



**CLEAN  
TEQ**

*Powering innovation*

**CLEAN TEQ SUNRISE**  
**CRITICAL RAW MATERIALS FOR**  
**THE BATTERY REVOLUTION**

**CORPORATE PRESENTATION**

OCTOBER 2018



**TSX** CLQ

## FORWARD LOOKING STATEMENTS

Certain statements in this presentation constitute “forward-looking statements” or “forward-looking information” within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and other factors, which may cause actual results, performance or achievements of Clean TeQ Holdings Limited (the “**Company**” or “**Clean TeQ**”), the Clean TeQ Sunrise Project (“**Sunrise**”, the “**Project**” or the “**Sunrise Project**”), or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as “may”, “would”, “could”, “will”, “intend”, “expect”, “believe”, “plan”, “anticipate”, “estimate”, “scheduled”, “forecast”, “predict” and other similar terminology, or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved. These statements reflect the Company’s current expectations regarding future events, performance and results, and speak only as of the date of this presentation.

Statements in this presentation that constitute forward-looking statements or information include, but are not limited to: statements regarding the negotiation and conclusion of further binding offtake agreements; the settlement of completion of a binding term sheet from the MLA group prior to the FID; the potential investment by a strategic investor and/or additional financing; completing of final design and detailed engineering work through the middle of 2019; the making of a Final Investment Decision in H2 2019; commencement and completion of construction between the middle of 2019 and the middle of 2021; commissioning in mid-2021; first production and ramp up in 2021 and the potential for a scandium market to develop and increase.

In addition, all disclosure in this presentation related to the results of the Sunrise Project’s Definitive Feasibility Study (the “**DFS**”) announced on June 25, 2018, constitute forward-looking statements and forward-looking information. The forward-looking statements includes metal price assumptions, cash flow forecasts, projected capital and operating costs, metal recoveries, mine life and production rates, and the financial results of the DFS. These include statements regarding the Sunrise Project IRR; the Project’s NPV (as well as all other before and after taxation NPV calculations); life of mine revenue; average annual EBITDA; capital cost; average C1 operating cash costs before and after by-product credits; proposed mining plans and methods, the negotiation and execution of offtake agreements, a mine life estimate; project payback period; the expected number of people to be employed at the Project during both construction and operations and the availability and development of water, electricity and other infrastructure for the Sunrise Project, as well as the indicative project schedule.

Readers are cautioned that actual results may vary from those presented.

All such forward-looking information and statements are based on certain assumptions and analyses made by Clean TeQ’s management in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors management believe are appropriate in the circumstances. These statements, however, are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information or statements including, but not limited to, unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities; changes in investor demand; the results of negotiations with project financiers; the failure of parties to contracts to perform as agreed; changes in commodity prices; unexpected failure or inadequacy of infrastructure, or delays in the development of infrastructure, and the failure of exploration programs or other studies to deliver anticipated results or results that would justify and support continued studies, development or operations. Other important factors that could cause actual results to differ from these forward-looking statements also include those described under the heading “Risk Factors” in the Company’s most recently filed Annual Information Form available under its profile on SEDAR at [www.sedar.com](http://www.sedar.com).

Readers are cautioned not to place undue reliance on forward-looking information or statements.

Although the forward-looking statements contained in this presentation are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this presentation and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this presentation.

## Our vision is to empower the clean revolution

- **Rapidly progressing development** of the Clean TeQ Sunrise Project in NSW, Australia
- Project will produce **critical raw materials** for the rapidly growing electric vehicle (EV) and energy storage markets
- Nickel sulphate and cobalt sulphate demand **expected to increase substantially** as EV adoption rates accelerate
- Definitive Feasibility Study completed in 2018 demonstrates a **highly economic project with outstanding technical foundations**
- Project financing and offtake discussions are well advanced with **strong interest in project equity, offtake & streaming transactions from a range of counterparties**
- **Project debt finance** progressing well with Mandated Lead Arrangers
- Engineering and design underway with **construction expected to commence in 2019**

