

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 first half 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 the latter half of 2019.

NYNGAN SCANDIUM PROJECT

PRIMARY SCANDIUM PROJECT – 100% Ownership

- Development consent and mine lease granted
- Large resource, good grades at low cut-off values
- Excellent infrastructure base, strong community support
- Definitive Feasibility Study (DFS) completed, robust economics
- Australia is mining-friendly, politically stable jurisdiction

PROJECT UPSIDE

- DFS uses 16% of limonite resource (>9% of total resource)
- Underlying saprolite resource holds potential for simpler, later processing for scandium recovery
- SCY plans to offer value-add Al-Sc 2% master alloy product (MA) direct to alloy customers

STEPS TO PRODUCTION

- Complete offtake agreement negotiations with multiple potential customers – 2018
- Establish MA production capability with Weston Aluminum (upgrade partner) – 2018
- Raise capital to construct plant-as designed in DFS (US\$100M) – 2018
- Construction timeline is 15 months to wet commissioning – 2019

DFS COMPLETE, ADVANCING TO PRODUCTION

DEFINITIVE FEASIBILITY STUDY (DFS) HIGHLIGHTS

Annual production	37,690 kg scandium oxide	After-tax NPV 8% (20 yr)	US\$225.4 M
Unit cash cost	US\$557/kg scandium oxide	After-tax IRR (20 yr)	33.1%
Process plant throughput	71,820 tpy	Payback	3.3 years
Resource grade	409 ppm	Annual revenue	US\$75.4 M
Oxide product grade	98-99.9%	Annual EBITDA	US\$49.5 M
Overall processing recovery	83.7%	Assumed oxide price	US\$2,000/kg
Capex	US\$87.1 M	Assumed exchange rate	A\$1:US\$0.70

NYNGAN SCANDIUM PROJECT	Tonnes	Grade (ppm)	Cut-off Grade (ppm)
Resource Summary			
Measured	5,690,000	256	100
Indicated	11,230,000	225	100
Total Measured & Indicated	16,920,000	235	100
Reserve Summary			
Proven Reserve	794,514	394	
Probable Reserve	641,915	428	
Total Reserve	1,436,429	409	

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 completed all primary NSW governmental permitting in 2017. Subject to completion of financing, construction and commissioning will take 18 months, followed by first production in the latter half of 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.

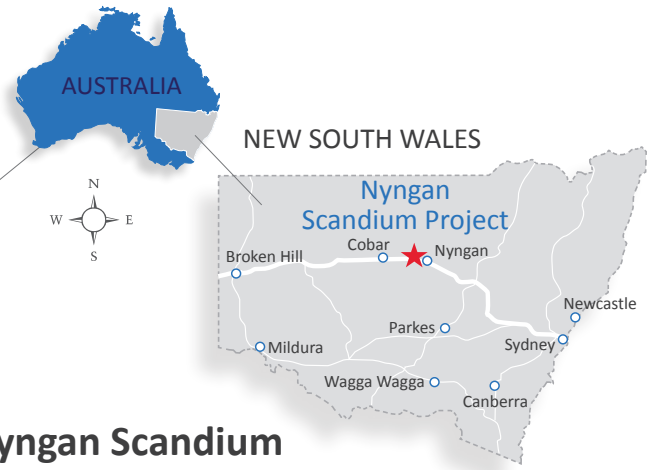
Extraction technology understood. The process consists of high-pressure acid leach (HPAL), followed by solvent extraction (SX) and calcination/finish, to produce 99.8% scandium oxide (Sc₂O₃). The flowsheet represents the traditional solution that has been commonly applied to metal-enriched lateritic deposits for decades.

Offtake agreements. The Company plans to offer scandium product as either oxide or master alloy (2%) to customers, and currently has one 3-year offtake in place with Alcerco Inc., of Kingston, Ontario. Term begins with first shipment of product, and is for 225tpy of master alloy (2%), equivalent to 7.5tpy of oxide.

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.

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

- 2010** Established 50% earn-in rights on Nyngan project, and filed initial NI 43-101 Resource Report on the property
- 2014** Established 80% ownership rights on the Nyngan project
- 2015** Filed NI 43-101 PEA on the project
- 2016** Filed NI 43-101 DFS on project, established first project Reserve, received NSW Government Development Consent to develop project
- 2017** Received NSW Government Mine Lease on project, and raised SCY project ownership to 100%

Nyngan Scandium Project – Next Steps to Production in the latter half of 2019

- Secure additional offtake agreements for Nyngan product,
- Secure project finance, begin construction, and
- Wet commission plant 15 months after construction start.

STRONG LEADERSHIP

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).

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.

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.

Barry Davies, Mining Engineer – Director

Barry is a senior business development and country manager specialist, with over 30 years experience negotiating and developing energy, minerals and precious metals projects for Utah International/GE and BHP Minerals Group.

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.

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.

Peter Evensen – Director

Peter has over 30 years of experience in banking finance, shipping finance, and investment banking. Peter served as President and CEO of Teekay Corporation, retiring in 2017, and formerly as Managing Director and Head of Global Shipping at J.P. Morgan Securities Inc.

Christian Evensen – Director

Chris is currently the founding partner of Flintridge Capital Investments, with over 30 years of experience in investment banking, corporate development, real estate and global mining investment. He previously co-founded and served as the Managing Partner for Canyon Capital Advisors, a multi-billion dollar multi-asset hedge fund.