

Australian Bauxite Ltd: Alcore Economic Assessment

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Sydney, Australia - [Australian Bauxite Ltd.](#) (ASX:ABX) (FRA:A7B) provides the following economic assessment of its 89% owned subsidiary ALCORE Limited (Alcore) and in particular work being undertaken to process aluminium fluoride (AlF₃) by Alcore (AlF₃ Project).

- AlF₃ is a strategically important mineral because it is an essential ingredient for aluminium smelting. It is also being investigated for advanced lithium-ion batteries
- Australasian aluminium smelters currently rely entirely on imported AlF₃
- AlF₃ imports by Australasian smelters from China alone in the last 12 months totalled more than 26,000 tonnes averaging US\$1,266 per tonne
- Alcore plans to be the first domestic producer of AlF₃ which will diversify and increase security of supply for Australasian smelters and enable export to other smelters worldwide
- The Alcore process is the world's first production of AlF₃ from the recycling of aluminium smelter waste and from ABx's gibbsite-rich clean bauxite
- Alcore is routinely producing AlF₃ of commercial composition and bulk density in the laboratory
- Alcore uses the aluminium-related parts of the CORE Technology (patent application)

Updated economic assessment

According to Roskill, a respected industry analysis company, in 2019:

- The operating cost of most global AlF₃ production was between US\$1,000/t and US\$1,500/t
- 75% of existing commercial AlF₃ production costs are raw materials, mainly fluorspar and aluminium hydroxide.

The Alcore process uses lower cost raw materials, offering a significant reduction in operating cost:

- Fluorine from aluminium smelter waste, instead of from purchased fluorspar
- Aluminium from bauxite or aluminium smelter waste, instead of purchased aluminium hydroxide

Alcore's costs: The cost advantage of fluorine from aluminium smelter waste allows Alcore to begin low-risk commercial production, initially from aluminium hydroxide, before expanding to processing bauxite or aluminium-rich smelter waste, which reduces costs but is not essential in early years of production to make the project attractive.

The operating cost range for Alcore's early years of production is estimated to be US\$800-\$950 per tonne of AlF₃, based on the likely costs of raw materials for a plant in Bell Bay, northern Tasmania. This will place Alcore in the lowest cost quartile of global production.

The cost is based on purchased aluminium hydroxide and recycled aluminium smelter waste as the source of fluorine. Future cost reductions from using bauxite or aluminium-rich smelter waste are upsides.

Prices: The median long-term AlF₃ price is US\$1,175/t and market prices are currently near this value (see Figure 1*). This provides an attractive operating margin for Alcore.

The Alcore process predominantly uses standard processing equipment, minimising the cost and risk of development.

Current Alcore activities

1. Conducting engineering validation, which is likely to include a pilot plant for critical process steps, to:

- Confirm process and product performance at a larger scale
 - Produce larger samples for evaluation by aluminium smelters
2. Conducting process verification experiments in the laboratory to:
- Optimise process conditions to ensure that required physical properties of AIF₃ are consistently achieved
 - Produce AIF₃ from bauxite and aluminium smelter waste of equivalent quality to that produced from aluminium hydroxide
 - Optimise the recovery of fluorine from aluminium smelter waste, including the separation and recovery of by-products with potential commercial value

Commercial

- Market prices for AIF₃ are mainly determined by the Chinese export price set on the basis of free-on-board in Chinese Ports, which is published daily and monthly by China Customs. The median long term AIF₃ price is US\$1,175/t (see Figure 1).
- Alcore plans to be the domestic first producer of AIF₃, at an industrial site in Bell Bay, northern Tasmania; an industrial precinct that currently has an aluminium smelter, a manganese smelter, an aluminium powder plant, a skilled workforce and experienced engineering firms.
- Alcore plans to commence with a production module of 10,000 tonnes of AIF₃ per year, and steadily construct up to five production modules of the same size, for a total of up to 50,000 tonnes of AIF₃ per year. This represents a small percentage of the 1.5 million tonne global market for AIF₃.

Government & Industry

Discussions continue with governments, agencies and with major companies in the aluminium industry. Alcore considers AIF₃ to be a strategically important mineral product.

Comment: Alcore CEO, Mark Cooksey commented: "For the process selected for our first 10,000 tonnes/year production module, we have demonstrated all of the key requirements at the laboratory scale. The updated economic assessment confirms that this is a very attractive project. We are accelerating the engineering validation for the first production module."

*To view tables and figures, please visit:
<https://abnnewswire.net/lnk/OS2E0683>

About Australian Bauxite Ltd:

[Australian Bauxite Ltd.](#) (ABx) (ASX:ABX) has its first bauxite mine in Tasmania & controls the Eastern Australian Bauxite Province. ABx's 11 bauxite tenements in Queensland, New South Wales & Tasmania totalling 662 km² are all 100% owned, unencumbered & free of third-party royalties. ABx's bauxite is gibbsite trihydrate (THA) bauxite that can be processed into alumina at low temperature.

ABx has committed a large proportion of its expenditure into Research and Development to find ways to capitalise on the main strengths of its bauxite type which is very clean, free of all deleterious elements and partitioned into layers, nodules, particles and grains of different qualities that can be separated into different product streams using physical, chemical and geophysical methods.

ABx has declared large Mineral Resources in northern NSW, southern NSW, Binjour in central QLD & in northern Tasmania.

ABx's first mine commenced at Bald Hill near Campbell Town, Tasmania in December 2014 - the first new Australian bauxite mine for more than 35 years.

ABx aspires to identify large bauxite resources in the Eastern Australian Bauxite Province and has created significant bauxite development projects in 3 states, Queensland, New South Wales and Tasmania. Its bauxite deposits are favourably located for direct shipping of bauxite to both local and export customers.

ABx endorses best practices on agricultural land, strives to leave land and environment better than we find it.

We only operate where welcomed.

Source:

[Australian Bauxite Ltd.](#)

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