Sunrise Battery Materials Project Reaches Key Development Milestone

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MELBOURNE, Sept. 27, 2020 - Co-Chairman, Robert Friedland, and CEO, Sam Riggall, of Clean TeQ Holdings Ltd. (‘Clean TeQ’ or ‘Company’) (ASX/TSX:CLQ; OTCQX:CTEQF) are pleased to announce the achievement of a key milestone in the Sunrise Battery Materials Project - completion of the Sunrise Project Execution Plan (‘PEP’).

Undertaken by an integrated Clean TeQ and Fluor Australia Pty Ltd (‘Fluor’) project delivery and engineering team, the PEP updates the 2018 Definitive Feasibility Study (‘DFS’), incorporating revised cost estimates, design and engineering work to date, as well as a revised master schedule for the engineering, procurement, construction, commissioning and ramp-up of the Project.

The PEP outcomes confirm Sunrise’s status as one of the world’s lowest cost, development-ready sources of critical battery raw materials. In production it will be a major supplier of nickel and cobalt to the lithium-ion battery market, and scandium to the aerospace, consumer electronics and automotive sectors.

For the automotive sector, the Sunrise refinery is designed to produce enough high quality nickel to support the production of up to approximately 1,000,000 electric vehicles (‘EVs’) per annum, with cobalt production sufficient to support up to 2,000,000 EVs per annum.[1]

Clean TeQ Co-Chairman Robert Friedland stated, *“Auto supply chains are coming to realise they are playing a game of nickel and cobalt musical chairs. We are half-way through the second verse and the music will eventually stop.”*

“We have a clear vision for how to create a sustainable auto supply chain of the future. Our team is proud to present that vision today. Sunrise is a long-life, low-cost, development-ready asset which is a template for consistent, sustainable and auditable nickel and cobalt supply. We cannot anticipate how long it will take to have the project funded and in development, but we can be patient with such a strategically important asset, and we are fully committed to ensuring it is developed with partners who understand the value that responsible supply chain integration brings.”

Clean TeQ CEO, Sam Riggall will host Clean TeQ’s Battery Metals Day via webcast to discuss battery materials market developments and the PEP results for analysts, investors and media at 11.30am AEST Thursday 1st October 2020.

To access the webcast please register and join via the link below:

https://78449.choruscall.com/dataconf/productusers/cleanteq/mediaframe/40782/indexr.html

HIGHLIGHTS

- The PEP results have been finalised at a time of encouragingly strong market demand for EVs, particularly in Europe, as new EU emissions standards take effect and carmakers begin to focus on the environmental and social aspects of supply chains. Despite significant economic uncertainty created by COVID-19, global electric vehicle sales surged in June and July and are, again, back to a healthy growth trajectory.
- Benchmarked against other operations and process flowsheets, Sunrise is the template for sustainable, reputable and auditable nickel and cobalt supply for the next generation of electric vehicles.

