



ASX ANNOUNCEMENT

24 May 2018

AUSTRALIAN **BAUXITE** LIMITED

ASX: ABX

ALCORE

AIF₃ for Aluminium smelters & Lithium ion batteries. Corethane: clean as gas, cheap as coal

ALCORE Ltd to fund ALCORE Stage 1 refining bauxite into Aluminium Fluoride

Highlights

- ABx Board of Directors has approved the incorporation of ALCORE Limited as a wholly-owned subsidiary to fund and manage the ALCORE Project, leading to the construction of an ALCORE Production Plant to produce 50,000 tonnes per year of Aluminium Fluoride (AIF₃) and co-products
- ALCORE will be given rights to the ALCORE technology to convert raw bauxite worth approximately \$50 per tonne into products worth more than \$1,000 per tonne of bauxite. Preliminary in-house and independent engineering estimates of the operating cost is of the order of \$400 to \$500 per tonne of bauxite, which leaves an attractive operating margin
- The ALCORE project will start immediately with the commencement of Stage 1 pilot plant at a pre-approved factory site in Berkeley Vale, central coast NSW for the production of Aluminium Fluoride (AIF₃) test samples
- The 12 month budget for the Stage 1 pilot plant & production of AIF₃ test samples program has been further reduced to \$2.5 million site operations (including contingencies), plus \$0.5m pre-IPO costs plus \$0.3m working capital and administration cost, which will be kept to a minimum under ABx administration & control
- \$1 million of funding has been promised by a party that is providing services to ALCORE Stage 1, \$0.5 million of funding has been provided to ensure that current work programs are not delayed and \$0.2 million has been pledged by parties supportive of this new technology.
- It is anticipated that the remaining \$1.6 million of seed capital will be fully subscribed to complete the funding of Stage 1
- An advisory-steering committee has been assembled and it has recommended the investment structure terms, with a priority given to expediting the development of an ALCORE Production Plant that will produce 50,000 tonnes of AIF₃
- Once Stage 1 completes the production of AIF₃ test samples, it will be modified to test the production of Corethane, which is pure hydrocarbon powder refined from low-value coals.
- Corethane will provide heat and electrical power for the ALCORE Production Plant and will also demonstrate its use as a gas-substitute in gas turbine electrical generators or its use as a diesel substitute for fuel security purposes. Corethane has many industrial markets
- Discussions with governments and agencies are progressing at the highest levels
- Companies that showed strong interest in purchasing and/or marketing both the Aluminium Fluoride and the main co-products Corethane and silica fume are being consulted
- ALCORE and ABx are on schedule to complete funding arrangements by 30 June 2018

ABx CEO, Ian Levy said; "The ALCORE Project must be pursued without delay. Its customers are aluminium smelters and that industry is growing at an amazing pace. ABx however also has two core bauxite development projects that need all of the time and energies of ABx's project development team, namely the large Binjour Project in central QLD and the Penrose refractory bauxite project 90km inland of Port Kembla NSW. Separating ALCORE into its own entity with its own management and destiny will unlock considerable value for shareholders in both the short and medium terms. Financing of the ALCORE Production Plant cannot be pre-determined but an IPO during 2019 is one route, should there be no superior offers at the time."

Bauxite producer, Australian Bauxite Limited (ABx) has made significant progress with its ALCORE project which is the development of bauxite beneficiation and refining technology to produce the high-value Aluminium Fluoride used in aluminium smelters and Lithium Ion batteries.

ALCORE will also produce Corethane ultra-pure hydrocarbon that can substitute for natural gas, diesel, heating and industrial applications. ALCORE's progress is meeting the schedule announced to the ASX on 13th November & 11th December 2017.

Recent Progress

1. Stage 1: Pilot Plant for product testing and engineering validation

ABx received its commissioned engineering, design and costing study on schedule on 28 February 2018 for Stage 1 of the ALCORE project, designed to generate bulk samples to be tested and validated by ALCORE's prospective customers for:

- a. High density Aluminium Fluoride (AlF₃)
- b. Corethane (ultra pure hydrocarbon for fuel, heating and metallurgical use) and
- c. Silica Fume for the concrete industry and for making eco-Geopolymer cement.

