
Quarterly Activities Report - June 2015

Clean TeQ Holdings Limited
ACN: 127 457 916
(ASX: CLQ)

Corporate Information:

368.8M ordinary shares
20.0M unlisted options
1.7M performance rights
\$3.3M cash at bank

Directors:

Chairman and CEO
Sam Riggall

Executive Director
Peter Voigt

Non-Executive Director
Roger Harley

Non-Executive Director
Ian Knight

Company Secretary:

Melanie Leydin

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Highlights

- **Syerston Scoping Study confirms strong economics of proposed Scandium project development**
- **RC drilling program extends existing high grade Scandium zones and identifies new high grade areas for further exploration**
- **Sale of 59% holding in Air pollution control subsidiary for \$1.68 million cash to focus on continuous ion exchange technology**
- **Share issue and early conversion of convertible notes reduces debt by a total of \$5.1 million**
- **\$454,536 cash rebate received in early July 2015 for eligible research and development expenditure in FY2014**

Clean TeQ Overview

Clean TeQ Holdings Limited (**Clean TeQ** or **Company**) is a leading provider of technology solutions in the fields of resource recovery and industrial water treatment.

Clean TeQ consists of two divisions:

Metals – The Company's Clean-iX® Continuous Ion Exchange technology is an innovative hydrometallurgical process for the extraction and purification of a range of valuable metals from slurries and solutions. Originally developed by the All Russian Research Institute of Chemical Technology over 40 years ago, Clean TeQ has further developed the base technology to provide the most cost effective, and environmentally friendly, metal recovery process available.

Water – The Company's Continuous Ionic Filtration & Exchange (CIF®) technology provides cost effective solutions to the mining, oil and gas and municipal industries for the treatment of waste waters. CIF® is the result of over 50 years of research and development and includes Clean TeQ's patented improvements. CIF® is designed to cope with the most demanding waters to provide best in class performance in water recovery and operability.