- The PEP modelled the first 25 years of production, with sufficient ore reserves to extend operations up to approximately 50 years.
- Long-term nickel and cobalt sulphate price forecasts obtained from independent expert Benchmark Mineral Intelligence. Weighted average forecast (metal equivalent) sulphate prices over the life of mine are approximately:
    - Nickel: US$24,200/t (including sulphate premium).
    - Cobalt: US$59,200/t.
- The PEP scope of works included a range of studies which have optimised metal production rates while holding autoclave ore feed constant at the approved maximum 2.5 million tonnes per annum. Average annual (metal equivalent) production rates are:
    - 21,293 tonnes nickel and 4,366 tonnes cobalt (Year 2 – 11).
    - 18,439 tonnes nickel and 3,179 tonnes cobalt (Year 2 – 25).
- The Project is forecast to deliver over US$16 billion in revenue and average annual post-tax free cashflow of US$308 million over the first 25 years of operations[2].
- Strong cash flows result in a post-tax net present value[3] (NPV) of US$1.21 billion (A$1.72 billion[4]) and post-tax Internal Rate of Return (IRR) of 15.44%.
- High cobalt credits result in very low average C1[5] operating costs of negative US$1.97/lb of nickel after by-product credits[6] (US$4.31/lb nickel before credits) in years 2-11.
- Average C1 operating costs of negative US$0.80/lb nickel after by-product credits (US$4.58/lb nickel before credits) over years 2-25, positioning the Project to generate high margins and strong cash flows over many decades.
- Global supply of scandium oxide is approximately 10-15 tonnes per annum. Consistent with the Company’s strategy of facilitating wider-scale adoption in key emerging markets (such as high-performance aluminium alloys), Clean TeQ has adopted a long-term scandium oxide price assumption of US$1500/kg in the PEP.
- Scandium oxide refining capacity of up to 20 tonnes per year installed from year three, which can readily be expanded to 80 tonnes per year with approximately A$25 million capital expenditure on additional refining capacity. As the scandium market grows, future investment in a dedicated resin-in-pulp scandium extraction circuit and further refining capacity offers the potential to increase by-product scandium production to up to approximately 150 tonnes per annum.
- The PEP conservatively ramps up scandium oxide sales from 2 to 20 tonnes per year over the first decade of the mine life. Clean TeQ has existing offtake heads of agreement with companies including Panasonic Corporation Global Procurement Company and Relativity Space, Inc. and programs underway with a range of additional parties to develop new light-weight aluminum scandium alloys for the aerospace, additive layer manufacturing, consumer electronics and automotive sectors.
- Pre-production capital cost estimate of US$1.658 billion (A$2.368 billion) (excluding US$168 million estimated contingency) reflects a significantly de-risked capital cost, with approximately 79% of total equipment and materials costs covered by vendor quotations. Submissions were also obtained from contractors to validate the labour costs included in the total direct cost.
- Future value optimization studies will assess opportunities to reduce capex in areas of off-site pre-assembly, modularization and low-cost offshore procurement.
- The PEP assumed Project execution on an engineering, procurement, construction management (‘EPCM’) basis. Prior to making a final investment decision (‘FID’), Clean TeQ will select an EPCM contractor for the engineering, procurement and construction phase of the Project.
- Engineering, procurement and construction schedule from signing of an EPCM contract to first production of approximately three years, followed by a 24-month ramp-up to full production.

BROAD STAKEHOLDER BENEFITS

Sunrise is set to deliver significant economic and social benefits to a range of stakeholders over many decades, including safe and well-paid employment, infrastructure upgrades, royalties, taxes and local community contributions. Over the initial 25 year mine life the PEP estimated the following:

- Construction workforce forecast to peak at around 1700 full-time equivalent jobs during three-year EPCM period.
- Steady-state operations workforce of approximately 377 people (not including maintenance support and mining and drilling contractors) to generate strong employment opportunities in the state of New South Wales, Australia. The majority of these workers are expected to reside in local communities.
- Employee salaries/wages of approximately A$1.2 billion (excluding mining contractor wages and logistics contractors and ancillary services).

- Local community contributions in excess of an estimated A$17 million including payments to compensate communities for local project impacts (principally road upgrades and maintenance) and additional ongoing local community enhancement initiatives. Telecommunications will also be greatly enhanced around the Project area, to the benefit of local residents.
- Services and supply opportunities are also expected for local businesses as suppliers of goods and services to Clean TeQ Sunrise.
- State Royalties and payroll tax payments totalling A$750 million.
- Commonwealth corporate tax payments of A$3.5 billion.

SUNRISE ONGOING WORKS PROGRAMS

Although the level of activity associated with the PEP study and engineering works will now significantly reduce, a range of work-streams will continue in order to progress a number of value-adding deliverables aimed at minimising Project restart time once funding is secured:

- Work will be progressed on the long-lead electrical transmission line (‘ETL’) work scope. The ETL application to connect to the NSW electrical grid is currently in progress and will continue through FY21.
- Progressing ongoing commercial discussions with landowners, local councils, the NSW state government and other impacted parties required for land access agreements for key infrastructure including the water pipeline and the ETL.
- Surveying and planning for autoclave and oversize equipment transport routes to site.
- Preliminary investigations to be undertaken on our exploration licences for limestone resources, a key process reagent for which the Company currently has a supply contract in place with a third party.
- Testwork and engineering assessing opportunities for potential further downstream processing of sulphates into battery precursor materials.
- Ongoing environmental work including monitoring and compliance reporting.
- The Sunrise Community Consultative Committee will be maintained along with a number of local community engagement/support programs.
- A range of scandium alloy development programs will continue to be progressed, consistent with Clean TeQ’s long term strategy to work with, and assist, industry players to investigate and develop new applications for scandium-aluminium alloys.

