

How Critical are Critical Metals and Minerals to Australia?

Timothy Craske¹

Note: Presenting author's name should be underlined.

1. Managing Director, Geowisdom Pty Ltd, Perth WA, 6153. Email: timcraske50@gmail.com

Keywords: critical, lithium, REE, nickel, battery metals, commodity cycles

ABSTRACT

Australia's list of critical minerals all occur in abundance in Australia. So NOT critical at all for Australians, but critical for our strategic allies and the commodity markets that we deliver into. As we have seen recently with external pressures on commodity prices, lithium and nickel can be critical eV battery components yet be subject to more cyclical price volatility than major metals. This makes scoping and feasibility studies fragile, and investors nervous.

By taking a complex-systems thinking approach to modelling these new resources we can have better outcomes. However, a systems-thinking approach will only be truly transformational if we develop downstream processing and manufacturing industries here in Australia. This is described by CSIRO as a "once in a lifetime opportunity" to reinvigorate our manufacturing and technology sectors.

The fact is that all commodity cycles are controlled by a system of supply and demand that has delays and overruns. The feedback loops that cause the cyclicity act even faster for elements that are needed in only small quantities, where oversupply can happen over very short time periods.

Australia can take a lead in changing this system driven paradigm, by using incentives to guide exploration and mining investment toward long-term wealth not short-term gain. Australia has all the critical elements, but we must decide which commodity streams we can excel at, versus those like nickel, that are now controlled by production from one country, Indonesia.

In this presentation we will show how picking favourites in the critical minerals race can get more wins than trying to put a "horse in every lane of every race". This does not mean we have to shield ourselves from market forces, or stop investment in extraction technologies for minor metals, but we should be realistic and acknowledge that some races have already left the barrier.