

World Leading Hydrogen Fluoride Pilot Plant Achieves Construction Milestone

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The construction of the world leading hydrogen fluoride pilot plant has achieved a major milestone, with manufacture of the major process equipment substantially complete

Electrical infrastructure upgraded and civil works in progress

EPA Tasmania has advised that the Environmental Effects Report (EER) for the ALCORE pilot plant has been accepted as the final case for assessment

ABx Group Limited (ASX: ABX) (**ABx** or the **Company**), via 83%-owned subsidiary ALCORE Limited (**ALCORE**), has made substantial progress on the construction of its continuous pilot plant, which will demonstrate ALCORE's world-first proprietary process for producing hydrogen fluoride from a by-product generated during aluminium smelting. Hydrogen fluoride is essential for producing fluorine chemicals, which are used for critical applications such as lithium-ion batteries. Australia has no domestic production of hydrogen fluoride.

Continuous Pilot Plant Installation

The continuous pilot plant is being installed at the ALCORE Technology Centre (ATC) in northern Tasmania, adjacent to Rio Tinto's Bell Bay aluminium smelter. The manufacture of major process equipment is substantially complete and advancing towards final assembly (Figure 1). This includes integration of associated piping, valves, instrumentation and supporting structures.



Figure 1: Manufactured pilot plant process equipment, at manufacturer location overseas



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Dr Mark Cooksey, Managing Director and CEO of ABx Group, commented:

"It is exciting to see the pilot equipment transitioning from engineering designs to physical reality. Our process is a world first and we have a compelling opportunity for an attractive, profitable business to produce hydrogen fluoride from an aluminium smelter by-product. Just as aluminium smelting in Australia commenced in Bell Bay, Tasmania, so too will ALCORE."

"Our highly capable team is integrating the process equipment, the site infrastructure and the operational, safety and environmental requirements to bring this continuous pilot plant to life."

Construction: Electrical and Civil Works

The new TasNetworks substation has been installed to provide more power to the site (Figure 2). Manufacture of the main switchboard is in progress, with factory acceptance testing planned and delivery planned for November.



Figure 2: New TasNetworks substation installed at ALCORE Technology Centre

The site infrastructure and foundations are being prepared for delivery and installation of the major process modules. Vegetation has been cleared around the site in accordance with the bushfire hazard requirements.

Environmental Approvals

EPA Tasmania has advised that the Environmental Effects Report (EER) for the pilot plant has been accepted as the final case for assessment, following the review and revision process. This is a significant step in achieving planning approval for the project.

Engineering and Operational Readiness

With manufacture of the major process equipment being substantially complete, engineering activities are increasingly focused on the surrounding plant systems and integration of the individual process modules into the overall facility.

The integrated 3D plant model has been substantially developed, with particular focus on piping layouts and isometric drawings, pipe supports, equipment connections, cable tray layouts, cable routing and associated installation planning and documentation.

The ALCORE team continues to address and train for the remaining HAZOP actions and associated risk assessments. Design of operational safety systems is progressing, including site hazardous gas detection and alarms, emergency shutdown arrangements, safety showers and emergency response procedures. The hazardous area classification assessment is being finalised alongside updates to the plant layout and ventilation design.

The design of the supporting laboratory facilities has been substantially completed, with key laboratory equipment, furniture and associated fume extraction systems selected. Procurement arrangements are being finalised to establish on-site facilities for sample preparation, testing and analysis and further R&D activities in support of pilot plant operations.

Next Steps

The immediate priorities are completing the assembly of major process equipment, finalising detailed plant integration and preparing the ATC for staged equipment delivery, installation and safe commissioning. Electrical infrastructure upgrades and pilot plant installation planning will progress in parallel, along with completion of the remaining control and safety system engineering.

ALCORE expects to engage three pilot plant operators in early 2027 to support equipment installation, commissioning and subsequent operation. Pilot plant commissioning is targeted for Q2 2027.

The local council will shortly publicly advertise the planning documentation and the EER.

Business Development

ALCORE is engaging with the Australian and global fluorine industry to identify additional commercial opportunities for the technology, particularly for the production of other critical minerals. Dr Xiao Liang, Principal Engineer for ALCORE, is attending the Fluorine Forum in Italy on 26-28 October. This is one of the world's leading conferences for the fluorine mineral supply chain, from exploration and development of fluorine sources, through to end use applications and market demand trends.