Clean TeQ Metals

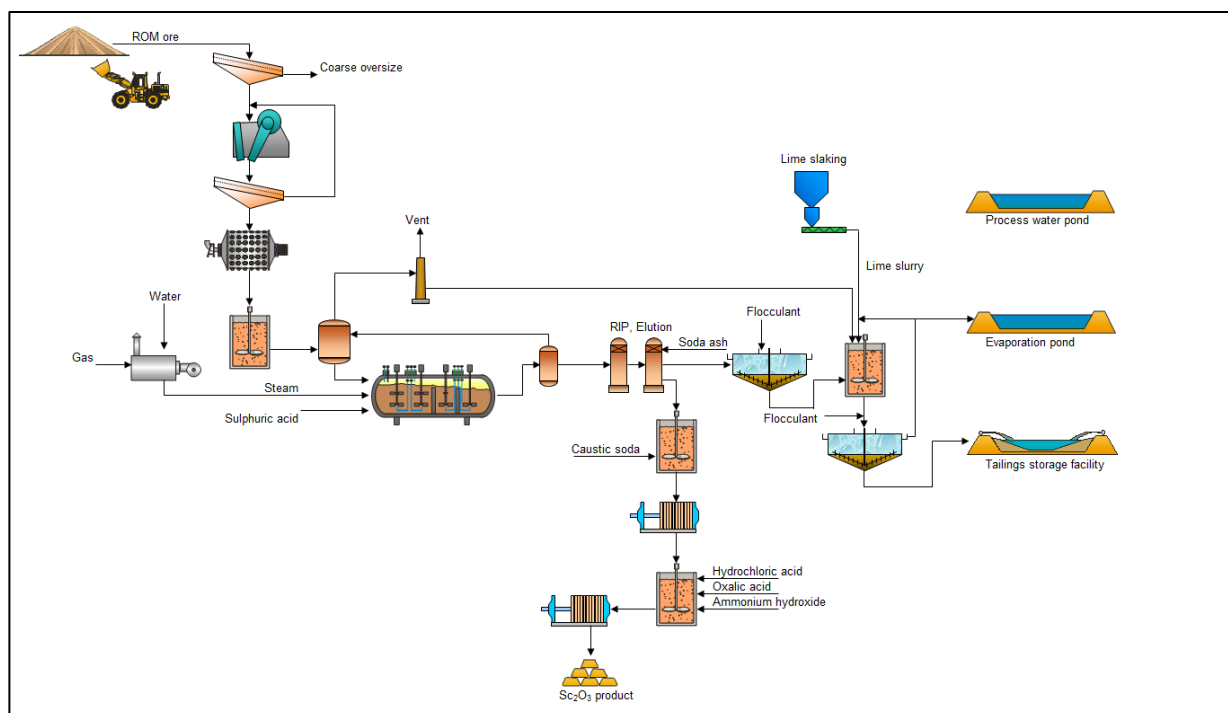
Syerston Scandium Project

Clean TeQ is the 100% owner of the Syerston Scandium Project in central New South Wales. The acquisition of the project in March 2015 was a significant step in implementing Clean TeQ's strategy to build a significant metals recovery business by identifying and securing projects which are able to be transformed into world class assets by utilising the Company's innovative continuous ion exchange (Clean-iX®) technologies.

Scandium is widely regarded as one of the most effective alloying agents for aluminium. It increases strength and hardness, improves aluminium's thermal and electrical conductivity, significantly increases its corrosion resistance and, in alloy form, is amenable to conventional welding techniques. Scandium therefore represents a fundamentally strategic alloy for the future development of high performance, light weight alloys, particularly in the transport sector. Scandium is also increasingly important in the development of solid oxide fuel cell technologies, where it acts as a stabiliser for ceramic electrolytes.

Current sources of scandium supply are highly fragmented and large volumes are not available. Concentrations of existing sources of supply – mostly by-product production from industrial waste - combined with conventional technologies have also resulted in high cost production with significant environmental impacts. These factors have been a major inhibitor for adoption of scandium alloys. Syerston's high scandium grades, combined with Clean TeQ's proprietary scandium extraction technology, means that the Company is uniquely placed to facilitate the growth of the scandium market to deliver a large scale, reliable supply of low cost scandium oxide.

In May 2015 the Company completed a scoping study for the Syerston Project which confirmed strong economics for the proposed project development. The scoping study was based on a flow sheet processing 64,000tpa of feed from Syerston's near-surface resource. The proposed processing plant consists of a high pressure acid leach (HPAL) circuit followed by Clean TeQ's Resin-In-Pulp continuous ion exchange technology for scandium recovery, followed by purification.



Syerston Scoping Study processing flow sheet incorporating Clean TeQ's Resin in Pulp ion exchange technology

High level results of the study include:

- Based on a long term scandium oxide (99.9% purity) price of USD\$1,500/kg Sc₂O₃, the project delivers a post-tax NPV of AUD\$279M¹ and a 53% post-tax IRR.
- Average feed grade of 510g/t Sc² with Scandium recovery of 85% to achieve average production of 42.5t per annum 99.9% Sc₂O₃ over an initial 20 year mine life, with additional resources available for decades of additional production.
- Capital cost of AUD\$78.4 million (USD\$61.2 million³) which includes a 20% contingency on direct costs.
- Average operating cash cost of AUD\$571/kg Sc₂O₃ (US\$446/kg Sc₂O₃) over an initial 20 year mine life.

The current global supply of scandium oxide is approximately 10-15tpa, with prices ranging from USD\$2,000-3,000/kg Sc₂O₃⁴. In order to facilitate wider-scale adoption in key emerging markets (such as high performance aluminium alloys), Clean TeQ has used a long term scandium oxide price of USD\$1,500/kg Sc₂O₃ in its project valuation, which is at a significant discount to the current market prices.

Breakdowns of the Syerston scoping study capital and operating cost estimates are tabled below.

