

# HPAL may hold key to nickel's future as forecast boom brought forward to 2021

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By Anthony Barich  
Market Intelligence

Independent analyst Jean-Francois Bertincourt has fast-tracked his forecast for when the nickel price will boom to 2021 from 2022, as new hope emerges for traditionally costly laterite developments.



**Jean-Francois Bertincourt**

Source: Terra Studio

Sydney, Australia-based Bertincourt issued new analysis the week of Nov. 26 in light of Indonesia's export ban, accelerating market growth and nickel's scarcity, which makes it more "critical" than other battery minerals like lithium or graphite.

Since his last nickel analysis in June, nickel has soared 59% to US\$18,475 per tonne in early September before retracing about half of its gain to US\$14,500 per tonne.

Short-term, Bertincourt expects continuing trade tensions, stainless steel and nickel stocks and fast-growing class two nickel production — ferronickel and nickel pig iron — from Indonesia to maintain downward pressure on prices, before battery demand improves for end uses that only class one (high purity) nickel can satisfy.

Bertincourt said Indonesia's export ban will reduce China's NPI production by about 300,000 tonnes from 2021, after official nickel inventories vanish in 2020. He believes the majority of future ore sources for nickel's demand will come from more prolific laterites, despite their comparatively larger startup costs.

Both sulfide and laterite nickel projects, the latter of which often need high pressure acid leach, or HPAL, processing technology, can provide class one nickel.

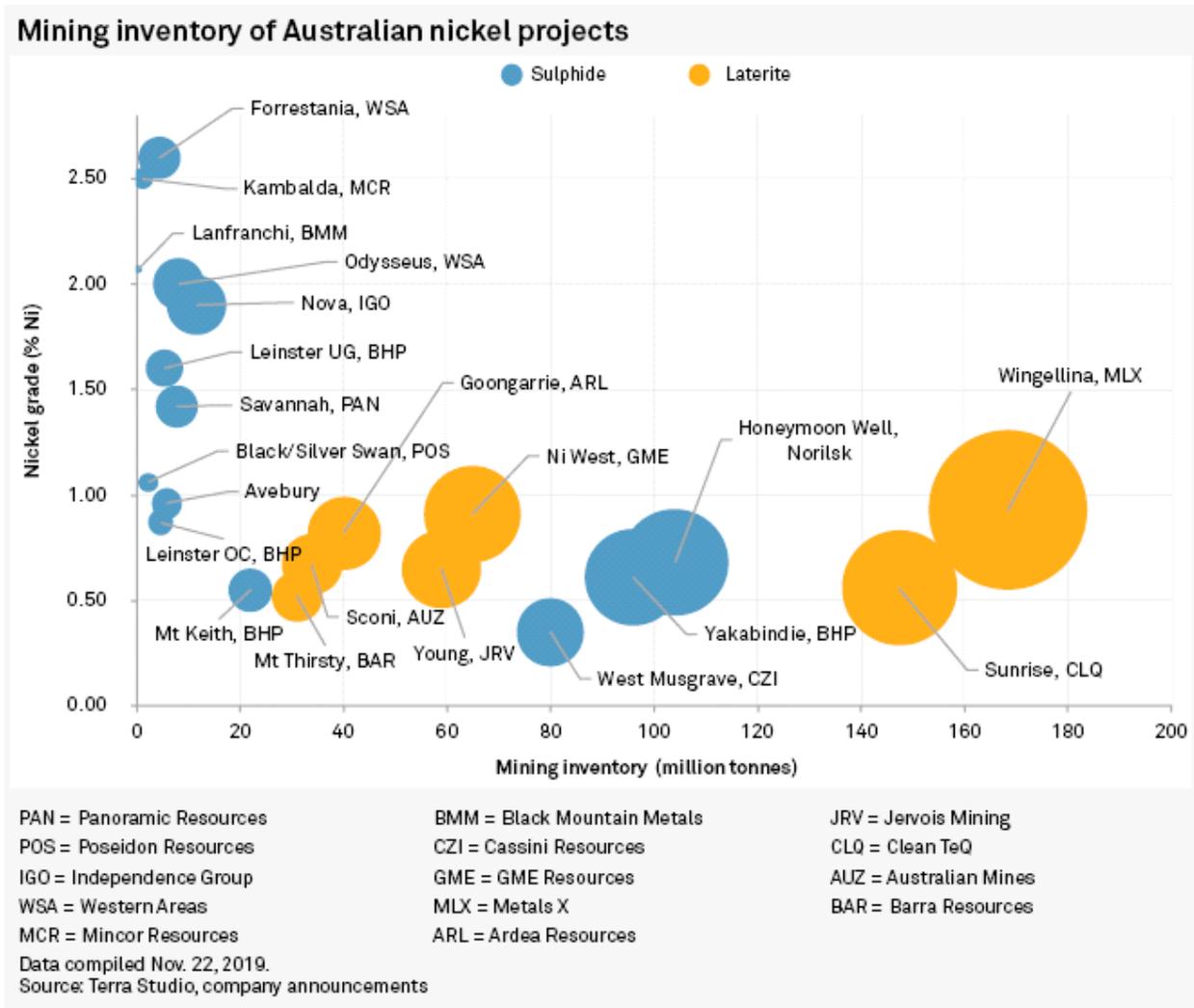
Aside from the likes of Clean TeQ Holdings Ltd., which has completed a definitive feasibility study on its Sunrise nickel-cobalt project in New South Wales, most Australian HPAL projects are progressing towards that stage, "at which point they face a major hurdle" due to the considerable capital needs for construction.