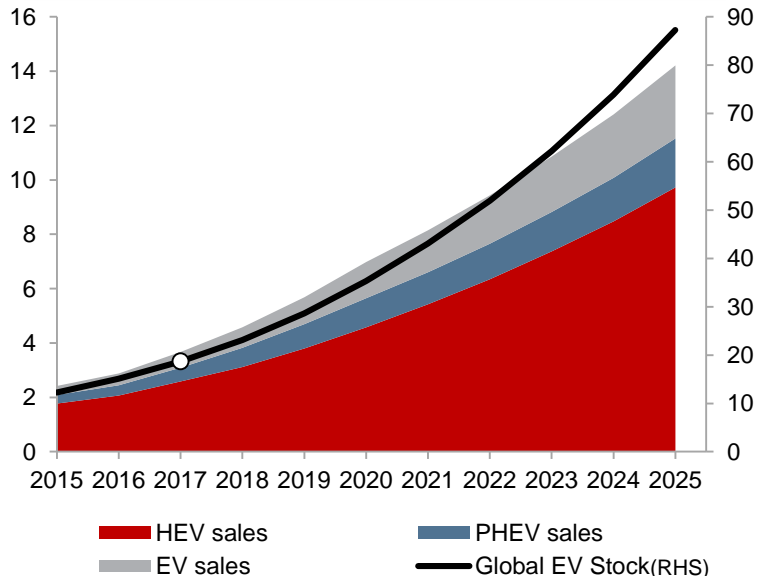


# THE BATTERY REVOLUTION DRIVING RAW MATERIAL DEMAND

# THE BATTERY REVOLUTION

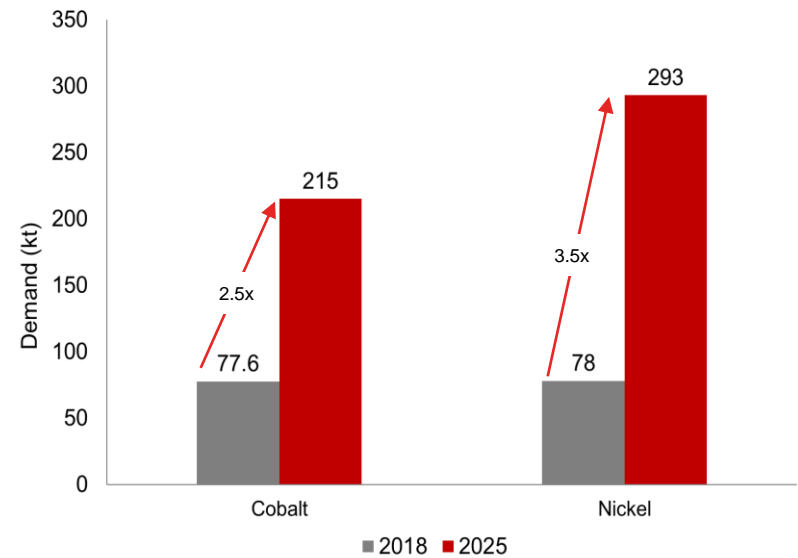
## ELECTRIC VEHICLE SALES EXPECTED TO DRIVE HUGE GROWTH IN RAW MATERIALS DEMAND

**Global EV sales projections (million vehicles)**



Source: Wood Mackenzie 2017

**EV related cobalt & nickel demand projections (kt)**



Source: Wood Mackenzie 2017

# CHINA IS LEADING THE RACE

## EMISSIONS CONTROLS LEGISLATION DRIVING THE AGENDA

- **New Energy Vehicle (NEV) mandate** effective in 2019
- Credit based system targeting: **10% EV (2019), 12% (2020)**
- EV subsidies based on vehicle range:
  - **~US\$ 11,000 for EV range ≥400 km**
- Chinese **technical capability & production capacity** is fast approaching Japanese and Korean manufacturers

### BYD Yuan EV360



**Price:** ~US\$ 12,500 (after subsidies)

**Battery:** 42 kWh

**Power:** 160kW

**Range:** 305 km

**Features:** in-car wifi, auto air conditioning, cruise control, multi- function steering wheel, leather seats, smart charging and scheduled charging, 8 airbags, tire pressure detection, ESP