A more detailed outline of the PEP outcomes is provided in the section below.

Clean TeQ CEO, Sam Riggall will host Clean TeQ’s Battery Metals Day via webcast to discuss battery materials market developments and the PEP results for analysts, investors and media at 11.30am AEST Thursday 1st October 2020.

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PROJECT EXECUTION PLAN OUTCOMES

The Sunrise Project’s economic analysis is based on nickel and cobalt sulphate price forecasts provided by Benchmark Mineral Intelligence. Benchmark Mineral Intelligence is a leading independent consultancy which provides market analysis and intelligence for the lithium ion battery, electric vehicle and energy storage supply chains. These price forecasts reflect the prices required to incentivise new projects to satisfy forecast demand.

It is worth noting that independent long-term price forecasts for nickel and cobalt have generally strengthened over the past year due to a challenging supply outlook, improved confidence in electric vehicle uptake and an increasing awareness of procurement risks.

The key economic assumptions adopted for the Project’s financial assessment[7] are:

Long-term nickel sulphate price (USD/t $NiSO_4$)	~$5,300
Long-term LME nickel metal equivalent price (USD/t Ni)	~$22,000
Long-term cobalt sulphate price (USD/t $CoSO_4$)	~$12,100
Long-term LME cobalt metal equivalent price (USD/t Co)	~$59,200
Scandium oxide price (USD/kg)	$1,500
AUD/USD rate	0.70
Company tax rate	30%

Note: Prices are weighted averages over the 25 year life of mine quoted in 2020 real terms. LME nickel metal equivalent price excludes a $1/lb Ni sulphate premium. Assumes a 22% nickel metal equivalent content in $NiSO_4$ and a 20.5% cobalt metal equivalent content in $CoSO_4$.

Resources and Reserves

The Sunrise Mineral Resource Estimate has been updated to include new geological information obtained since the 2018 DFS.

The material changes that have driven the differences in the Mineral Resources since the previously announced Mineral Resource statement (dated 25 June 2018) include:

- An increase in density of the Goethite Zone from density of 1.2 to 1.3 t/m^3 based on downhole density and moisture surveys undertaken by MPC Kinetic Holdings Pty Ltd and a review of available density data measurements across the Project; and,
- A change in reporting from a cobalt cut-off to a nickel equivalent cut-off based on revised technical, marketing and economic parameters updated from the DFS for the PEP study.

Clean TeQ Sunrise Nickel, Cobalt and Scandium 2020 Mineral Resource Estimate (at a 0.35% nickel equivalent cut-off)

Category	Tonnes (Mt)	Grade Ni (%)	Grade Co (%)	Grade Sc (ppm)	Grade Pt (g/t)	Ni Metal (t)	Co Metal (t)	Sc Metal (t)	Sc Oxide (t)
Measured	69	0.65	0.11	61	0.23	450,000	73,000	4,200	6,400
Indicated	89	0.49	0.09	79	0.19	440,000	76,000	7,000	11,000
Measured and Indicated	160	0.56	0.09	71	0.21	890,000	150,000	11,000	17,000
Inferred	17	0.26	0.10	289	0.15	45,000	18,000	5,000	7,700

All reported tonnages are rounded to account for the relative precision of the estimate. Some figures may not add to the totals due to rounding. Nickel Equivalent cut-off (NiEq) = Nickel Grade + Cobalt Grade x Cobalt Price/Nickel Price x Cobalt Recovery/Nickel Recovery = Nickel Grade + Cobalt Grade x 3.69. Cobalt Price US$30/lb. Cobalt Recovery 91.2%. Nickel Price US$8.00/lb. Nickel Recovery 92.6%

The Sunrise Ore Reserves are sufficient to deliver a mine life in excess of 50 years, however, the PEP assessed only an initial 25 year mine life.