Laterite projects have also experienced slow ramp-ups and often do not reach nameplate capacity, Bertincourt said.

Concerns over the chequered history of laterites also fueled analyst doubts about Tsingshan Holding Group Co. Ltd.'s plans to invest US\$700 million with four other companies in a battery-grade nickel project in Indonesia.

While the successful HPAL projects have benefited from the best resource grades, and the chart of Australian projects below — which Bertincourt compiled from existing JORC 2012 resources and scoping studies that indicate a production profile — shows those in the pipeline also have significant tonnage.

Bertincourt noted most Australian projects must deal with much lower grades, though Pure Minerals Ltd. will have a "head start" courtesy of much higher grade nickel-cobalt laterite ore from New Caledonia, which will have a minimum ore feed grade of 1.6% processed through its planned Townsville plant in Queensland, Australia.



In this light, Bertincourt expects more consolidation by bigger nickel producers in sourcing sulfide deposits, given the upside potential when the boom hits, particularly given the "out of this world" valuations attributed to such projects during the last boom, citing Xstrata PLC's (now Glencore PLC) A\$3.1 billion takeover of Jubilee Mines NL in 2007.

### Economic impacts

Meanwhile, production and consumption growth are accelerating. While China's economic boom from 2000 to 2015 saw GDP growth of between 10% and 30% per annum, this rate has accelerated over the past five years, resulting in significant market deficits.

Vincent Sweeney, director of private Australian company Direct Nickel Ltd., also told the Global Critical Minerals Conference on Nov. 22 that laterites would likely be the future of nickel supply, given that the old nickel sulfide mines are closing down at a faster rate than new sulfide discoveries are emerging.

Bertincourt noted that while stainless steel still comprises 68% of nickel's demand, growing consistently at over 5% a year, the International Stainless Steel Forum forecasts consumption to slow to no more than 4.4% in 2020.

Though batteries have grown as a percentage of demand by more than 28% from 33,000 tonnes (2%) in 2012 to 145,000 tonnes (6%) in 2018, it is still not a significant portion.

Nickel's current market size is about 2.5 million tonnes per annum, and predictions of nickel volumes to meet electric vehicle demand vary between 750,000 tonnes and 2 Mt in 2030. Either way, Bertincourt said nickel demand from EVs will "far exceed" production from existing operations.

Sweeney said that while there is "no question that there's lots of laterite around the world, we don't see the mines with permits that can possibly be brought on in time" for the supply crunch, which leads him to believe car manufacturers will actively start taking interest in mine supply.

He believes laterite projects can make money at a nickel price of US\$22,000 per tonne.

The conference occurred just as BMW said on Nov. 21 that it would spend more than €10 billion on battery cells from Chinese battery cell manufacturer Contemporary Amperex Technology Co. and Samsung SDI.

While Sweeney said the "tipping point" for EVs will arrive by about 2025, a British government official at the conference said BMW's announcement, coupled with Europe's battery market forecast to be worth €50 billion by 2025, suggests the "tipping point" has already arrived ... "we just won't see it for another five years."

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