Stage 1 is to be constructed in Q3 2018 and work has commenced at site.

The chemical process was patented on 5th June 2017.

2. Financing Plans

Financing plans are to be finalised before the end of the fiscal year 30 June 2018 but seed capital raising has commenced with \$1.7 million already available from sophisticated investors and a service provider that support this powerful new technology.

ABx has been approached by three parties involved in the Aluminium Fluoride industry to discuss future sales. All three are interested in providing finance for the Stage 2 construction of the 50,000 tonne per year production plant, subject to offtake agreements. One has expressed interest in providing finance for the Stage 1 Pilot Plant, should it be required.

Discussions are continuing with Federal and State Government ministries and with a government authority. These discussions will continue in 2018 and become quite specific once the Stage 1 process makes its first samples of final products.

3. Expressions of Interest in Coproducts Corethane and Silica Fume

ABx has been approached by two major companies seeking negotiations for access to two of the major co-products from the ALCORE production plant, namely Corethane and Silica Fume.

ALCORE will expedite the production of test samples of these co-products so as to demonstrate their value to various customers and governments.

Corethane is a high-efficiency fuel for gas turbine electricity generators and can also be used to provide high-energy, low emission heat for several industrial applications. It can be used as a chemical reductant in the manufacture of metals, including ultra-pure silicon metal for electronics. When combined with water, Corethane makes a substitute fuel for low-speed, high power diesel engines – for example in ships, trains and large diesel generator plants.

Silica Fume is a rapidly growing industry, being an amorphous, micro-fine form of silica (SiO₂) that is increasingly used in making high strength concrete (complementing ABx's existing marketing of its cement-grade bauxite) and CO₂-free geopolymer cements. Other hi-tech markets exist.