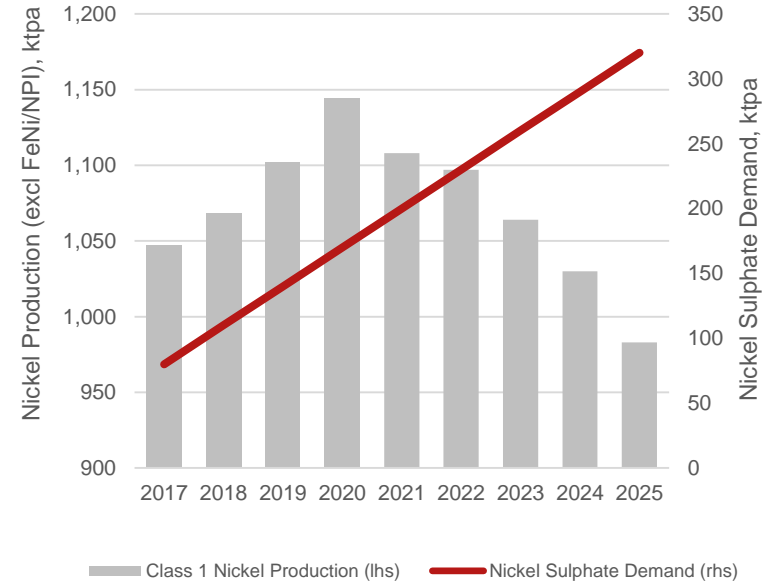


# NICKEL – SULPHATE CAPACITY NEEDS TO GROW

- **Electric vehicles are heavy consumers** of nickel sulphate
- Next generation lithium ion batteries will be **more nickel intensive**
- **Less than 50%** of current global nickel production is suitable for battery applications (Class I nickel)
- Lack of new Class 1<sup>1</sup>/sulphate developments are leading to a **sustained sulphate premium** over LME nickel price



## Forecast Mined Supply of Class 1<sup>1</sup> Nickel Projects



Source: Wood Mackenzie, Note: excludes FeNi and NPI Projects

<sup>1</sup> – Class 1 Nickel defined as products with a nickel content of 99% or more, including electrolytic nickel, pellets briquettes, granules, rondelles, powder/flakes

# COBALT – SUPPLY & GEOGRAPHICALLY CONSTRAINED

- **Majority of global cobalt sourced from DRC** presenting major supply risk for end users
  - Security of supply
  - Auditability of supply chain
- 95% of production comes as a **by-product of copper or nickel production**
  - Higher cobalt price doesn't necessarily incentivise new cobalt production
- **Political, legal and regulatory challenges** in DRC



## Cobalt Production – Global Rankings

MINE	COUNTRY	2017 ESTIMATED TONNES
Mutanda	DRC	24,500
Tenke Fungurume	DRC	16,400
Katanga	DRC	11,000
Huayou Cobalt	DRC	6,300
Norilsk	Russia	4,900
<b>Clean TeQ Sunrise*</b>	<b>Australia</b>	<b>~ 4,620 p.a.</b> <b>(years 2 – 6 post ramp up)</b>
Ruashi	DRC	4,600
Moa Bay	Cuba	3,600
Big Hill	DRC	3,600
BOSS Mining	DRC	3,300
Vale	New Caledonia	3,200
Murrin Murrin	Australia	2,800
Taganito	Philippines	2,800
Artisinal	DRC	More than 20,000

Source: Public data, Darton Cobalt Market Review 2017, Clean TeQ estimates  
\* Average annual production based on 2018 Definitive Feasibility Study



## ENABLING A NEW GENERATION OF LIGHTWEIGHT ALLOYS

- Sunrise is one of the **world's largest** and **highest grade scandium** resources
- Scandium is used to provide next generation **lightweight aluminium alloys** for key transportation markets
- Clean TeQ continues to **promote the use and development** of new scandium alloys with industry participants including Airbus and Chinalco
- Current development plan is to **extract scandium oxide as a by-product** of cobalt and nickel sulphate production
- Marginal cost of production **expected to be very low** (approx. US\$150/kg<sup>1</sup>)



<sup>1</sup> – Estimated marginal cost of production per kilogram refined scandium oxide based on 10 tonne per annum production