Capital Cost Estimate

Plant Area	COST (AUD\$M)
Beneficiation & Leach Feed	\$2.2
High Pressure Acid Leach (HPAL)	\$25.8
Resin-In-Pulp (RIP)	\$3.0
Purification	\$1.1
Neutralisation & Tailings	\$2.8
Reagents	\$4.0
Services	\$9.5
Total Directs	\$48.4
Indirects, including EPCM	\$17.9
Owners Costs	\$2.4
Capital Cost, excluding Contingency	\$68.7
Contingency (20% of Directs)	\$9.7
Total Capital Cost Estimate (AUD\$M)	\$78.4

Operating Cost Estimate

Cost Centre	AUDM\$ p.a.	AUD\$ per kg Sc ₂ O ₃	USD\$ per kg Sc ₂ O ₃ ¹
Variable Costs			
Mining	\$1.1	\$25	\$20
Reagents	\$8.6	\$204	\$159
Utilities	\$1.3	\$31	\$24
Consumables	\$0.3	\$8	\$6
Power	\$0.8	\$18	\$14
Subtotal	\$12.1	\$272	\$212
Fixed Costs			
Labour	\$6.1	\$144	\$112
Power	\$0.2	\$6	\$5
Maintenance	\$2.7	\$64	\$50
General & Admin	\$3.1	\$72	\$56
Subtotal	\$12.1	\$286	\$223
Total Avg Operating Cost²	\$24.2	\$571	\$446

A key focus for the Company is securing offtake contracts to support the levels of scandium oxide production proposed in the scoping study. Clean TeQ has signed collaboration agreements with both Airbus and KBM Affilips to develop the scandium market for aerospace and other industrial sectors. The agreements provide a framework under which Clean TeQ will work with the downstream scandium supply chain to determine potential demand and the ability of the Syerston Project to meet that demand at the required price and quality specifications.

During the quarter Clean TeQ attended meetings in both Europe and North America with potential offtake partners. These meetings confirmed significant interest in developing an efficient, cost-effective supply chain for the

¹ 8% discount rate

² Inclusive of pit selection, dilution and mining factors

³ AUD/USD 0.78 exchange rate

⁴ QY Research Scandium Oxide Industry Research Center, Global and Chinese Scandium Oxide Industry Report 2014 and discussions with current global suppliers

aerospace sector. Over coming months, the Company will continue to determine offtake requirements, including timeframes for supply, as well as pricing and other commercial terms, with the aim of securing binding offtake commitments.

A pilot plant is currently being assembled in Perth. A bulk sample of Syerston material has been trucked to Perth and is currently being readied for processing to produce scandium oxide samples for customer testing and qualification purposes.



Bulk sampling of Syerston material for Scandium Oxide recovery pilot program

During the quarter a 34-hole reverse circulation (RC) drill program confirmed the extension of the high grade scandium zones identified in a 2014 drill program and historical drilling completed during the initial assessment of the deposit in the 1990's. Best Intersections from the drilling program include:

- **Hole SRC1302 20m @ 690ppm (0 to 20m) inc: 2m @ 1090ppm Sc (12-14m)**
- **Hole SRC1305 20m @ 590ppm (2 to 22m) inc: 2m @ 1020ppm Sc (12-14m)**
- **Hole SRC1306 16m @ 650ppm (2 to 18m) inc: 2m @ 1050ppm Sc (14-16m)**
- **Hole SRC1310 12m @ 640ppm (8 to 20m) inc: 2m @ 1100ppm Sc (14-16m)**

(Calculated with 300ppm cut-off – Borate Fusion Sc analysis)

The highest grade scandium results to date were discovered in this program, and a number of very shallow (within 16m of surface) high-grade scandium zones defined. The drilling program investigated the extent of the scandium mineralisation identified by historical drilling and tested new areas prospective for scandium. The program also identified suitable zones to allow a bulk sample for the pilot plant program due to commence in CY15 Q3.

For full details of the drill program results please refer to ASX announcement dated 26 June 2015.

Additional in-fill drilling is planned for later in the year, with results being used for an updated scandium mineral resource. The updated resource will then be used as the basis for a Feasibility Study, also planned to commence later in the year.



