs associated with housing and feeding workers. Some jobs will also be created by spending for other goods and services. It is possible that this could create a few hundred temporary service jobs in these two states.

Regarding construction of New Mexico's potential wind generation facilities, the state does not manufacturer a single wind-turbine component. Erecting wind turbine facilities is also a skilled profession, and 80% of workers used will be brought into New Mexico from out of state. This is to say, 90% of the high-paying jobs to construct these wind turbine farms will go to workers elsewhere.

New Mexico does not have a monopoly on the renewable energy that it might provide. The state will be trying to export renewable energy to states that are already extremely rich in renewable energy and will be entering a highly competitive market. For every contract that New Mexico providers might bid on, several competitors will bid on them as well. This makes SunZia's financial future extremely uncertain and risky. While New Mexico's wind resources are somewhat unique, Arizona and southern California's solar resources are as great as or greater than New Mexico's, making the prospect of exporting New Mexico's solar energy to these states somewhat akin to expecting a country to export oil to Saudi Arabia.

I hope this gives you a fuller perspective on SunZia's job potential. I have spent weeks studying these job reports, and even so, I cannot say exactly how many jobs the project will create. I can say that the raw "job" numbers from these reports grossly exaggerate SunZia's potential, and policy makers and the public need a much more honest and realistic appraisal of them.

Sincerely,
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