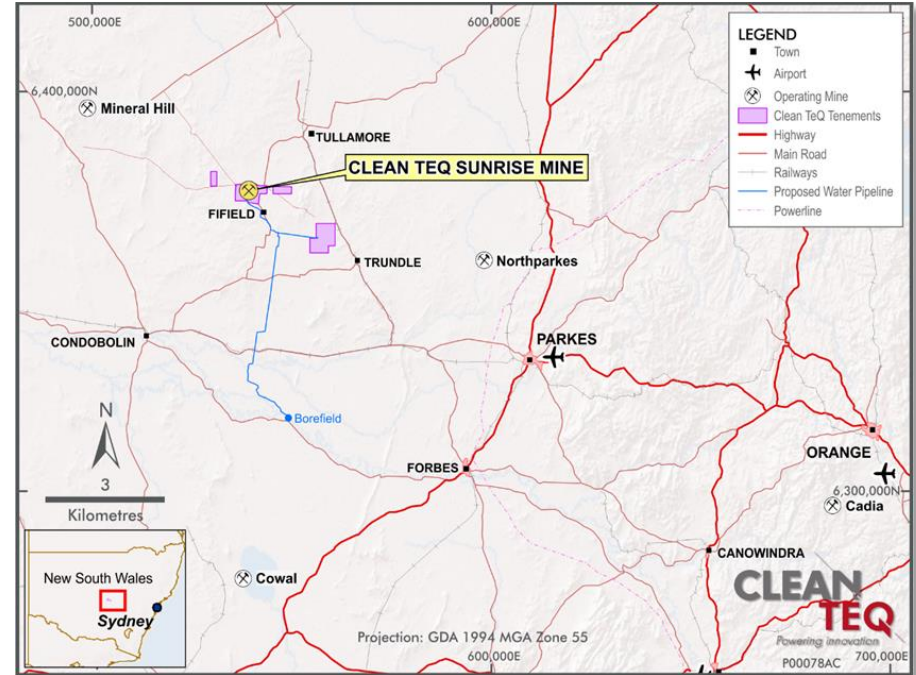


# CLEAN TEQ SUNRISE ADVANCED DEVELOPMENT PROJECT

# PROJECT OVERVIEW

## ADVANCED DEVELOPMENT PROJECT LOCATED IN CENTRAL NSW

- **100% owned by Clean TeQ**
- Located 350km west of Sydney in an **established mining region**
- **Significant infrastructure in place** including sealed road to site
- Laterite (iron-hosted) mineral resource, rich in **nickel, cobalt and scandium**
- One of the largest and highest grade sources of **cobalt outside Africa**
- **Fully permitted** and development ready



# KEY ADVANTAGES

## PRIMARY DRIVERS TO SUCCESS AT SUNRISE

### MINERALOGY

- **High cobalt grades** relative to other laterite deposits<sup>1</sup>
- Very low in **acid consuming elements** (magnesium and calcium)<sup>2</sup>
- **Near surface deposit** with maximum depth of 40m

### FLOWSHEET

- Proprietary Clean iX technology provides **lowest cost path to battery ready products**
- Production of final cobalt and nickel sulphate products at the **Clean TeQ Sunrise site**

### LOCATION

- **Fully auditable, non-DRC supply** attracting strong interest from end users and offtake parties
- Access to **rail, road, power and water infrastructure**
- Supportive local community in **established mining area**

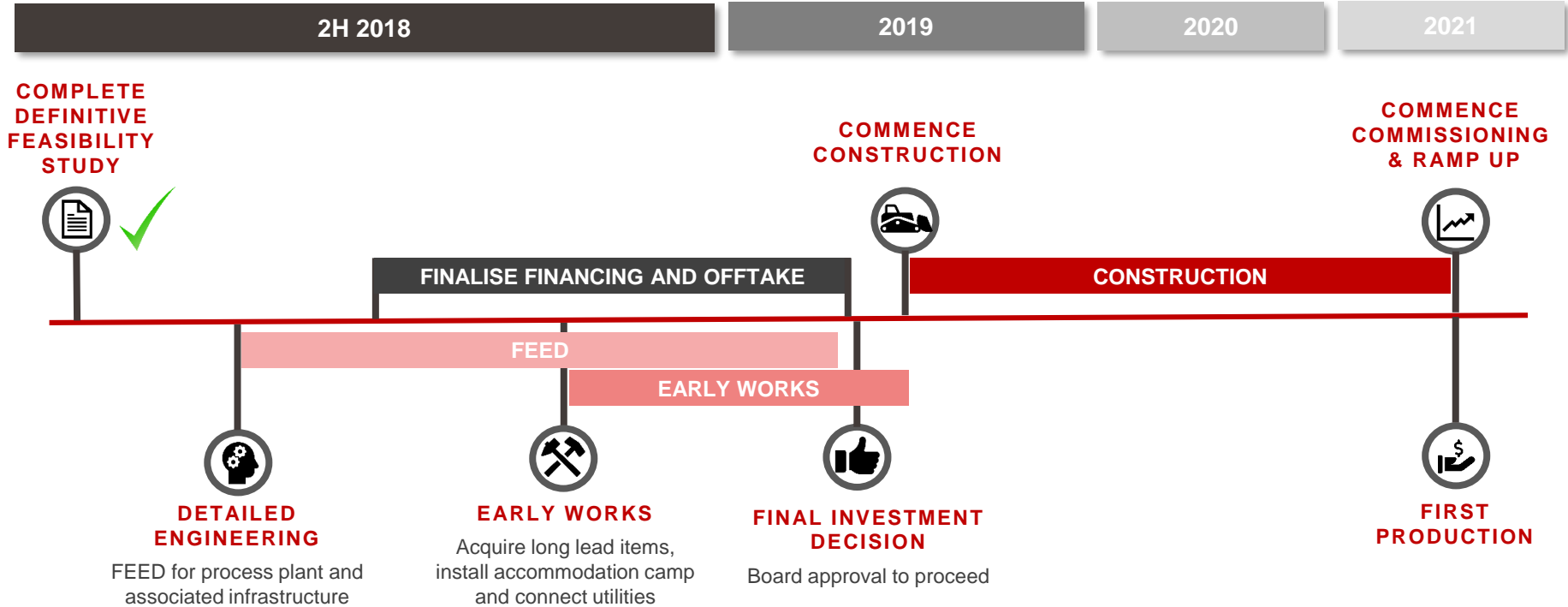
<sup>1</sup> – Based on publicly disclosed information