Clean TeQ Sunrise Ore Reserves

Category	Quantity (Mt)	Nickel Grade (%)	Cobalt Grade (%)	Scandium Grade (ppm)
Proven	65.4	0.67	0.11	55
Probable	77.9	0.52	0.09	41
Proven and Probable	143.2	0.59	0.10	47

All reported tonnages are rounded to account for the relative precision of the estimate. Some figures may not add to the totals due to rounding.

The material changes that have driven the differences in the Ore Reserves since the previously announced

Ore Reserve statement (dated 25 June 2018) include:

- The updated Mineral Resource estimate with increased density of 1.3 t/m^3 of the Goethite Zone; and,
- Revised technical, marketing and economic parameters updated from the DFS for the PEP study.

Importantly, grade variability across the resource allows significant optimization of the mine plan, especially for cobalt. The maximum combined annual refinery capacity for both nickel and cobalt remains at 25,000 tonnes nickel and 7,000 tonnes cobalt metal equivalent production[8]. This allows higher production rates in the early years of the mine by targeting higher grade zones of ore. The variability in cobalt grade across the resource also provides the Company with the opportunity to flex production rates in response to prevailing commodity prices in the early years of the mine.

Mining and Processing

A new set of modifying factors was adopted for the PEP mining sequencing in order to generate an optimised production profile. The DFS mine plan assumed quite variable year on year ore and waste movements. This resulted in significant variations in the year on year change in total material movements, which is more difficult (and therefore more costly) for a mining contractor to manage.

Through the PEP phase, the mining team assessed multiple mining sequences with a range of modifying factors which resulted in an optimised mine plan with a large initial pre-strip in Year 1 of operations, followed by a consistent 11 million tonnes per annum over the life of the mine, which is more practical from a mine planning and contractor management point of view. Additional operating cost savings were achieved through the cessation of mining in Year 18. From Year 19 onwards, mill feed will be sourced exclusively from ore stockpiles.

The PEP estimates of optimal mining, processing and recovery metrics are tabled below:

Physicals	Average Annual Years 2-15
Ore mined (tonnes)[9]	5,528,000[10]
Ore mill feed (tonnes)	2,650,000
Nickel grade: mill feed	0.97%
Cobalt grade: mill feed	0.09%
Ore PAL feed (tonnes)	2,478,705
Nickel grade: PAL feed	0.90%
Cobalt grade: PAL feed	0.10%
Nickel recovery: PAL feed	92.56%
Cobalt recovery: PAL feed	91.04%

The Sunrise Project Development Consent stipulates a limit of 2.5 million tonnes per annum of Pressure Acid Leach (‘PAL’) feed. Mined ore is milled and processed through a beneficiation plant to remove barren silica prior to being introduced into the PAL circuit. The beneficiation process results in a moderate uplift in metal grades in the PAL feed relative to the mill feed.

Nickel and Cobalt Sulphate Production

The Project will become a globally significant producer of nickel sulphate and cobalt sulphate for the EV lithium-ion battery market. Average production rates for the first 10 years of full production (Years 2 – 11) are tabled below.

Production and Sales	Average Annual Years 2-11	Average Annual Years 2-25
Nickel Sulphate (tonnes)	96,784	83,814
Cobalt Sulphate (tonnes)	20,992	15,286
Nickel metal content (tonnes)	21,293	18,439

Cobalt metal content (tonnes)	4,366	3,179
Scandium oxide recovered as $Sc(OH)_3$ (kg)[11]	18,000	19,167
Scandium oxide sold (kg)[12]	9,600	15,667
Ammonium sulphate (tonnes)	60,365	50,594

Oversized Autoclaves Provide De-bottlenecking Opportunity to Boost Nickel/Cobalt Production

Ore processing rates and production numbers are based on the current Development Consent approval limit of 2.5 million tonnes per annum limit of PAL feed. Refinery capacity has been sized based on the optimal production rates in light of that fixed PAL feed rate and planned mined ore grades in the earlier years of operations. This results in surplus refining capacity in the later years of the operation as ore grades begin to decline.

