Australian Government

NAIF
Northern Australia Infrastructure Facility

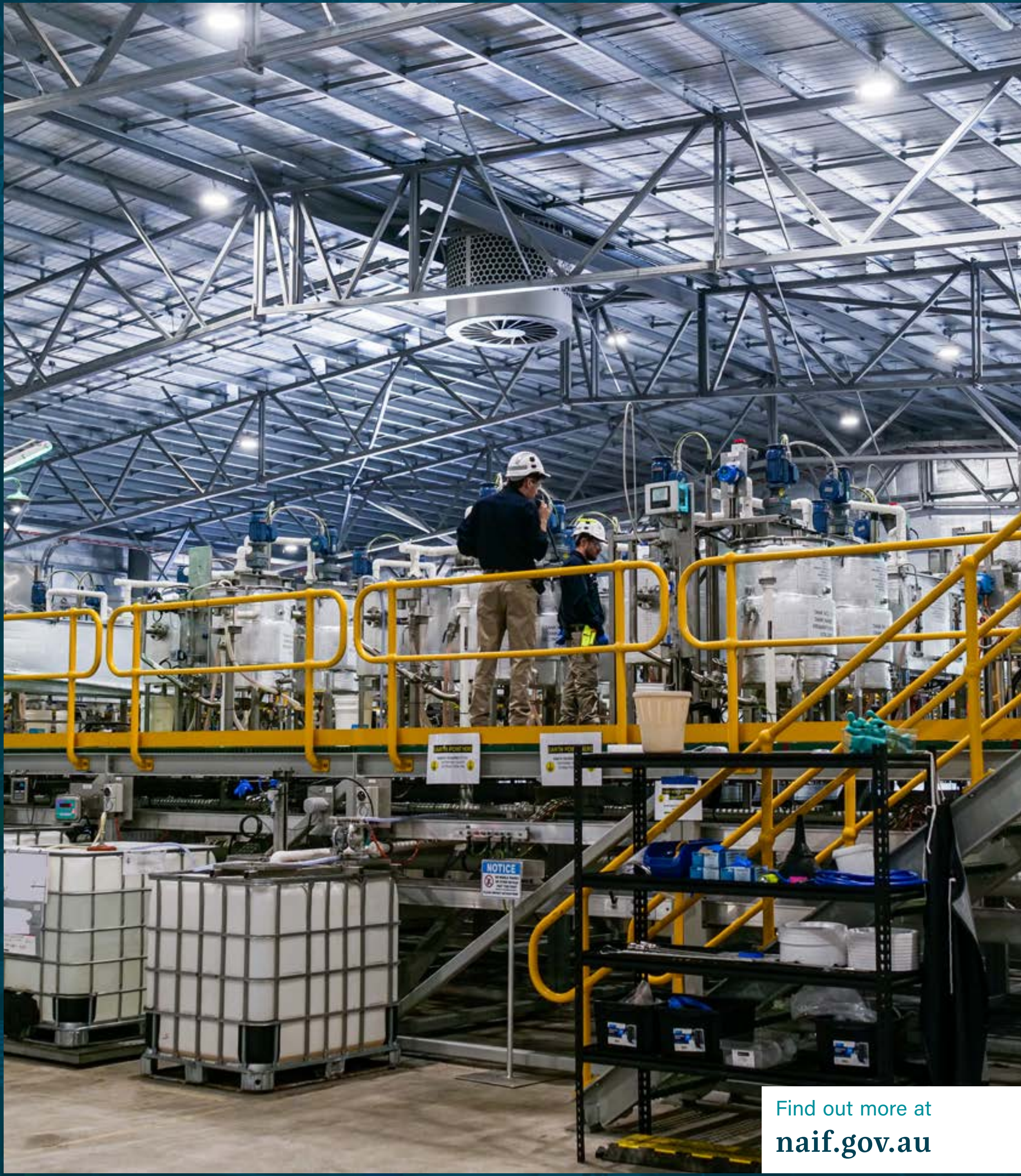
Case Study

ALPHA HPA

HPA First Project

JANUARY 2026

GLADSTONE, QLD



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ALPHA HPA

HPA First Project

As the global economy moves towards lower carbon technologies, demand for high purity alumina (HPA) is expected to rise significantly, creating new opportunities for Australia.