<sup>2</sup> – Extensive metallurgical test work has demonstrated very low acid consumption (250 - 280 kg/tonne HPAL feed) relative to publicly disclosed consumption rates of other nickel laterite projects, which range from 340 - 500kg/tonne

# PROJECT IS DEVELOPMENT READY

✓ <b>STUDIES</b>	Definitive Feasibility Study completed in June 2018
✓ <b>PERMITS</b>	Approved 2.5mtpa project from New South Wales Government
✓ <b>WATER</b>	Secure 3.2Glpa water allocation
✓ <b>INFRASTRUCTURE</b>	Road and rail access in place
✓ <b>POWER</b>	Mains power and gas in close proximity to site
✓ <b>PILOT PLANT</b>	Successful pilot plant operation demonstrated process flowsheet
✓ <b>MAIDEN OFFTAKE</b>	Secured maiden offtake agreement with Beijing Easpring in 2017
✓ <b>MINING LEASES</b>	Mining Leases granted for project area
✓ <b>CAPABILITY</b>	Strong technical and project delivery capability
✓ <b>PREPARING FOR CONSTRUCTION</b>	Engineering underway with project partner, MCC

# INDICATIVE PROJECT SCHEDULE





# 2018 DEFINITIVE FEASIBILITY STUDY<sup>1</sup>

## OUTSTANDING ECONOMIC AND TECHNICAL OUTCOMES

### STRONG ANNUAL PRODUCTION

Nickel: **19,620** tonnes per annum  
Cobalt: **4,420** tonnes per annum  
Average over first 10 years



### EXCELLENT PROJECT ECONOMICS

NPV<sup>2</sup> of **US\$1.39 billion**  
IRR of **19.1%**



### 40+ YEAR MINE LIFE

supported by mineral  
Reserve



### PRODUCTION OF HIGH PURITY BATTERY GRADE MATERIALS

- Nickel Sulphate
- Cobalt Sulphate

**PLUS** Scandium Oxide for  
automotive & aerospace applications



### EXCEPTIONAL CASH FLOWS

Life of Mine Revenue: **+US\$14 billion**  
LOM EBITDA: **~US\$8.60 billion**  
Average EBITDA: **US\$344 million** per annum



### CAPITAL COST ESTIMATE

**US\$1.49 billion**  
including  
**\$165 million**  
contingency



### FIRST QUARTILE OPERATING COSTS

Negative **US\$1.46/lb**  
Ni after by-product  
credits<sup>3</sup>



### SECURE SOURCE OF COBALT SUPPLY OUTSIDE OF AFRICA



<sup>1</sup> – Full information regarding the Definitive Feasibility Study is contained in the technical report titled “*Sunrise Nickel Cobalt Project, New South Wales, Australia NI 43-101 Technical Report*” dated effective 25 June 2018 and filed at [www.sedar.com](http://www.sedar.com) and available on the company’s website at [www.cleanteq.com](http://www.cleanteq.com)

<sup>2</sup> – Net Present Value (NPV) calculated at 8% discount rate, real, 100% equity basis