RC drilling at Syerston

Mt Morgan Gold/Copper Project

Clean TeQ and Carbine Resources Limited (ASX: CRB) entered into a memorandum of understanding in November 2014 to investigate commercial avenues for the companies to work together for the development of the Mount Morgan project. Carbine completed a scoping study in November 2014 to assess the technical and economic viability of a proposed flow sheet, which included the use of Clean-iX® for copper recovery. The scoping study estimated capital costs of A\$81.9M and all-in sustaining costs of US\$393/oz for a plant processing 1M tonnes per annum of historical tailings.

As per the announcement of 15 April 2015, Clean TeQ's proprietary ion exchange technology (Clean-iX®) has been selected by Carbine for inclusion in the Mount Morgan Gold/Copper Project Pre-Feasibility Study (PFS). Clean TeQ will work with Carbine to integrate the Clean-iX® process into the Mt Morgan processing flow sheet to recover copper, reducing cyanide consumption in the gold circuit, as well as producing a valuable copper by-product to improve the overall project economics. During the PFS, the companies will also work together to assess the use of the Clean-iX® process for cyanide recovery and water treatment.

ISK

During CY15 Q1 the Company completed a campaign on Clean TeQ's scandium recovery pilot plant at Ishihara Sangyo Kaisha Ltd's (ISK) titanium dioxide facility in Yokkaichi, Japan. The piloting work confirmed Clean TeQ's ion-exchange extraction processes' ability to recover low concentrations of scandium from intermediate process streams. Commercial discussions are ongoing.

Clean TeQ Water

In October 2014 Clean TeQ signed a ground-breaking Heads of Agreement with Shanghai Investigation, Design and Research Institute Co. Ltd (**SIDRI**) in China to establish a local joint venture to open opportunities for large-scale projects in China deploying Clean TeQ's unique technology platform for water treatment. SIDRI is majority-owned by China Three Gorges Corporation, the state-owned Chinese power company responsible for construction of the Three Gorges Dam Project (the world largest hydroelectric power plant) and one of the world's largest energy companies. SIDRI's other shareholders are the Chinese Government's Ministry of Water Resources and the Shanghai Municipal People's Government.

During CY15 Q1 a comprehensive test work programme was undertaken which successfully demonstrated the technical viability of the Clean TeQ process to treat a complex industrial wastewater stream from a coal gasification plant in China. The success of the test work programme was an important first step towards the establishment of the China JV.



Clean TeQ Chairman and CEO, Sam Riggall and Executive Director, Peter Voigt, meeting with SIDRI in China in June 2015

Negotiations with SIDRI on the formation of the JV are well advanced but a successful outcome is ultimately dependent on securing an initial commercial project for the technology in China. Following successful technology demonstration, discussions are also well advanced with the first potential commercial customer in relation to the proposed installation of a 1,500m³ per day toll treatment wastewater facility at a coal gasification plant in China. However, the outcome of those discussions, and whether the contract will ultimately be secured, is still uncertain.

The commercial application of the Company's water technology platform remains a high priority. Significant headway has been made in respect of engaging with key markets including treatment of water from mining operations. The Company will continue working towards securing commercial contracts in the near future.

Corporate

As at 30 June 2015 cash at bank was \$3.3 million with a further \$0.3 million cash on deposit securing performance guarantees. In early July 2015 the Company also received a further \$454,536 cash rebate from the Australian Tax Office for eligible research and development expenditure in FY2014. The Company anticipates that a significant proportion of FY2015 and FY2016 expenditure, including a large proportion of Syerston testwork and feasibility studies, will also be eligible for the 45% refundable tax offset.

In May 2015 the Company issued 7,449,143 shares to Nippon Gas Co. Ltd (**NGC**) at approximately 14.1 cents per share in settlement of \$1.05 million of principal and accrued interest owing to NGC. The share issue was agreed as a partial repayment of a \$2.3 million debt obligation (inclusive of accrued interest) payable to NGC on 30 September 2015. The debt obligation relates to the acquisition by the Company of NGC's 50% interest in a water technology licence for coal seam gas water treatment.

In accordance with the terms of the Convertible Notes held by Robert Friedland, and as result of the share issue to NGC, CLQ also issued 1,246,537 shares to Robert Friedland at approximately 14.1 cents per share for total cash consideration of approximately \$176,000.