HPA is a speciality aluminium chemical used in the manufacture of semiconductors, lithium-ion batteries, pharmaceuticals and increasingly in applications relating to high-powered computing. HPA's key role in electrification processes is vital to the green energy transition and decarbonisation of the global economy. HPA was added to the Australian Government's list of critical minerals in 2022.

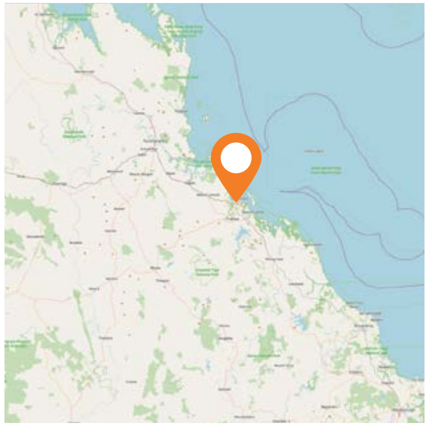
Alpha HPA's HPA First Project in Gladstone, Queensland, is Australia's first commercial-scale HPA manufacturing facility and will be one of the largest single-site HPA manufacturing sites in the world. The facility is designed to produce over 10,000 tonnes of a number of HPA products per year. It uses proprietary solvent extraction and refining technology to produce HPA with a significantly lower carbon footprint compared to incumbent processes globally. Stage One of the HPA First Project is currently in small commerial scale production for customer qualification purposes.

Stage Two of the HPA First Project is now under construction, with commissioning due in 2027.

The facility uses 100 percent renewable electricity and recycles its reagents as byproducts leading to near-zero waste, further reducting its environment footprint.

The project benefits from its location within the Gladstone State Development Area (GSDA), where it is integrated and co-located with key partners including Orica and feedstock provider Rio Tinto. This industry clustering supports efficiency, security of supply, and economies of scale.

The state-of-the-art facility will leverage the latest process control systems and automation and is expected to create around 120 jobs when operational while helping to meet growing demand for low-carbon technologies. Given the unique challenges with the emerging nature of the HPA market and a regional location, NAIF's financing support has helped attract private sector investment and ensure timely delivery of the project.



OpenStreetMap

Supporting Australia's transition to a lower emissions economy

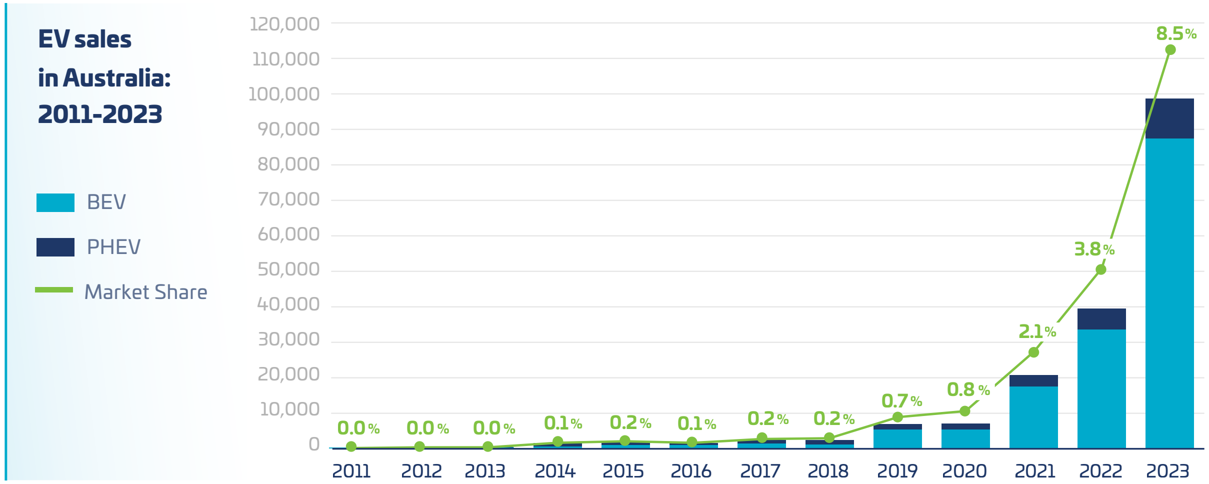
Globally, the push to electrify energy grids and lower carbon emissions has intensified over the past decade. Governments around the world are increasingly looking to incentivise 'green' technology and encourage industry towards more sustainable practices.