<sup>3</sup> – By-product credits include cobalt, scandium and ammonium sulphate

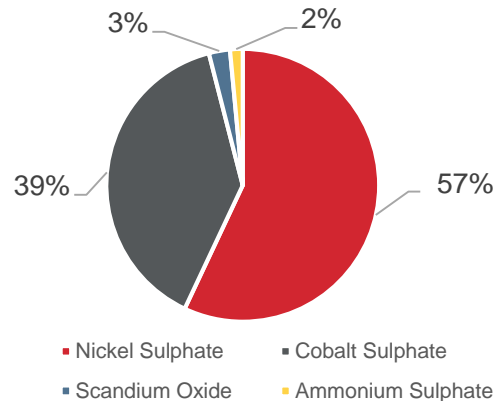
# STRONG CASH FLOW GENERATION

## OUTSTANDING ECONOMIC AND TECHNICAL OUTCOMES

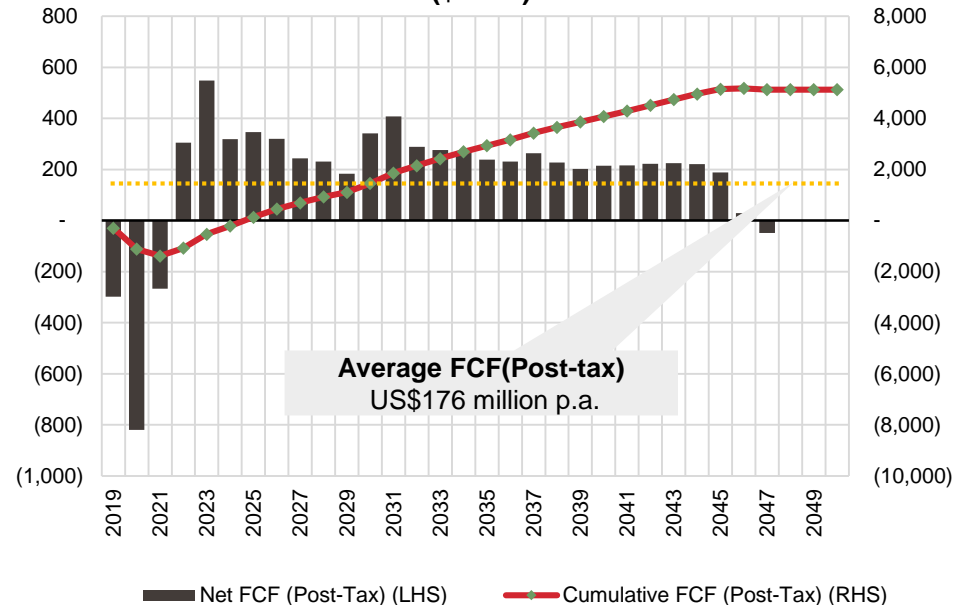
Clean TeQ Sunrise is forecast to deliver up to

- **US\$14 billion in revenue<sup>1</sup>**
- Life of Mine **EBITDA of US\$8.6 billion<sup>1</sup>**
- Average annual **EBITDA of US\$344 million<sup>1</sup>**

Revenue Breakdown



Cumulative and Net Free Cash Flow Projection (\$USm)

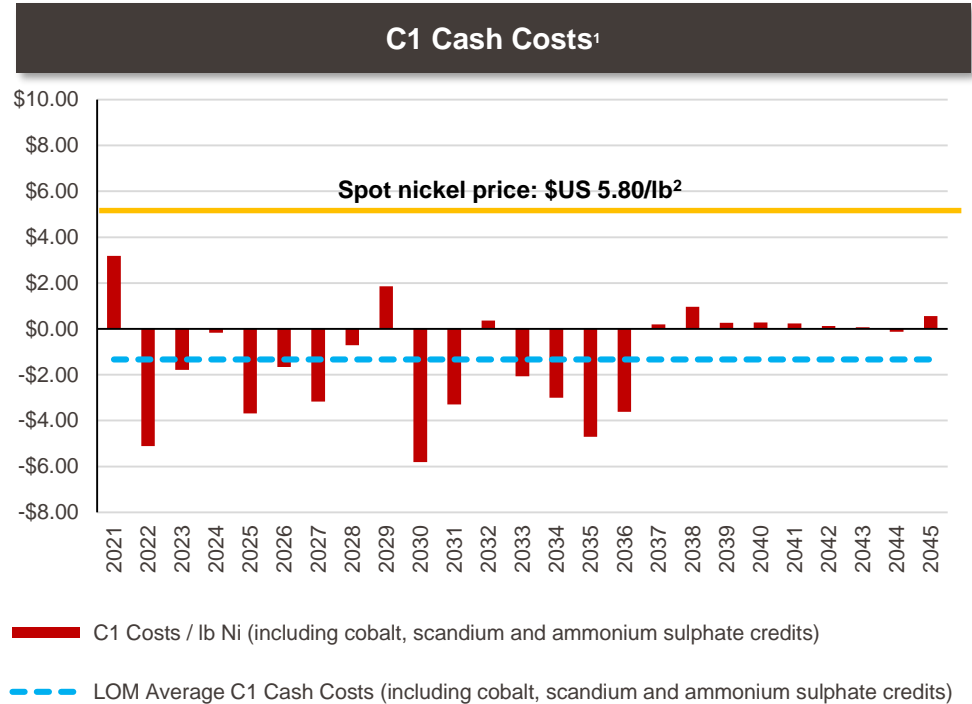


<sup>1</sup> – Projected revenue and EBITDA assumes commodity prices: Nickel - US\$8/lb nickel; Cobalt - US\$30/lb; Scandium - US\$1,500/kg; Ammonium sulphate US\$90/tonne

