

Downstream Nickel Project



INTEGRATED BATTERY MATERIAL FACILITY

IGO Limited, in conjunction with metals and mining business Wyloo Metals (Wyloo), is exploring the development of a project to produce cathode precursor for the lithium-ion battery industry.

As part of our strategy to connect with end users via vertical integration, the project involves combining a downstream nickel refinery with a plant producing precursor cathode active material (PCAM) that would bring together IGO's disruptive nickel refining technology with battery precursor production expertise.

The proposed Integrated Battery Material Facility (IBMF) would harness the IGO Process™ that has been proven to produce nickel rich battery grade chemicals at a lower cost and lower carbon emissions when compared with traditional processes for nickel sulphide concentrates.

Combining the IGO Process™ with leading precursor

manufacturing technology, the proposed IBMF would produce PCAM needed for the manufacture of nickel rich cathode material for lithium-ion batteries.

The Western Australian Government recently allocated approximately 30 hectares in the Kwinana-Rockingham Strategic Industrial Area for IGO and Wyloo's IBMF. The land is located on the Gnaala Karla Booja region of the Noongar Nation. IGO acknowledges the connection of the Noongar people to that Country and their Elders, past, present and emerging.

IGO and Wyloo are currently completing a feasibility study on the IBMF, which is scheduled to conclude in the second half of 2024.

ABOUT IGO LIMITED

IGO Limited is an ASX 100 listed company focused on creating a better planet for future generations by discovering, developing and delivering products critical to clean energy.

We are a purpose-led organisation and believe we are Making a Difference by safely, sustainably and ethically delivering the products our customers need to advance the global transition to decarbonisation.

IGO has two operating nickel mines, including the Nova and Forrestania Operations, and a third in development, known as the Cosmos Project, all of which are located in Western Australia.

Our lithium interests are held via an incorporated joint venture with Tianqi Lithium Corporation, with our 49% interest including part ownership in the Greenbushes Operation and a downstream processing refinery at Kwinana in Western Australia that produces battery grade lithium hydroxide.



3D concept of the proposed Integrated Battery Material Facility
Artist impression only

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BATTERY SUPPLY CHAIN & VERTICAL INTEGRATION

Globally, the increasing demand for electric vehicles and other green technologies is fuelling continued growth in the battery supply chain.

Lithium-ion batteries are essential to support our decarbonisation goals as we reduce our reliance on fossil fuels.

The battery supply chain refers to the integrated supply chain of processes and activities involved in the production, distribution and recycling of batteries, with a focus on lithium-ion batteries, and includes:

1. Raw material extraction, refining and active materials production

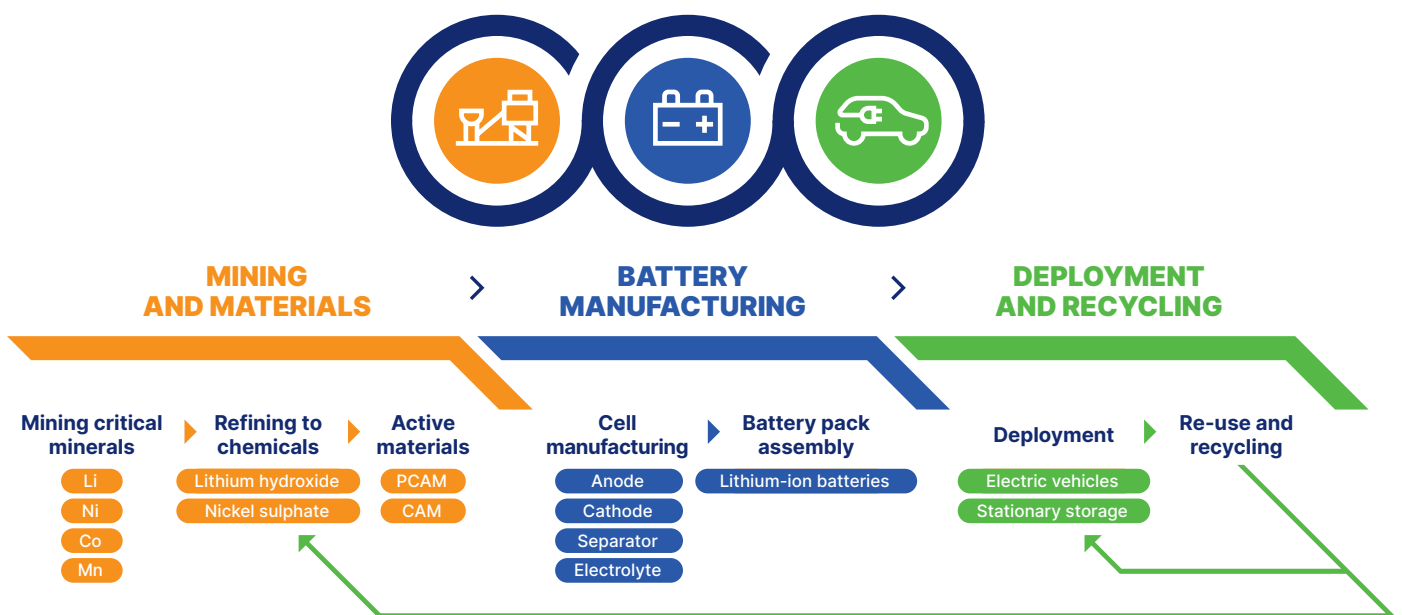
- Below ground, minerals bearing lithium, nickel, cobalt and manganese are the source of these essential metals needed for battery cell manufacturing, with Australia having globally significant mineral reserves
- These raw minerals are then processed and purified to produce specialty battery chemicals, such as nickel sulphate. The next step is the production of active material, such as PCAM.

2. Cell manufacturing and battery pack assembly

- In this stage active materials are combined to form anode and cathode materials, along with electrolytes and separators required for cell production
- These battery components are then assembled into battery cells, which are integrated in larger battery packs or modules.

3. Battery deployment and recycling

- Fully assembled battery packs are then distributed for installation in electric vehicles, electronic devices, etc.
- At the end of their life, batteries are then able to be recycled, used in stationary applications or broken down to recover the individual battery components and metals for reuse.



Battery Supply Chain

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THE IGO PROCESS™ & PCAM

IGO developed and owns the IGO Process™, which is a low carbon footprint hydrometallurgical process for producing battery grade nickel sulphate. IGO has also completed extensive test work and studied a range of methods for processing nickel sulphate from intermediates.