Central to this theme has been the development and proliferation of new technologies enabling better generation, transmission and storage of energy and boosting the efficiency of various devices.

This shift to a lower carbon economy has increased demand for the minerals used in this transition, including HPA.

In its 2025 Sustainability Performance Report, Alpha HPA's Managing Director Rob Williamson highlighted that "Sustainability isn't a side project for us. It's smart business. Our proprietary extraction and refining technology dramatically reduce the energy, emissions and waste typically associated with specialty aluminium materials production. That efficiency isn't just good for the environment – it's our competitive advantage."

Demand for electric vehicles has grown rapidly over the past decade.



BEV: Battery Electric Vehicle; PHEV: Plug-in Hybrid Electric Vehicle

Source: Electric Vehicle Council of Australia, 'Australian Electric Vehicle Industry Recap 2023', March 2024.

What is HPA?

High Purity Alumina (HPA) is a high-grade form of aluminium oxide traditionally made by oxidising aluminium metal using alcohol through a process called alkoxide synthesis, then washing and drying this material at temperatures over 1,000 degrees Celsius.

Alpha HPA's solvent-extraction processing technology enables the company to produce material with an alumina purity between 99.995 per cent and 99.999 per cent. This process also reduces emissions by around 70 per cent compared with traditional alkoxide processing.

While alumina and other aluminium-based compounds do occur naturally in the earth's crust, to achieve the very high purity required for use in new, green technologies, HPA must be refined from these compounds, which include aluminium metal, aluminium hydroxide and kaolin clay.

How we helped

The rapid growth in critical minerals reflects their importance in Australia's economic future. However, private investor appetite in critical minerals projects remains constrained, as investors and commercial lenders generally have limited experience in this new and specialised sector.

NAIF is well placed to address such funding gaps and deliver our unique mandate to provide financial support to infrastructure development in Australia's north, and more broadly to support the Australian Government's Critical Minerals Strategy.

In particular, the HPA First Project illustrates how (government) specialist investment vehicles' innovative funding solutions can play an essential role in the development of an emerging industry. NAIF made an Investment Decision to provide a loan of up to $200 million to Alpha HPA, alongside $200 million in funding from Export Finance Australia, as commercial debt of the quantum and tenor required was not available in the market. The resulting debt financing solution incorporated highly customised features including mechanisms to address the initial lack of offtake contracts.

The HPA First Project is expected to generate substantial public benefit, another key pillar of our unique investment mandate. The project will support 300 jobs during construction, with a further 120 full time jobs during operations, including highskilled manufacturing jobs. A forecast $437.4m in economic benefit to the northern Queensland economy during construction and an initial 20-year operational life is anticipated. Additional unquantified social-economic benefits include Alpha HPA's innovative manufacturing method reducing emissions by ~70% compared to the incumbent process.

