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# WESTERN AUSTRALIAN PCAM HUB – REFINING THE FUTURE WITH PBT'S NMC DIRECT™

By

William Hawker, Harrison Hodge, Kate Dickson

Pure Battery Technologies, Australia

Presenter and Corresponding Author

Dr William Hawker

## ABSTRACT

Recent worldwide events have highlighted the need for improved supply chain resilience in Australia. Pure Battery Technologies (PBT) is helping address this need by developing the WA pCAM Hub, leveraging Australia's strong mining industry to bring value-adding battery material manufacturing processes on shore.

PBT's WA pCAM hub will utilise PBTs patented and proprietary NMC Direct™ approach to upgrade intermediate nickel and cobalt containing materials into lithium-ion battery precursor Cathode Active Material (pCAM). The NMC Direct™ approach is a combination of processes including PBT's patented Selective Acid Leach (SAL) and Combined Leach (CL) methods. This approach offers a new processing route for refining nickel, cobalt, and manganese into battery metal products, exploiting differences in solubilities and oxidation states to achieve the separation of metals using low energy hydrometallurgical processes. This NMC Direct™ approach eliminates costly and energy-intense production steps, decreasing $CO_2$ equivalent emissions from the refining of intermediate material to pCAM by up to 85% when compared to current industry standard process routes, and removes the need for production of intermediate metal or sulphate crystal products.

The WA pCAM Hub will also give emerging and existing Australian mines an alternative downstream partner for ore and concentrate refining. The NMC Direct™ approach gives nickel miners the option to extract types of ore that are unsuitable for traditional processing routes, while the higher value final pCAM product allows previously uneconomic deposits to be used as decarbonising minerals for the future.

This presentation will provide a brief description of the NMC Direct™ approach and an update on the WA pCAM hub project.

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