

Scandium International is rapidly advancing the world's first primary scandium mine to production.



While the benefits of scandium have long been understood, limited supply and high prices have prevented wide scale market adoption.

Scandium International is working to bring change to this market, with the development of the Nyngan Scandium Project. Production is planned for early 2019, and is expected to make this the world's first primary scandium mining operation. The implications for the scandium market are significant—this level of supply, offered at commercial prices, from a transparent, trusted jurisdiction (Australia) can be expected to dramatically increase scandium use across a wide range of manufacturing applications.

Scandium has long been recognized as a valuable commodity, but **economic concentrations of scandium are rare**. Scandium is typically produced today from low-grade mineral waste stockpiles or as a byproduct from other mineral processing operations. These limited supply sources, virtually entirely sourced from Russia and China, have kept prices high and volumes inadequate for wide-scale adoption.

Despite scandium's historic scarcity, multiple potential high-value commercial uses for the metal have been developed. **Of particular interest is the addition of scandium into aluminum alloys**. Relatively small scandium additions into aluminum alloys produce stronger, heat and corrosion resistant, weldable aluminum products. The **aircraft industry depends on advanced aluminum alloys** and would incorporate Al-Sc alloys if sufficient supply was available. The automotive sector is increasingly **incorporating aluminum alloys to achieve weight reductions** and better fuel efficiency. These markets are huge, and **represent a very attractive opportunity for scandium** usage.

Al-Sc alloys are today used in bicycles, golf clubs, and other sporting accessories where both strength and lightness are important. These applications represent pioneering uses for Al-Sc alloys that should expand to a much wider range of applications, once adequate supplies of commercially priced scandium are available for purchase.

The single largest use for scandium today is actually not in aluminum alloys, but rather in solid oxide fuel cells (SOFCs), where scandium's high electrical conductivity and excellent heat stabilization qualities dramatically improve performance.

Australia, specifically the **New South Wales lateritic clay belt, represents a recent, game-changing discovery** of scandium at grades approximately four times the grade of existing sources.

These resources are surface-mineable and can deliver scandium at large enough scale to promote much wider use of the metal. Scandium International believes that **an assured source of scandium, offered at realistic pricing levels, will promote dramatic increases in commercial scandium demand**. Subject to financing, Scandium International plans to service waiting demand by producing approximately 38,000 kg of scandium oxide annually, commencing in early 2019.

NYNGAN PROJECT

DFS COMPLETE, ADVANCING TO CONSTRUCTION AND PRODUCTION

PRIMARY SCANDIUM PROJECT – 80% Ownership

- 7,000 acre exploration area, 900 acre owned surface area, 500km from Sydney
- Substantial scandium resource estimated at 5,690,000 tonnes @ 256 ppm in the Measured category, and 11,230,000 @ 225 ppm in Indicated category
- Excellent local infrastructure with nearby water, rail, power and workforce
- Easy access: 3 km from all-weather sealed road, 25 km from local town
- Single product resource, Company processing know-how, consistent surface deposition and good scandium grades all contribute to low cost scandium recovery

PROJECT UPSIDE

- The DFS 20-year mine life uses just a small portion of the limonite-hosted resources, providing opportunity to significantly extend the mine life and increase project size
- The DFS economics assume US\$2,000/kg of scandium oxide, well below current market pricing

FAST-TRACK TO PRODUCTION

- Australia is a mining-friendly, politically and economically stable jurisdiction
- Well-established permitting process, no known environmental issues
- Flow-sheet design is complete, supported by over US\$2 million in test work
- Construction scheduled for 2017, with initial production in early 2019 (subject to financing)

DEFINITIVE FEASIBILITY STUDY (DFS) HIGHLIGHTS – 100% Basis

Annual production	37,690 kg scandium oxide
Unit cash cost	US\$557/kg scandium oxide
Annual operating cost	US\$21.0 million
Mine life	20+ years
Throughput	71,820 tpy
Resource grade	409 ppm
Product grade	98-99.9%
Recovery	83.7%
Capex	US\$87.1 million
After-tax NPV _{8%}	US\$225.4 million
After-tax IRR	33.1%
Payback	3.3 years
Annual revenue	US\$75.4 million
Annual EBITDA	US\$49.5 million
Assumed oxide price	US\$2,000/kg
Assumed exchange rate	A\$1:US\$0.70

The Scandium International Advantage

Advancing to production. Scandium International completed a NI 43-101 Definitive Feasibility Study (“DFS”) in May 2016, filed on SEDAR, and expects to complete all primary NSW governmental permitting in early 2017. Subject to completion of financing, construction and commissioning will take 18 months, followed by first production in early 2019.

Substantial scandium resource. The combined laterite/saprolite measured & indicated resource is 16.9M tonnes grading an average 235ppm, applying a 100ppm cut-off grade assumption. This resource is sufficient to support a project of the size envisioned in the DFS for over 200 years, or alternatively to support significant project expansions within the 20 year DFS term.

Mining is straightforward. The resource is surface-minable, with a low strip ratio resource (<2:1), no drill/blast required, and relatively consistent mineralogy and logical, consolidated pit sequences.

