
Bolivia - A Little South American Story With A Potentially Big Energy Impact

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During his first interview with the international press after being named Bolivia's new "lithium tsar," Juan Carlos Zuleta announced that he intended to have Bolivia go it alone when it comes to lithium extraction. "It is important for the international community to know that Bolivian law says lithium should be extracted and processed by Bolivians."

While it is likely that few people in North America noticed this story from the South American country, its potential implications for world energy could be enormous.

Zuleta put on hold a deal with a Chinese company to extract lithium, and said another deal with a German company that previously had been scrapped would remain so.

The reason this story is important is that the world gets much of its lithium from the "Lithium Triangle" of southern Bolivia, northern Argentina and northern Chile. An estimated 9 million tons of lithium lie beneath Bolivia's southern salt flats.

And why does the energy world need lithium? Because lithium is the key element in electric car batteries and in most of the battery technology that is being studied as a way to potentially store and transmit energy produced by renewable sources such as solar and wind.

Unfortunately for those who advocate an immediate switch away from fossil fuels to renewable energy, renewable energy cannot work on an industrial scale without non-renewable elements like lithium. Under currently available battery technology, we simply don't have the capacity to store and transmit all of the energy expected to be produced by the anticipated solar and wind farms (not to mention potential increased hydro production and other non-fossil fuel sources) at full green energy build out without continuing to mine large quantities of lithium – the result being that, without lithium, the renewable energy will simply not be there when we need it most to replace our present reliance on non-renewable fossil fuels.

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In effect, current plans for increasing renewable energy involve an exchange. We stop extracting oil and natural gas, to be sure, but we need to increase the mining of lithium to make green energy production viable for modern society. However, just as fossil fuels are a non-renewable resource, so too is the lithium needed to make the batteries to store the renewable energy generated power, and an increase in reliance on any one of these resources could still have potentially negative environmental implications – albeit only in different ways. In effect, it is a bit like borrowing from Peter to pay Paul in terms of overall environmental costs.

Mr. Zuleta's comments are important because they add another level of uncertainty to the world's most important source of lithium. Relative to its neighbors, Argentina and Chile, Bolivia's lithium industry has not been able to prosper because of low overall lithium prices, a lack of local expertise, the price differential between lithium mined in Bolivia and that in lower cost Chile, and the corruption and mismanagement of the lithium industry as a whole by Bolivia's former President Evo Morales, who was deposed in November.

While Bolivia's lithium industry has stagnated, its significance to first world economies like the United States might yet increase due to the instability of its neighbors in the triangle. Argentina is going through one of its periodic economic convulsions. Chile, which has been remarkably stable since a military takeover in 1973 and the subsequent return to democracy in the 1990's, saw riots on the streets of Santiago last year over price hikes in public transportation. Each country is looking for ways both to increase the economic pie and to distribute it more equitably. The many uncertainties in Argentina and Chile caused by such events may serve to poise Bolivia as a much bigger player in the worldwide production of lithium than has been its historical role.

Concomitantly, any spike in the price of lithium, no matter the reason, will echo down the chain to car batteries, the cost of electric vehicles, and the price and even ability to develop a renewable energy grid that is reliable at all times. In any current scenario involving large increases in solar, wind, hydro and other similar forms of energy, lithium is the key element that makes it all viable. Its importance cannot be overstated.

People in the United States are not used to following South American news with little except fascination. As we try to move toward a renewable based energy grid that will need to change. What happens in Bolivia with regard to lithium really may affect us all in the near future, and may have profound impacts on the timing and extent of conversion of a fossil fuel based power grid to renewable energy, thereby also affecting the worldwide fight against climate change.