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LITHIUM A \$9 TRILLION DOLLAR BUSINESS HIDDEN IN THE ARGENTINE NORTHWEST (NOA)

Argentina has one of the most important reserves in the world of the mineral most desired by the tech industry. public and private initiatives seek to add value to it in order not to settle with its extraction. the figure is obtained by multiplying the lithium reserves in metric tons (in the country) by the current price of the metric ton of the material with added value.

Today its extraction and exploitation are a technological promise that may change the economic destiny of NOA and make Argentina one of the biggest global suppliers of the raw material that is experiencing a booming demand.

Besides, unlike other minerals like gold and silver, lithium can be industrialized, at least partially and locally, in order to add value to it and multiply the possible exports by hundreds of millions of dollars.

Extracting and processing this metal in the next years could turn into a new economic paradigm equal to or greater than what soybean is today. The reason is that lithium has a high electropositive potential, which makes it possible to use it in the manufacture of batteries to generate extremely high energy density and power per unit mass.

Global demand for lithium is skyrocketing for its widespread use: iPhone, Tesla electric cars. Volvo 2019 models, China has officially announced that, from 2025 onwards, at least one in five cars that exit their factories will be powered by electricity; while in France and England it is expected that by 2040 all their car fleet will be of this type (these type of vehicles require batteries that, with the current technology, use about five kilograms of this metal for each car, the equivalent to what is required to power 17,000 iPhones). There are also batteries

of lithium–titanate, and of lithium and manganese oxide that have a useful life of 20 to 30 years, which is the same as solar panels already offer. Therefore putting together kits to provide energy to populations and establishments in rural areas, isolated from electricity grids is not so far in the distant future.

Additionally, lithium is also used in the pharmaceutical industry. A kilogram of this mineral, worth USD 9, can be transformed into a kilogram of drugs—used for the treatment of illnesses such as bipolar disorder—sold at USD 900.

Lithium is used in alloys for the aeronautical industry and an Airbus jet can have up to 400 kilograms of lithium in its structure. Finally, it is also used in the production of ceramic glass for some domestic appliances.

This growing trend explains why in 2016 a symbolic threshold was crossed in this market: global demand—for the first time—exceeded supply and that caused the price of the kilogram of lithium to skyrocket from the traditional USD 6 to more than USD 16 per 1,000 grams.

Perhaps the most interesting thing is that Argentina, due to its geology, is in a privileged position to make a mark in this new business. It is estimated that 65% of the world's reserves are located in the geographical triangle that encompasses the salt flats of northern Argentina, Chile and southern Bolivia. During 2016, Argentina contributed with 16% of the global production, only surpassed by the mines of Australia (40%) and Chile (33%)."

For the authors of the official study, the provinces that have the largest reserves in salt flats format are three: Jujuy, Salta and Catamarca. The deposits already surveyed locally indicate that there is availability for 133 years of exploitation, taking into account the global consumption that this element will have from 2025 onwards.

The demand for metallic lithium increased, which in 2016 culminated with a market of 37,800 metric tons, 13.5% more than in 2015. It is worth mentioning that there was also a change in the main allocation of the production, since its use in batteries took up 39% of the market and displaced its use in the ceramics industry and glass industry from its historic first place. By 2025, more than 66% of the demand will be destined to the production of batteries to store electrical energy.

If you need further information you may contact Carlos Alfaro at cealfaro@alfarolaw.com

Buenos Aires: Carlos E. Alfaro at cealfaro@alfarolaw.com

Beijing: Soledad Matteozzi at smatteozzi@alfarolaw.com

New York: Liliana Arauz at lrauz@alfarolaw.com