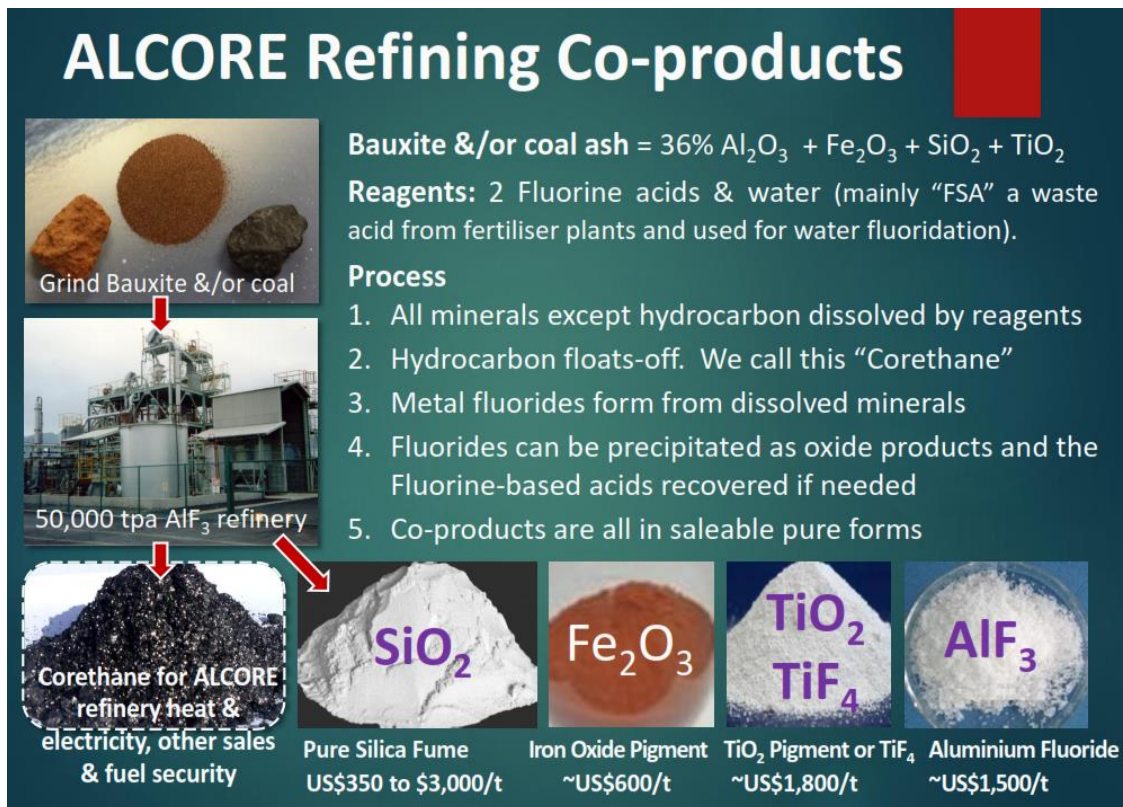
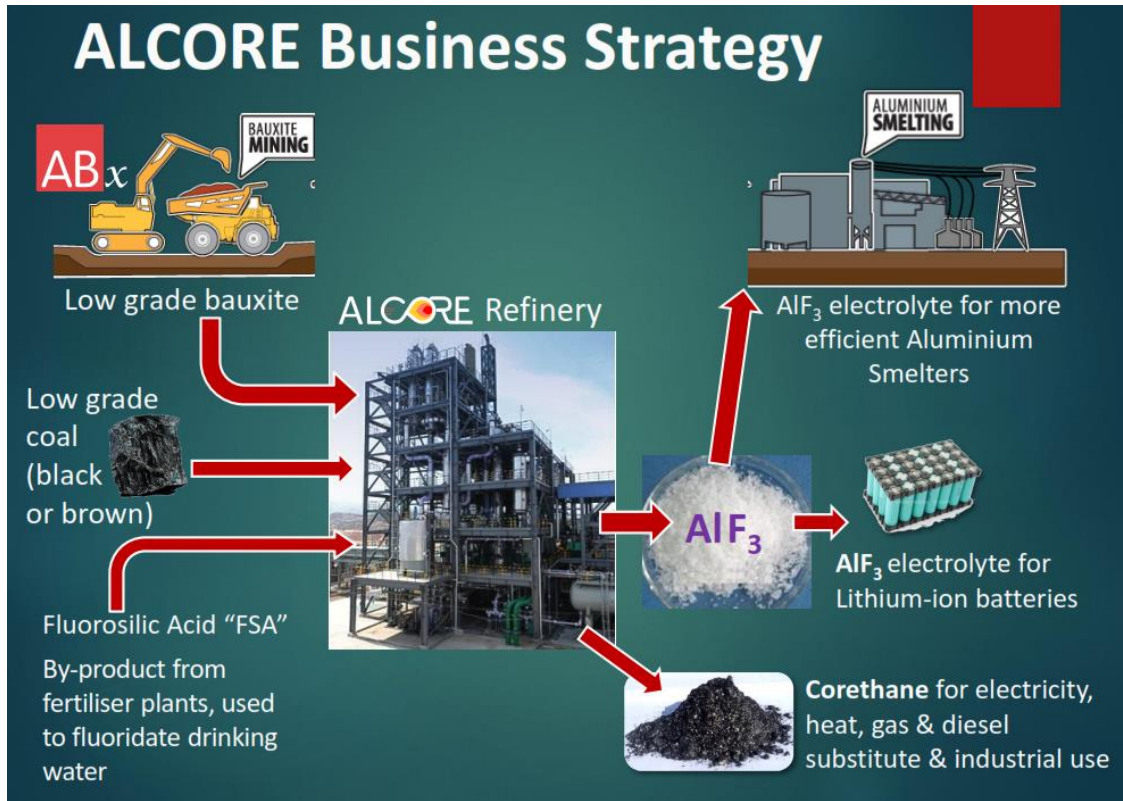
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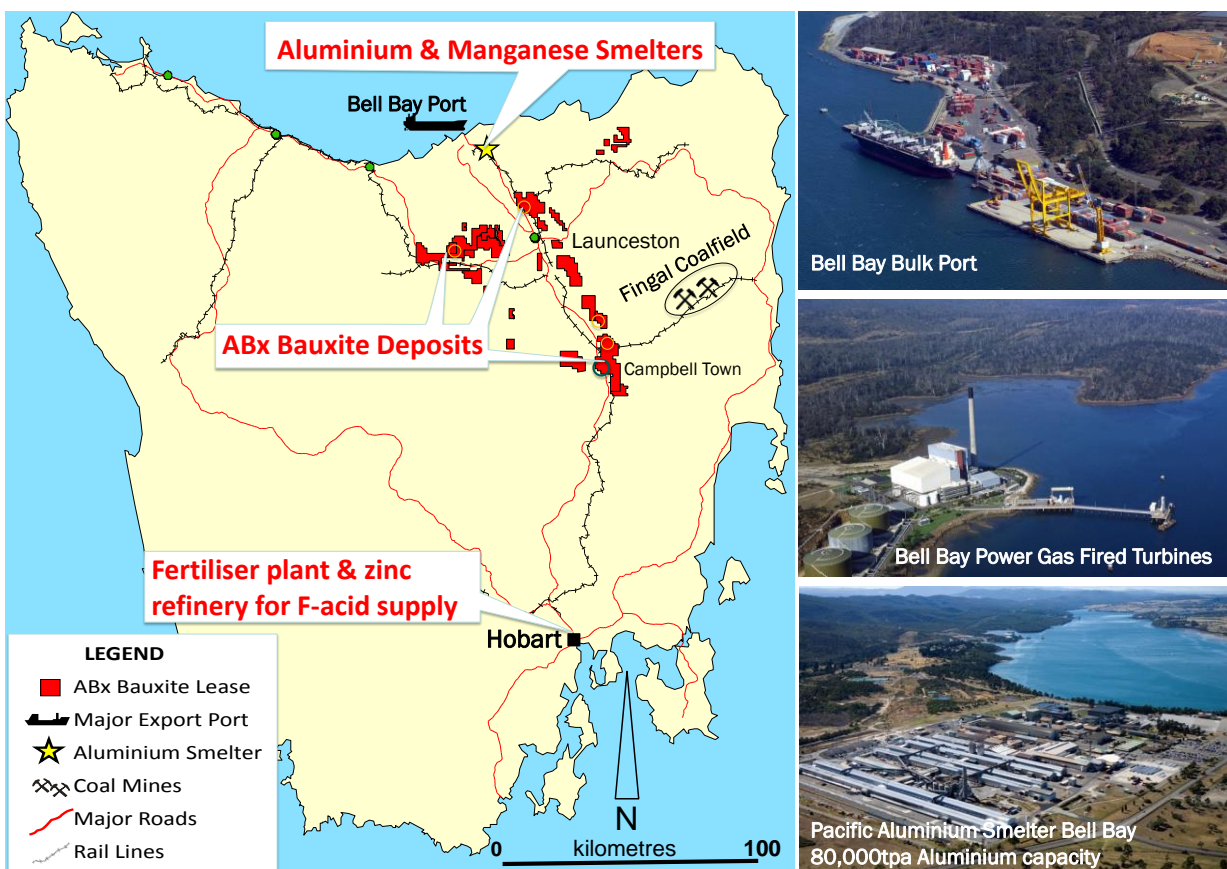
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Location for ALCORE Production Plant: Northern Tasmania or Townsville in Northern Queensland?