During the quarter the Company also issued shares to Robert Friedland (44,678,581 shares) and Sam Riggall (6,253,304 shares) upon the early conversion of the following convertible notes:

Convertible Notes Tranche	Maturity Date	Face Value
Riggall Convertible Notes	22 November 2015	\$500,000.00
Friedland Convertible Notes Tranche 1	20 May 2016	\$1,840,611.60
Friedland Convertible Notes Tranche 2	1 August 2016	\$1,731,786.60
Total		\$4,072,398.20

The convertible notes were convertible into fully paid ordinary shares of Clean TeQ at a price of 7.9958 cents per share. The original conversion price of 10 cents was adjusted in accordance with the terms of the convertible note agreements to reflect the value impact on the convertible notes from share issues undertaken since the date of issue. Early conversion of the convertible notes will save the Company approximately \$420,000 of interest which would have otherwise been payable prior to maturity.

Effective 30 June 2015 the Company divested its 59% shareholding in Clean TeQ Aromatrix Pty Ltd (**CTX**) to Australia Sunshine Holdings Limited (**Sunshine**) for cash proceeds of A\$1,681,500. The divestment allows Clean TeQ to focus exclusively on the Company's Water and Metals businesses which are both primarily driven by the Clean TeQ's proprietary continuous ion exchange technology.

The sale follows the merger in late 2014 of Clean TeQ's Air Pollution Control Division with the Australian business of Aromatrix Technologies (Hong Kong) Ltd (Aromatrix). Aromatrix has also divested its 33% share in CTX to Sunshine on the same terms and conditions.

As at 30 June 2015, Clean TeQ and Aromatrix have shareholder loans owed to them by CTX of approximately \$305,000 and \$172,000 respectively. Under the terms of the share sale agreement, those loans are to be repaid from CTX's free cashflow between 31 October 2015 and 31 December 2015. In the event that insufficient free cashflow is generated by CTX to repay the loans by 31 December 2015 (and subject to CTX strictly adhering to a range of controls around the loans) the loans will be forgiven.

The CLQ Board of Directors believes the transaction consideration represents good value for Clean TeQ shareholders and that the sale also provides the following additional benefits:

- Achieves a non-dilutive means of generating a significant amount of free cash to be reinvested in the Company's Water and Metals divisions including:
 - i. progressing the development of Clean TeQ's 100% owned Syerston Scandium Project in NSW; and;
 - ii. progressing the proposed China Water joint venture with Shanghai Investigation, Design and Research Institute, a subsidiary of China Three Gorges Corporation;
- Focuses Clean TeQ's strategic growth exclusively on the Company's proprietary continuous ion exchange technology;
- Provides the Company with the opportunity to reduce overhead and administrative costs; and,
- Simplifies Clean TeQ's organisational, management and financial structure.

The Company is conducting its carrying value review of all assets as at 30 June 2015 in accordance with its usual policies and processes. Areas of particular significance in the carrying value assessment being undertaken include a review of the water purification opportunities in the coal seam gas market in Australia and the impact of the relatively poor conditions in that market on the carrying value of the Company's Associated Water Licence asset.

The assessment of carrying values remains a work in progress and is incomplete. While no decision has been made, the Board considers it likely that its review will indicate a non-cash pre-tax impairment of the carrying value of assets of approximately \$3.0 million, primarily in relation to the Associated Water Licence asset. Any impairment has no impact on cash or cash flow. The Company is scheduled to release its 2015 financial results in August 2015.

For more information about Clean TeQ contact:

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About Clean TeQ Holdings Limited (ASX: CLQ) – Based in Melbourne, Clean TeQ, using its proprietary Clean-iX[®] continuous ion exchange technology, is a world leader in resource recovery and industrial water treatment.

For more information about Clean TeQ please visit the Company's website at www.cleanteq.com.

This release may contain forward-looking statements. The actual results could differ materially from a conclusion, forecast or projection in the forward-looking information. Certain material factors or assumptions were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information.