ABx recently reported¹ that the indicative operating cost of producing hydrogen fluoride using the ALCORE process is US\$1,000-\$1,600/t. This would place ALCORE in the lowest quartile for hydrogen fluoride production cost and represent a 30-60% operating margin.

Strategic Importance of Hydrogen Fluoride

High value fluorine chemicals are widely used in many applications in modern economies. Notable examples include:

- Lithium-ion battery (LiB) chemicals, such as lithium hexafluorophosphate (LiPF₆). Most LiBs use LiPF₆ in the electrolyte
- A range of chemicals for semiconductor manufacture

¹ ASX Announcement, 2 July 2026

- Fluorocarbons, such as refrigerants and polymers
- Rare earth fluorides, essential for converting rare earth oxides to rare earth metals
- Aluminium fluoride, an essential chemical for aluminium smelting

Fluorspar (calcium fluoride, CaF_2) is the major source of fluorine worldwide. Global production of acidspar² is highly concentrated in China (79% of global production) and Mexico (11%).³ The global market is currently approximately balanced, but a significant supply deficit is forecast by 2035.

Given the importance of fluorine chemicals and fluorspar supply concerns, fluorspar has been designated a critical mineral by the US, Europe, Japan, Canada and Australia.⁴

Fluorspar cannot be used directly to produce fluorine chemicals. The intermediate is anhydrous hydrogen fluoride (AHF). Global AHF production is approximately 2.5 million tonnes per year⁵ with a value of approximately US\$5 billion per year.⁶

Australia does not mine any fluorspar or produce any hydrogen fluoride or fluorochemicals, and so must import all its requirements, representing a significant supply chain vulnerability. Notably, Australia is the world's largest producer of aluminium metal without domestic aluminium fluoride production.

This announcement is approved for release by the board of ABx Group Limited.

Go to the ABx [Investor Hub](#) to watch a video of this announcement and ask any questions of management.

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² Acidspar is fluorspar with >97% CaF_2

³ Project Blue, Fluorspar supply & demand outlook, Fluorine Forum 2025, Baveno, Italy, 22-24 October 2025

⁴ Australia has designated fluorine, rather than fluorspar, as a critical mineral

⁵ Project Blue, Fluorspar supply & demand outlook, Fluorine Forum 2025, Baveno, Italy, 22-24 October 2025

⁶ Average China price for 12 months from September 2025 to August 2026 is US\$2,000 per tonne

(<https://www.intratec.us/>)

About ABx Group Limited

ABx Group is developing heavy rare earths, hydrogen fluoride and bauxite projects in Australia.

ABx is a uniquely positioned Australian company delivering materials for a safer, cleaner future. The three priority projects are:

- **Heavy rare earths:** Supplying light and heavy rare earths from Tasmania into Western supply chains
 - Maiden mixed rare earth carbonate produced and positive feedback received from multiple customers
 - Processing Options Analysis conducted in partnership with external experts
- **Clean fluorine chemical production:** Producing hydrogen fluoride from aluminium smelter by-product (ALCORE)
 - Continuous pilot plant under construction in Bell Bay, Tasmania
- **Near-term bauxite production:** Mining bauxite for the aluminium, cement and fertiliser industries
 - Agreements executed with Good Importing International for bauxite projects in Queensland, and \$2.7 million initial payment has been received
 - Approvals well advanced for DL130 bauxite project in northern Tasmania

ABx endorses best practices on agricultural land and strives to leave land and environment better than we find it. We only operate where welcomed.

Disclaimer Regarding Forward Looking Statements

This ASX announcement (Announcement) contains various forward-looking statements. All statements other than statements of historical fact are forward-looking statements. Forward-looking statements are inherently subject to uncertainties in that they may be affected by a variety of known and unknown risks, variables and factors which could cause actual values or results, performance, or achievements to differ materially from the expectations described in such forward-looking statements.

ABx does not give any assurance that the anticipated results, performance, or achievements expressed or implied in those forward-looking statements will be achieved.