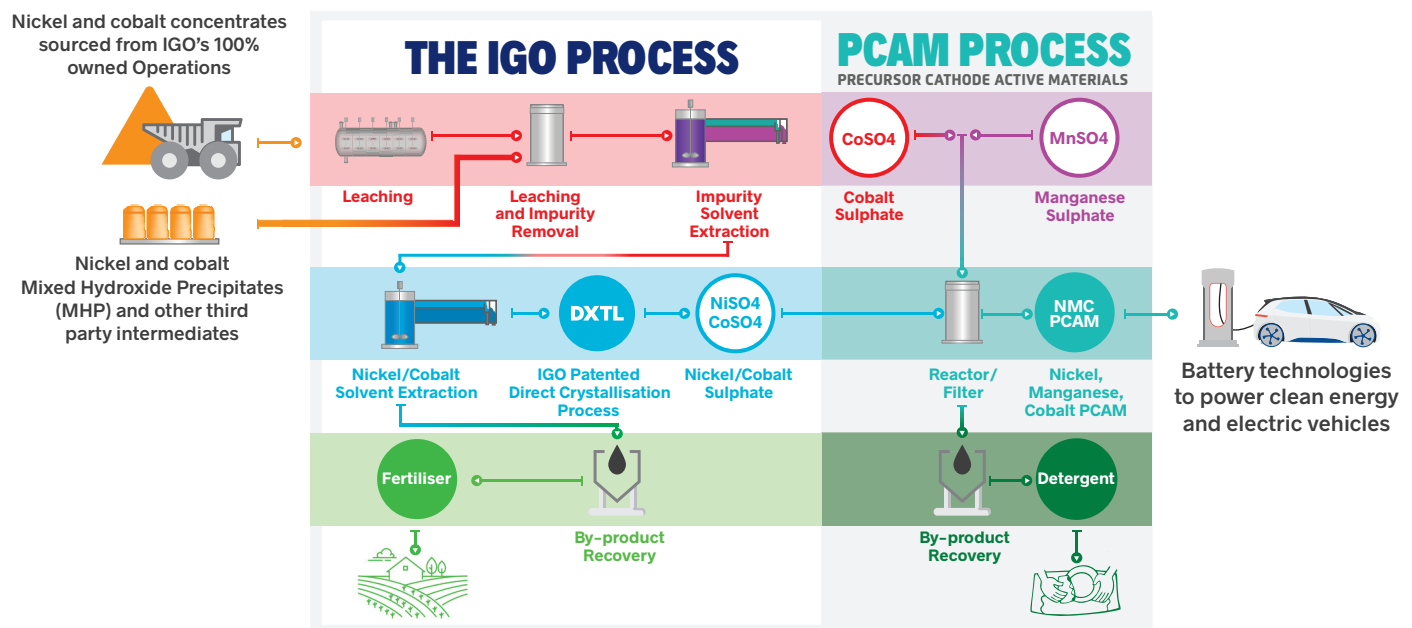
In partnership with Wyloo, IGO is undertaking a feasibility study to assess opportunities for downstream processing of nickel concentrates and nickel intermediates to produce battery grade nickel sulphate within Australia.

The project would represent the first commercial production of PCAM in Australia and would align

with the State Government's efforts to support the growth of Western Australia's battery industry.

IGO and Wyloo are currently advancing discussions with a global battery chemical manufacturer which has indicated strong interest in partnering in the project. This is an important step in integrating the parties' technologies with IGO and Wyloo's critical minerals to capture value across the supply chain.

Other key workstreams required before a final investment decision can be made include environmental permitting and approvals, broad stakeholder engagement and the achievement of key commercial outcomes.



WHAT IS PCAM?

PCAM refers to precursor cathode active material, which is an intermediate compound used in the production of cathode material for lithium-ion batteries. PCAM is made by blending the different battery grade chemicals and applying reagents to create the desired composition and physical and chemical structure. PCAM then undergoes various manufacturing steps to convert it into the final cathode active material.

The cathode in a battery stores and releases lithium ions during battery cycling, generating the energy required to power electric vehicles and our electronic devices. Precursor materials have different compositions depending on the battery chemistry they will be used in. For example, in lithium-ion batteries, common precursor cathode materials include lithium iron phosphate (LFP) or nickel cobalt manganese (NCM). IGO will be targeting nickel rich cathode chemistries that are typically used in high end electric vehicles, such as Tesla.



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WHY KWINANA?

The IBMF is proposed to be constructed in the Kwinana Strategic Industrial Area (KSIA) on approximately 30 hectares of vacant industrial land, recently allocated by the Western Australian State Government.

The land secured for the proposed IBMF is located adjacent to the Kwinana Lithium Hydroxide Refinery which is owned by Tianqi Lithium Energy Australia, a joint venture between IGO and Tianqi Lithium Corporation.

IGO and Wyloo were attracted to the KSIA due to its proximity to Perth and location within the Western Trade Coast. The area already supports a number of strategic and heavy industries and is emerging as the premier location for a future battery industry hub in Australia. The KSIA has a number of attractive features, including:

- Access to deep water port with bulk handling capability that enables export of our product to key international markets
- Available infrastructure such as power, water and transport options
- Skilled local workforce
- Streamlined approval requirements
- Complimentary industries to maximise industrial synergies.

PROJECT BENEFITS

- Proposed investment \$600M-\$1B
- Peak construction workforce of up to 1,200 people
- Operational workforce of ~250 people



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