# COMPETITIVE OPERATING COST POSITION

## LOWEST QUARTILE C1 CASH COSTS<sup>1</sup>

	US\$/lb Ni before credits	US\$/lb Ni after credits
Mining	\$1.14	\$1.14
Processing	\$3.33	\$3.33
Haulage & Port	\$0.07	\$0.07
General & Administration	\$0.14	\$0.14
Cobalt Credits		(\$5.60)
Scandium Credits (assumes sales capped at 10tpa)		(\$0.36)
Ammonium Sulphate Credits		(\$0.18)
<b>Total C1 Operating Cost</b>	<b>\$4.68</b>	<b>(\$1.46)</b>



<sup>1</sup> – C1 Cash Cost of nickel produced (per lb) is a non-IFRS measure – see the Notes section of this presentation for a discussion on non-IFRS Measures

<sup>2</sup> – Source: Kitco Metals as at 26 September 2018

# COMMUNITY AND SOCIAL BENEFITS

Strong community benefits over life of mine including:

- **Employment**
- **Infrastructure upgrades**
- **Taxes**
- **Royalties**



## STEADY STATE OPERATIONS WORKFORCE

300 people  
(excluding mining  
contractors and  
ancillary services)



## CORPORATE TAX

~A\$2.2 Billion  
over life of mine



## EMPLOYEE SALARIES AND WAGES

~A\$1.9 Billion  
(including staff  
and contractors)



## STATE ROYALTIES AND PAYROLL TAX

~A\$630 million  
over life of mine





# NEXT STEPS FINANCING, OFFTAKE & DELIVERY

# COMPLETE PROJECT FINANCING

## FUNDING STRATEGY MAY INVOLVE PROJECT LEVEL INVESTOR

- Discussions are ongoing with a range of parties regarding **project level investment**, including with;
  - **End users**
  - **Market intermediaries**
  - **Other strategic investors**
- Strategic investment opportunities **may be linked to product offtake**
- **Streaming deals/royalty transactions** also under consideration





# SECURE PROJECT DEBT FINANCING

## STRONG BANKING SUPPORT FOR PROJECT DEBT FACILITY

- **Mandated Lead Arranger (MLA)** group appointed November 2017
  - Industrial Commercial Bank of China (ICBC)
  - National Australia Bank
  - Societe General
  - Natixis
- **US\$500 million in indicative commitments** received, prior to syndication
- Technical experts **currently working through DFS**
- Targeting credit-approved term sheet from MLAs prior to FID
- **Strong interest** from a range of Australian and international banks



# FINALISE OFFTAKE AGREEMENTS

## CONSIDERABLE DEMAND FROM END USERS AND INTERMEDIARIES

- **Extensive due-diligence is ongoing** by a range of parties considering product offtake and/or project level investment
- **Product samples provided** to various participants including:
  - OEMs
  - Cathode manufacturers
  - Battery manufacturers
  - Integrated trading houses
- Strong interest from Asia, Europe and North America

### Maiden offtake agreement in 2017



**Binding five-year offtake agreement** for 20% of cobalt and nickel sulphate production

**Transparent pricing mechanism**  
LME/LMB Price + sulphate premia (negotiated quarterly)

Offtake will **convert to LOM supply with project level investment** by Easpring in Sunrise (discussions ongoing)

# COMMENCE PROJECT DELIVERY

## MCC SELECTED AS A KEY PROJECT DELIVERY PARTNER



中国冶金科工集团有限公司  
CHINA METALLURGICAL GROUP CORPORATION

中国冶金科工股份有限公司  
METALLURGICAL CORPORATION OF CHINA LTD.

- **Heads of Agreement** signed with Metallurgical Corporation of China Ltd. (MCC) in August 2018
- Front-end engineering and design (FEED) to begin in 4Q 2018
- **Significant benefits** of partnering with MCC include:
  - MCC's strong experience in the design, construction and operation of lateritic nickel/cobalt mining, processing and refining operations (e.g. Ramu)
  - Opportunities for low cost procurement and pre-assembly through MCC's extensive network of suppliers
  - Enhancing the debt-carrying capacity of the project and potential opportunities for Chinese capital support

**Fixed-price EPC contract** covering detailed engineering and on-site construction

Delivery of EPC contract will **reduce financial and project execution risk**

EPC proposal includes a **detailed capital cost estimate similar to the DFS**

# OUR KEY PROJECT PARTNERS



**ICBC**

## **DEBT FINANCING**

ICBC appointed to the Mandated Lead Arranger (MLA) group for project debt financing in November 2017



## **PROJECT DELIVERY**

Heads of Agreement signed with MCC in August 2018 for an EPC contract to engineer and construct Clean TeQ Sunrise



**当升科技**  
**EASPRING**

## **OFFTAKE**

Binding five-year offtake agreement for 20% of cobalt and nickel sulphate production signed with Beijing Easpring