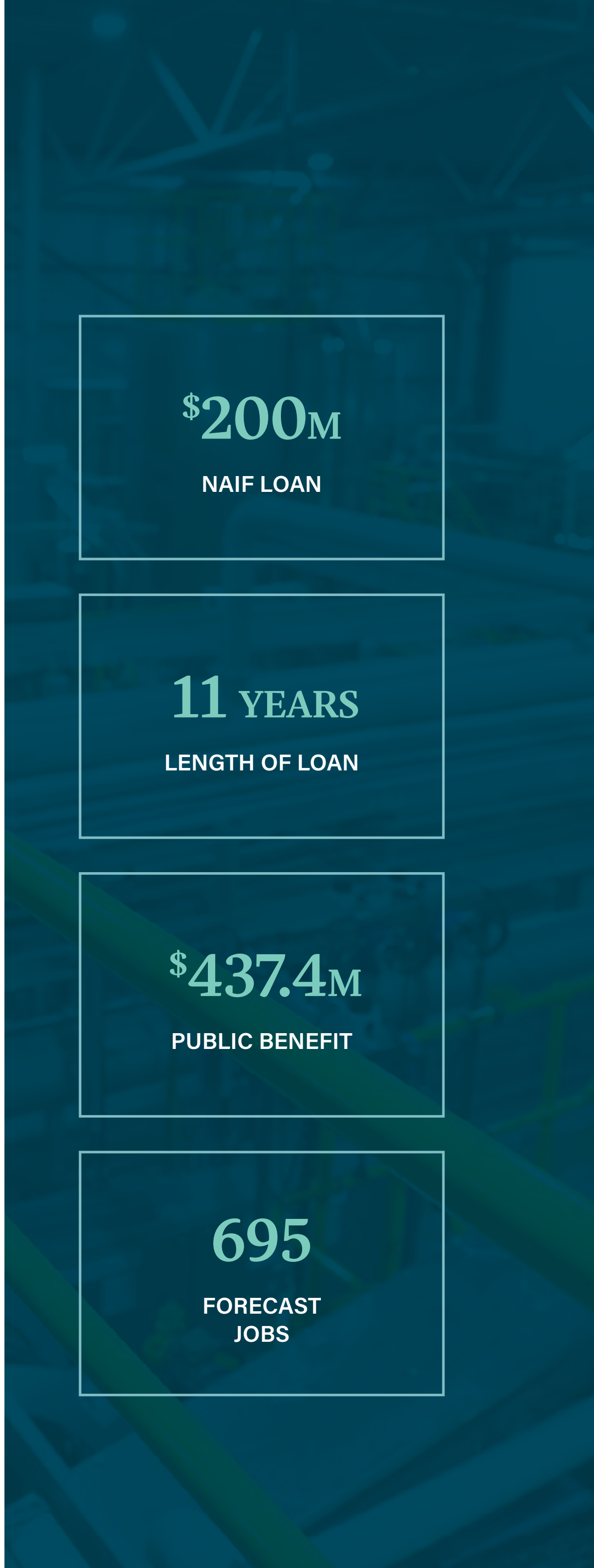
Further, technologies using HPA, such as LED lighting and lithium-ion batteries are key to a lower carbon economy and support the transition to sustainable energy sources. Furthermore, the project will support the development of upstream and downstream businesses within the Gladstone and Central Queensland regions and generate high-skilled manufacturing jobs.

"NAIF's support has been instrumental in progressing the development of our HPA First Project in Gladstone, Queensland.

Their willingness to work closely with Export Finance Australia and tailor a funding package to suit the scale and complexity of the project was critical. The partnership gave confidence to other investors and enabled us to secure the capital needed to commence construction and accelerate the delivery of our low-carbon, high-purity aluminium materials to global markets."

Craig Jones,

Chief Financial Officer, Alpha HPA



$200M

NAIF LOAN

11 YEARS

LENGTH OF LOAN

$437.4M

PUBLIC BENEFIT

695

FORECAST JOBS

SECTOR INSIGHTS

Critical Minerals

Developing critical minerals projects in northern Australia demands thorough preparation across technical, financial and operational fronts. Drawing on independent technical expertise helps strengthen decision-making and manage risks.

Long-term success also depends on the ability to generate sound cash flows throughout the economic cycle, and withstand a changing market, technology and regulatory dynamics.

Critical to the successful project development and ability to secure investors in the emerging HPA market has been Alpha HPA's construction and operation of an initial small scale demonstration plant in Brisbane which now continues to operate as the company's Product Development Centre. Following this, a small commercial scale plant (Stage One HPA First Project) was constructed on the full commercial plant site in Gladstone (Stage Two HPA First Project). The Stage One HPA First Project has allowed the Alpha HPA team to construct, ramp up and produce a range of its HPA products for the important customer testing phases, prior to undertaking the full commercial scale project development. This has delivered vital experience in construction, processing, commissioning and marketing activities. This also provides considerable confidence to investors.

