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The race by Tesla Inc., Samsung SDI Co. and other technology giants to secure supplies of lithium — a key ingredient in batteries for electric vehicles and smartphones — is creating a unique chance for two global mining superpowers to reap more value from their natural resources.

Australia and Chile are looking to lithium to help them escape a cycle that for decades has had the two nations digging out minerals such as iron ore and copper, only to see them refined and turned into valuable products abroad.

Almost three-quarters of the world’s lithium raw materials come from mines in Australia or briny lakes in Chile, giving them leverage with customers scrambling to tie-up supplies. The mining nations hope to bring refining and manufacturing plants that could help kickstart domestic technology industries.

Scraping a shovel into a patch of dirt near the Australian port city of Bunbury in March, an executive for U.S.-based lithium leader Albemarle Corp. heralded a A$1bn ($690m) plan to build the world’s biggest processing plant of its type. Meanwhile, in Mejillones, northern Chile, South Korea’s Samsung SDI and Posco are planning to jointly develop a facility to make chemical components used in batteries.

“Chile and Australia have the advantage,” said Daniela Desormeaux, chief executive officer at Santiago-based consulting firm SignumBOX. They have the lithium and “at the same time state incentives, so companies transforming the raw material can set up shop there."

Mining rock and exporting it is a familiar story for Australia and Chile. Australia, the world’s biggest producer of iron ore, has shipped billions of tons of the steelmaking raw material to mills in Japan and China since the 1960s. Chile, the world’s largest source of copper, exports over half of its shipments as semi-refined concentrate.

“It’s an interesting economic model,” Peter Klinken, chief scientist of Western Australia and an adviser to the state’s government, told a February conference in Perth. “Take a big rock, make a little rock, put it on a ship, and then buy something really expensive back in return.”

The supply of lithium-ion batteries will need to jump more than 10-fold by 2030, BloombergNEF forecasts, with electric vehicles to account for more than 70 percent of that demand. That’s prompting end users to act, and Volkswagen AG and Volvo Cars have both struck long-term supply deals since April.

The first step on the lithium value ladder is refining the raw material, something that’s currently done mostly in China. Ore from mines or lithium-rich saline solution from underground lakes in South America is concentrated into a silvery-gray powder that is sent to be purified and refined into lithium hydroxide and

lithium carbonate. Those chemicals in turn are processed with materials such as nickel or cobalt to produce battery electrodes, or with solvents to make electrolytes, the key parts of the cells that are assembled into batteries.

Each step up the ladder affords more opportunity for profit. By 2025, the market for mined lithium raw material may be worth $20bn, compared with $43bn for refined products and $424bn for battery cells, according to a base case scenario outlined in a 2018 study published by the Australia-based Association of Mining and Exploration Companies.

Two major lithium miners operating in Chile, Sociedad Quimica & Minera de Chile SA, or SQM, and Albemarle were only allowed to expand production on condition that they sell a quarter of their output at the lowest market price to companies that will develop the materials within the country. SQM, which already carries out some processing in Chile, is expanding its domestic capacity.

The strategy is “a golden key” to build a higher-value lithium industry in Chile, said Sebastian Sichel, executive vice president of government development agency Corfo, which owns the lithium concessions in the Atacama desert and issues licenses to miners.

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