## **PRODUCT END-USE**

Landmark agreement with Chinalco and Chongqing University for the development and adoption of scandium alloys in the global transport industry



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Capital Structure	
ASX/TSX Code	CLQ
Shares on Issue <sup>1</sup>	745.4 M
Options on Issue <sup>1</sup>	12.75 M
Performance Rights on issue <sup>1</sup>	5.3 M
Cash at Bank (30 June 2018)	152.6 M
Market Capitalisation (undiluted) <sup>2</sup>	447 M

Major Shareholders <sup>3</sup>	
Robert Friedland	12.98%
Pengxin International	12.41%
FMR LLC	7.85%
AustralianSuper	6.3%
Board/Management <sup>4</sup>	~7%

<sup>1</sup> – As at 1 October 2018

<sup>2</sup> – Based on CLQ share price of \$A0.60

<sup>3</sup> – Approximate balances at 1 October 2018

<sup>4</sup> – Excludes options and performance rights



## COMPETENT AND QUALIFIED PERSONS CONSENTS

The information in this presentation that relates to Mineral Resources is based on information compiled by Mr Lynn Widenbar, a member of the Australasian Institute of Mining and Metallurgy. Mr Widenbar is a full-time employee of Widenbar and Associates. Mr Widenbar is a consultant to Clean TeQ and has sufficient experience which is relevant to the style of mineralisation and type of deposit and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Widenbar consents to the inclusion in this presentation of the matters based on their information in the form and context in which it appears.

The sections in this presentation that relate to the Clean TeQ Sunrise Ore Reserves are based on information compiled by; Mr Luke Cox, Mr Tim Harrison and Mr Lee White. Mr Cox is a full-time employee of Clean TeQ. Mr Harrison is a full-time employee of Clean TeQ and holds shares and options in the company. Mr White is employed by Kalem Group Pty Ltd and is engaged as an internal consultant to Clean TeQ.

Mr Cox, Mr Harrison and Mr White are all Members of the Australasian Institute of Mining and Metallurgy and each have sufficient experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the JORC Code 2012.

The qualified persons who are responsible for the disclosures regarding the DFS in this presentation are Mr Lynn Widenbar, a member of the Australasian Institute of Mining and a member of the Australian Institute of Geoscientists (AIG) (for the Mineral Resource) and Mr Tim Harrison MAusIMM (CP Met) for the disclosures other than the Mineral Resource. Mr Harrison and Mr Widenbar are both Qualified Persons under the terms of NI 43-101. Mr Widenbar is a full-time employee of Widenbar and Associates and is independent of Clean TeQ. Mr Harrison is Clean TeQ's Principal Metallurgist and is not independent of Clean TeQ. Mr Harrison and Mr Widenbar (for the Mineral Resource only) supervised the preparation of the DFS and have reviewed and approved the scientific and technical information in this news release, including information relating to the DFS. Mr Harrison has also verified the technical data disclosed in this presentation.

For further details on the content of this presentation, please refer to the ASX releases on the Company's website.

CleanTeq has prepared a current, independent, NI 43-101-compliant technical report for the Sunrise Project titled ""Sunrise Nickel Cobalt Project, New South Wales, Australia NI 43-101 Technical Report" dated effective 25 June 2018 and which is filed at [www.sedar.com](http://www.sedar.com) and available on the company's website at [www.cleanteq.com](http://www.cleanteq.com). The technical report was prepared by SRK Consulting (Australia) Pty Ltd. The technical report includes relevant information regarding the effective dates and the assumptions, parameters and methods of the mineral resource and reserve estimates on Sunrise Project, as well as information regarding data verification, exploration procedures and other matters relevant to the scientific and technical disclosure contained in this presentation in respect of the Sunrise Project."

### NOTES

#### **C1 Cash Cost of nickel produced (per lb.)**

C1 Cash cost of nickel produced (per lb) is the sum of production costs, net of capital expenditure development costs and by-product credits, divided by the nickel pounds produced. C1 cash costs reported by the Company include mining, processing, haulage and port expenses. By-product credits are calculated based on expected sales (net of mining and processing costs) of cobalt, scandium oxide and ammonium sulphate divided by the total pounds of nickel, using the assumed sales prices of US\$30/lb for cobalt, US\$1,500/kg for scandium and US\$90/tonne for ammonium sulphate. C1 cash cost of nickel produced per pound is a non-IFRS measure used by the Company to manage and evaluate operating performance of the Company's operating mining unit, and is widely reported in the mining industry as benchmarks for performance, but does not have a standardized meaning and is disclosed in addition to IFRS measures.