Here are some further practical insights from NAIF to consider when investing in critical minerals projects in northern Australia:

Diversifying Global Supply Chains

A key objective of the Australian Government's Critical Minerals Strategy is to improve the resilience of supply chains, expand downstream processing and value-adding, and help meet future global demand. The HPA First project will be Australia's first large-scale HPA facility, manufacturing a range of speciality products for use in future-facing technologies such as semiconductors and lithium-ion batteries, and deliver these products via efficient and sustainable production methods.

Government Support for Emerging Industries

Attracting funding for critical minerals projects faces additional challenges when compared to traditional commodities. Private investor appetite tends to be low, as the products, markets and risks are not widely understood. Government special investment vehicles (SIV) such as NAIF are uniquely positioned to fill this gap via financing solutions with highly customised features. This can include mechanisms to address a particular project's challenges such as lack of price transparency and established buyer-seller contracts, higher technology risk and longer pay-back periods.

Frequently, the presence of one or more SIVs in critical minerals transaction will attract and give private investors – including commercial lenders – comfort to also participate in the financing of the project.

Strategies for successful investment

Any successful investment in infrastructure projects in northern Australia requires a combination of strong management, sound business and financial planning, and careful consideration of project-specific risks.

In addition, projects in northern Australia must account for region-specific challenges such as extreme weather, remoteness, supply chain limitations, and access to labour and accommodation particularly during construction. Factoring in these considerations helps create the conditions for sustainable and successful investment outcomes.

INDIGENOUS ENGAGEMENT

At the heart of the community

Gladstone, in Central Queensland, is located on the traditional lands of the of the First Nations Bailai, Gooreng Gooreng, Gurang, and Taribelang Bunda People.

The Traditional Owners are represented by the Port Curtis Coral Coast Trust (PCCC), who provides administrative and operational support for the Registered Native Title Body Corporate (RNTC or PBC). The PBC is responsible for and manages all Native Title, Cultural Heritage TUMRA, Land and Sea Claim interests across the region. The PCCC office delivers dedicated social programs and coordinates the cultural heritage protection programs. The region is home to culturally and ecologically significant ecosystems, encompassing mangroves, seagrass meadows, coral reefs, tidal wetlands, and coastal river systems, as well as eucalyptus woodlands and freshwater catchments inland.

Alpha HPA has developed an Indigenous Engagement Strategy (IES) to ensure meaningful participation and benefit sharing with the Traditional Owners and local community. Commitments include exploring opportunities for equity participation in the project, embedding recognition of First Nations involvement in procurement and contracting processes, supporting education and training pathways through scholarships, and sponsoring community-led events that foster cultural connection and inclusion.

Alpha HPA has supported community initiatives such as the 1770 Cultural Connections Festival, the Dorrie Day Careers Expo and the First Nations Chamber of Commerce and Industry Summit. To date, the project has achieved a 5 per cent Indigenous employment rate, and current and future tenders will include criteria to encourage participation by First Nations people and businesses, with weighting for the Bailai, Gooreng Gooreng, Gurang and Taribelang Bunda peoples where commercially viable.

Alpha HPA has formalised its commitment to equity participation by placing shares and issuing 500,000 options to the PCCC. This arrangement enables Traditional Owners with a direct stake in the project and reinforces broader IES commitments to collaboration, community engagement and local economic development. It also aligns with NAIF's Indigenous participation requirements and reflects a shared commitment to building a genuine, enduring partnership in the Gladstone region.

Building a future for northern Australia

Australia's Critical Minerals Strategy aims to position the nation as a secure and sustainable supplier of the materials essential to the global transition to a low-emissions economy.

Alpha HPA is a contributing significantly to this ambition, establishing local capability in high-value processing and advanced manufacturing.

The HPA First Project will deliver enduring benefits for northern Queensland, including high-skilled employment, opportunities for local service industries, and pathways for Indigenous participation and equity partnership. By producing high purity alumina through an innovative low-carbon process, the facility will also help reduce emissions in global supply chains for clean energy technologies such as batteries, LED lighting and semiconductors.

NAIF's financing support, alongside Export Finance Australia and the Australian Government, has helped make this project possible by bridging a funding gap and attracting private sector investment. The Alpha HPA First Project demonstrates how targeted public finance can enable new industries in regional Australia, delivering lasting public benefit while strengthening the nation's role in the clean energy transition.