1. Large resources of clean-chemistry bauxite;
2. Available key chemical reagents, all of which are by-products from fertiliser plants and nearby zinc refineries;
3. Skilled workforces experienced in high-technology refineries and/or smelter operations;
4. Nearby coal supply for production of Corethane Gas for reliable energy security; and
5. Nearby export ports with ample available capacity for efficient shipping.

The figures below shows these advantages, using Bell Bay in Tasmania as a more specific example.



- Ample bauxite resources controlled by ABx located along major transport corridors leading directly to Bell Bay;
- Zinc refinery & fertiliser plant at Hobart that produce reagent by-products, especially fluoro-silic acid (FSA) that is the main make-up reagent to provide the fluorine to make aluminium fluoride AlF_3 ;
- Bell Bay's two smelters, including an aluminium smelter that may be a customer for ALCORE's AlF_3 production;
- Tasmania has an experienced workforce accustomed to the disciplines needed to operate industrial & chemical plants;
- Coal is available from Fingal Valley coal to produce Corethane Gas that can provide electricity and heat for the bauxite refining plant, and can supply coal for producing extra tonnages of Corethane Gas if needed;
- Bell Bay power station has gas turbines connected to the national grid with spare turbine capacity. Northern Tasmania has many industries requiring low-cost heating that may be supplied by Corethane Gas if needed;
- Bell Bay Port is an efficient export port with available industrial land sites and spare port capacity for exports.

AlF₃ markets are very strong

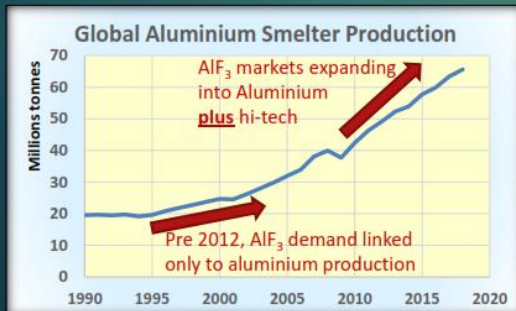


Prices strong

AlF₃ prices positive trend since 2012.

Recent price jump due to Lithium ion battery demand and very strong growth in aluminium production

Graph data: Asian Metals



Tonnes: AlF₃ is Aluminium index-linked

Aluminium production is growing at record rates and many new smelters in construction

Past: AlF₃ demand = 1.5% - 3% of Aluminium tonnes

Now: AlF₃ demand growing faster than aluminium due to new markets like Lithium ion battery usage

Graph Data: World Aluminium

ALCORE technology confirmation



Coal refinery at Maizaru Japan produced 200,000 tonnes of Corethane in 1981-86 to challenge OPEC oil price hike

- Proved satisfactory for Mitsubishi gas turbines (~14 months operation)
- Fuelled two gas turbine powered Cadillac El Dorado cars for 2 years in USA. Google "Coal Powered Cars"



2,300tpy plant at Cooma NSW 2002-07 refined graphite for heat storage application

- Also conducted hundreds of new tests on coals & OTHER ORES (Bauxite, Iron Ore)
- Possibility to make AlF₃ from bauxite & coal ash was first-noted
- OH&S was improved, plant simplified

ALCORE environmental benefits

Value adding with no smoke-stack, no emissions, no wastes

1. ALCORE Production Process uses waste acids from zinc refineries and fertiliser plants for reagent make-up
2. Reagents are recycled
3. No emissions, particulates or waste generated
4. AlF_3 improves aluminium smelting efficiency - saves electricity
5. Lithium Ion Battery recharge rates improved by AlF_3
6. Can be self-sufficient for heating & electricity (using co-product Corethane gas)
7. ALCORE can supply Corethane gas to produce electricity
8. Corethane mixed 50% with water creates a diesel substitute to increase Fuel Security

About Australian Bauxite Limited

ASX Code ABX Web: www.australianbauxite.com.au

Australian Bauxite Limited (ABx) has its first bauxite mine in Tasmania & holds the core of the Eastern Australian Bauxite Province. ABx's 22 bauxite tenements in Queensland, New South Wales & Tasmania exceed 1,975 km² & were selected for (1) good quality bauxite; (2) near infrastructure connected to export ports; & (3) free of socio-environmental constraints. All tenements are 100% owned, unencumbered & free of third-party royalties.

ABx's discovery rate is increasing as knowledge, technology & expertise grows. The Company's bauxite is high quality 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, mainly highly 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 at Inverell & Guyra in northern NSW, Taralga in southern NSW, Binjour in central QLD & in Tasmania, confirming that ABx has discovered significant bauxite deposits including some of outstandingly high quality.

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, which is a globally significant bauxite province. ABx has created significant bauxite developments 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.

Directors & Officers

Paul Lennon	Chairman
Ken Boundy	Director
Ian Levy	CEO & MD
Henry Kinstlinger	Company Secretary
Leon Hawker	Chief Operating Officer
Jacob Rebek	Chief Geologist
Paul Glover	Marketing, Logistics & Exploration Manager