

## **GRACELIN BASKARAN: Sourcing minerals is key to growing electric vehicle sector**

The automotive industry is a key part of SA's economy. It is a relatively labour-intensive sector that is one of the country's biggest exporters and is a source of both foreign investment and revenue.

While the government has adopted incentives to develop this downstream industry, it has given little attention to sourcing the minerals required to execute this goal.

The mineral demands to grow the electric vehicle (EV) industry are significant, in terms of both the sheer quantity but also the amount of minerals required.

A conventional petrol or diesel-powered internal combustion engine (ICE) only requires about 35kg of minerals, two thirds of which is copper and one third manganese. But an electric vehicle requires about 210kg, more than six times more than an ICE vehicle.

It also requires a larger basket of minerals — copper, lithium, nickel, manganese, cobalt and graphite. Notably, EVs require 40kg of nickel and roughly 62kg of graphite, neither of which SA produces.

### **Incentives**

SA is deploying downstream development incentives. For example, earlier this year the government announced a 150% tax deduction on investments in the local production of electric and hydrogen-powered vehicles, starting in 2026.

However, SA's inability to advance its mining sector domestically — or through partnerships internationally — will cripple its automotive sector. SA produces neither graphite nor nickel, of which we will need more than 100kg per vehicle produced.

If SA is to protect its domestic automotive manufacturing rapid upstream incentives are needed. The economic consequences in their absence can be punishing. The EU and UK have banned ICE engines from 2035, along with a handful of US states.

These policy changes leave SA's automotive industry vulnerable. In 2022 the country exported 351,785 vehicles. Of the \$5.8bn in passenger vehicle exports, \$3.4bn went to the EU, \$974m to the US and \$62m to the UK. Together, these markets imported 77.3% of SA's passenger vehicle exports.

But building minerals partnerships to secure supply of minerals SA does not produce or produces only small amounts of will be a complex challenge. There are three reasons for this:

- There is political volatility. I'll spare you the political commentary, but investment and partnerships are far harder to secure when a country is going through its hardest political transition since the advent of democracy.
- There is market volatility. Globally, EV sales have slowed as interest rates have risen. In the US, when the Federal Reserve increased interest rates by another 25 basis points a notable difference appeared: petrol-powered vehicles, priced on average at \$44,112, began selling faster than EVs, which cost an average of \$51,668. By the end of 2023 it took nearly 70 days on average for a dealership to sell an EV, compared to 42 days for a petrol-powered vehicle. Higher interest rates increase the cost of buying cars, leading consumers to prefer the cheaper option.

- SA's inability to advance its domestic mining sector has generated a hesitancy from international investors to engage with the country in any way. Though more than 2,500 mining applications were received in the 2023/24 financial year, not one was approved. Both greenfield and brownfield investment has dried up.

According to the International Energy Agency, EVs will be by far the single biggest driver of growing minerals demand. By 2030 30-million tonnes of critical minerals will be for EVs. This amounts to about 75% of all minerals demanded for clean tech.

SA needs to develop and execute a plan for procuring these minerals, with adequate incentives, or there will be no EV manufacturing industry. Governments are co-operating all over the world to create more secure minerals supply chains. SA needs to keep pace.

Source: Gracelin Baskaran -

<https://www.businesslive.co.za/bd/opinion/columnists/2024-06-13-gracelin-baskaran-sourcing-minerals-is-key-to-growing-electric-vehicle-sector/>

Date Published: June 13, 2024