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FIND OUT MORE

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- → Alpha HPA

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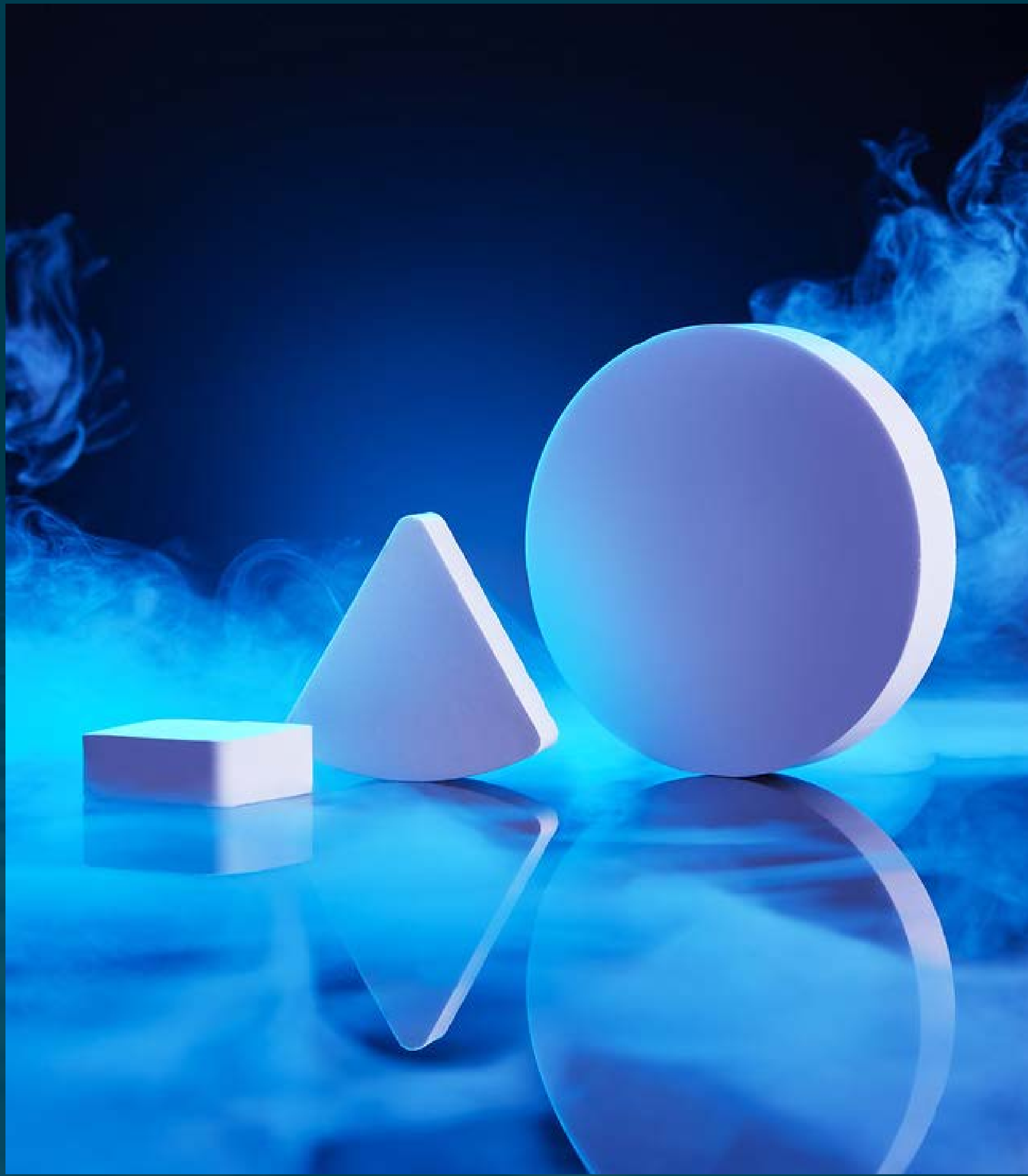
Investing for impact in northern Australia



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