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THE BATTERY REVOLUTION

...AND THE RISING DEMAND FOR ADVANCED MATERIALS

HIGH PURITY ALUMINA REIMAGINED

NICKEL PRIMED FOR GROWTH

LITHIUM'S DOWNSTREAM RACE

Electric vehicles are on the rise.

WA LEADS THE WAY IN NEXT GENERATION OF INDUSTRIES

First there was the gold rush, then the iron ore boom and now, the battery metals revolution.

As the world transitions from petrol cars to electric vehicles and coal-powered electricity to renewables, Australian resources are poised to play an integral role.

Western Australia is blessed with an abundance of the mineral elements required to power these emerging industries.

While much of the attention has focused on the lithium space, and for good reason, there is also a plethora of other battery minerals in Australia which industry believes are just as exciting.

Nickel, cobalt, alumina, vanadium, graphite; all have been found in Australia, and companies like Altech Chemicals, Independence Group and Neometals are leading the way in bringing these commodities to market in WA.

The Northern Territory is also making its mark within this industry, with Arafura Resources spearheading a game-changing rare earths project just outside Alice Springs.

Historically, the Australian mining sector has largely been a 'dig up and ship off' operation, sending vast resources by sea to countries like China for processing.

To take the lithium space as an example, a 2018 Regional Development Australia report found Australia captured approximately 0.5 per cent of lithium's ultimate value, with the remaining 99.5 per cent heading overseas for processing and ultimately battery manufacturing.

However, government and industry are working hard to change this.

In late January, the WA Government released the *Future Battery Industry Strategy*, with a strong focus on the downstream processing of precious minerals to significantly increase the end value.

One of the first initiatives of the strategy is to further develop and strengthen relationships with investors and manufacturers in global battery and electric vehicle supply chains.

Additionally, the government will commit $6 million if it is successful in its bid to host the Future Battery Industries Cooperative Research Centre in Perth.

Chief Scientist of Western Australia Peter Klinken said the strategy was a landmark document which made it clear the state was open for business and prepared to look at a new way of doing things.

"If you go back 50 to 60 years there were no mining or oil and gas industries in WA," he said. "The startups of the 60s and 70s took the big risks and gambles and they transformed the state.

"I think we are on the cusp now of the next generation of industries, and it is one unbelievable opportunity."

Going forward, Professor Klinken said mindset was crucial and governments could play a major role by backing industry.

"Signals are really important," he said. "I was really pleased when I saw the strategy. I think it's terrific the state has taken a real lead in looking

at the entire value chain.

"Industry will invest if they feel governments are supportive; they are less likely to invest if they feel there might be some risk."

Chamber of Minerals and Energy WA CEO Paul Everingham said the nation was well placed to take advantage of the growing demand for electric vehicles and rechargeable batteries on a wide range of fronts.

"Western Australia and Australia, from my observations, have the safest and most well-regulated mining and resources industry in the world," he said.

"We have some of the best people in the world who work with raw mineral commodities."

As a western democracy with a solid democratic government and longstanding regulatory regimes, Mr Everingham said investors could be sure their money would be protected in Australia.

"The government is creating a stable investment environment, helping get regulatory approvals in a timely and cost-effective manner and removing barriers to entry," he said.

With international experience to support a growing industry, Mr Everingham was confident downstream processing would be a successful venture, but said it was unlikely to go all the way to battery manufacturing.

"It will only happen if one of the global players in the battery industry like LG or Panasonic opens a battery plant here for a strategic purpose," he said.

"There's no doubt they can open them overseas with lower overheads and lower cost of labour.

"The margins are so small at that level; most of the value has already been extracted further up in the chemical concentration process."

Professor Klinken was more bullish on the prospect of manufacturing batteries in Australia, saying it had to at least be explored as an option.

"This is not the time to be risk-averse or timid," he said. "It's important to be realistic, but with an open mind."

Professor Klinken said past failures in steel and car manufacturing industries shouldn't act as a deterrent.

"I feel like we've lost our confidence, we've lost our mojo and something like this could really galvanise not only our state, but the whole nation," he said.