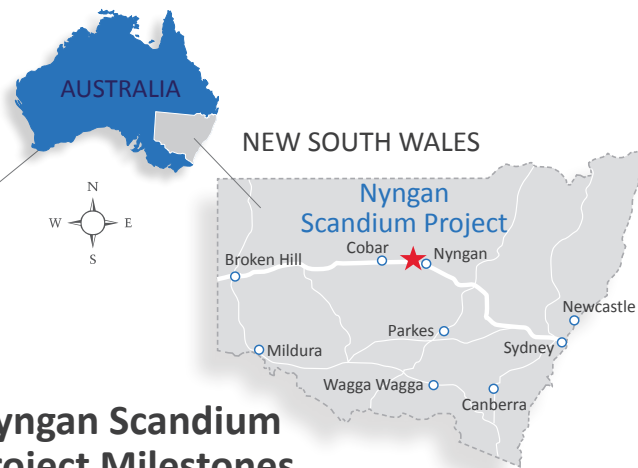
Extraction technology understood. The flowsheet consists of traditional metallurgical refining steps that have been applied to laterite deposits for decades. The process consists of high-pressure acid leach (HPAL), followed by solvent extraction (SX) and calcination/finish, to produce 99.8% scandium oxide (Sc₂O₃). The process is supported by over US\$2M in SCY-commissioned independent test work.

Offtake agreements. The Company has one 3 year offtake agreement in place for 7,500 kg/year of oxide with Alcerco Inc., Kingston, Ontario. SCY has also formed a strategic alliance with Alcerco, who has unique qualification to assist in general marketing work, based on their genesis as the primary R&D facility for Alcan Aluminum. Other offtake efforts are underway.

Experienced team. The management and Board of SCY have extensive mining industry experience, with Utah International, GE, BHP (now BHP-Billiton), and other major resource companies. The team includes both business development and mine operations experience, along with specific detailed experience in project funding, project construction/management, and minerals marketing.

Ahead of the competition. SCY controls the only scandium mining project with a completed, published DFS on record, with both resource and reserve established, globally. The Nyngan project is simplified by the one-product nature of the resource relative to other multiple-product projects.

Market Research. John Kaiser (*Kaiser Research Online*) and Christopher Ecclestone (*Hallgarten & Co.*) provide independent research and analysis and are closely following SCY and the growing interest in scandium production globally.



Nyngan Scandium Project Milestones

- February 2010 – Signed 50% earn-in JV agreement for project rights,
- May 2010 – Filed initial NI 43-101 Resource Report on property,
- February 2012 – Delivered Feasibility Study for JV, to claim 50% project rights,
- January 2013 – Negotiated 50% earn-in right into 100% project ownership,
- July 2014 – Sold 20% direct project interest to Scandium Investments LLC (SIL), to meet cash obligations required to complete 2013 Nyngan project ownership,
- October 2015 – Filed NI 43-101 PEA on Nyngan project,
- May 2016 – Filed NI 43 101 DFS and EIS Nyngan project, and
- November 2016 – Received NSW Development Consent on project.

Nyngan Scandium Project – Next Steps to Production (Early 2019)

- Receive Mine Lease grant from NSW on project,
- Secure additional offtake agreements for Nyngan product,
- Secure project finance, select EPCM, begin construction, and
- Wet commission plant 15 months after construction start.

SCANDIUM INTERNATIONAL'S EXECUTIVES AND DIRECTORS INCLUDE FIVE EX-BHP GROUP EXECUTIVES

George Putnam, MBA (Finance) – President & CEO, Director
Career mining industry experience - over 20 years with BHP, GE/Utah International, and QGX Ltd., Specifically: business finance and strategy roles, treasury, business alliances and marketing/ sales.

Willem Duyvesteyn, MSc – Chief Technology Officer, Director
More than 40 years developing and commercializing mineral and energy-related processes and projects for AMAX, Anglo American, Davy McKee (Kvaerner) and BHP, notably 13 years as Manager/VP Minerals Technology for BHP. Named primary inventor on +35 US mineral processing patents.

Nigel Ricketts, CP, BSc (Metallurgy), PhD (Chem Eng) – VP, Project and Marketing
Extensive metallurgical engineering experience, notably as a Principal Research Scientist with CSIRO for 16 years, but also with BHP, Pasminco, AMEC, WorleyParsons, Chesser Resources, and Altrius Engineering Services (Principal).

John Thompson, BSc (Mining Engineering) – GM, Australia
A senior mining executive with a career spanning 40 years with GE/Utah International, BHP, Newcrest Mining, and QGX Ltd., including six Mine GM roles and a Group GM position (Newcrest).

Edward Dickinson, CPA, MSc (Accounting) – CFO & Corporate Secretary
Public company CFO experience with various power and resource/technology companies, most recently Altair Nanotechnologies (NASDAQ listed).

STRONG LEADERSHIP

William Harris, BA, MBA (Finance) – Chairman
More than 30 years in CEO, CFO, senior executive and director positions with both resource focused and specialty materials companies.

Warren Davis, BS Mechanical Engineering, MBA – Director
Has held senior roles with Utah International/GE, Bechtel, Black & Veatch and Clear Fuels Technology with a focus on energy development, project marketing and business strategy.

Barry Davies, Mining Engineer – Director
More than 40 years of engineering, operations, commercial and corporate management experience. Barry is a senior business development and country manager specialist, with over 30 years developing mineral projects for Utah International/GE and BHP Group mineral projects.

James Rothwell, BA (Economics), MBA (Finance/Accounting) – Director
Has held many senior management and board positions with public mining companies, including 27 years with Utah International/GE and the BHP Group. Was general manager for BHP's Ekati Diamonds project during construction, commissioning and marketing development.

Andy Greig, MA (Business) – Director
Andy worked for Bechtel Group Inc. for 34 years, is a former Executive Director, was President of Bechtel's Mining and Metals Global Business Unit for over 12 years, and most recently served as Bechtel's Global Manager of HR.