The Company has already acquired the autoclaves for the Project – the key component of the PAL circuit. Those autoclaves have the capacity to treat up to approximately 3.3 million tonnes per annum of PAL feed. In later years, when ore grades begin to decline, the surplus capacity in the autoclaves and Sunrise’s large mineral resource provide the Company with the potential opportunity to undertake a de-bottlenecking exercise to boost production by increasing PAL feed to 3.0 million tonnes per annum, subject to obtaining relevant regulatory approvals.

The Sunrise processing plant has been designed to readily accommodate this de-bottlenecking with relatively modest plant upgrades required to support the additional 20% ore throughput. The Clean TeQ and Fluor team undertook a scoping study level of accuracy estimate of the likely cost and benefit of the de-bottlenecking exercise. The study outcome indicated that a ~A$95 million de-bottlenecking capital investment in Year 4 would result in a post-tax NPV boost (as assessed at the beginning of Year 4 based on the other assumptions detailed herein) of approximately A$580 million.

Scandium Production

The Project will have the capacity to recover an average of up to approximately 20 tonnes per annum of scandium oxide equivalent by-product, stockpiled as a scandium hydroxide intermediate concentrate. A dedicated scandium refinery with 20 tonnes per annum high purity scandium oxide refining capacity is included in the PEP sustaining capital in Year 3. Given the relative immaturity of the scandium market, the decision was made to defer the high purity scandium oxide refinery until after the nickel/cobalt refinery is completed. Subject to receiving firm orders for scandium oxide offtake, the Company can build the scandium refinery earlier than Year 3 if required.

Refined scandium oxide production capacity can readily be expanded to 80 tonnes per annum with approximately A$25 million capital expenditure on additional refining capacity. As the scandium market grows, future investment in a dedicated resin-in-pulp scandium extraction circuit and further refining capacity offers the potential to increase by-product scandium production to up to approximately 150 tonnes per annum.

The PEP financial model assumes 2 tonnes per annum of high purity scandium oxide will be refined and sold to end users in Year 3, ramping up to 20 tonnes per annum by Year 10. This conservative estimate of sales volumes reflects the relative immaturity of the scandium market and the likelihood that end users will want to see long-term reliable supply before high volume commitments can be made. The unsold scandium hydroxide intermediate will be warehoused on site, and batch processed to meet orders as the market grows.

Clean TeQ has existing offtake heads of agreement with companies including Panasonic Corporation Global Procurement Company and Relativity Space, Inc. and programs underway with a range of additional parties to develop new light-weight aluminum scandium alloys for the aerospace, additive layer manufacturing, consumer electronics and automotive sectors.

Ammonium Sulphate Production

Clean TeQ Sunrise will also produce approximately 50,000 tonnes per annum of ammonium sulphate from Year 2. This will be sold primarily to the agricultural fertilizer market in the eastern states of Australia. The sales price for ammonium sulphate assumed for the PEP is US$130/tonne (FOB).

Capital Cost

The PEP capital cost estimate is tabled below:

Capital Cost	A$ millions	US$ millions[13]
Site Development Costs	28	20
Mining Costs	35	25
Ore Leach Costs	413	289
Refinery Costs	271	190
Reagents Costs	252	176
Services and Infrastructure Costs	424	297
Offsite Operations Facilities	84	59
Total Direct Costs	1,507	1,055
EPCM	264	185
Owner's Costs	157	110
Other Indirect Costs	441	309
Total Direct and Indirect Costs	2,368	1,658
Contingency	241	168
Total Including Contingency	2,609	1,826

The PEP pre-production capital cost estimate for the Project has been estimated at AACE Class 3 at a p50 (-10/+15%) level of accuracy. The formal engineering, procurement and construction period, including early works to establish site power, water and the accommodation camp, is estimated to be 38 months (including contingency) following the appointment of an EPCM contractor and a two year ramp-up to full production.

The capital estimate includes all mine and process plant utilities and infrastructure, power electrical transmission line, water pipeline, rail siding, road upgrades and commitments to local governments, as well as contractor and owner’s costs. Sustaining capital is included in the forecast cash flows as required in future years but is not included in the up-front capital estimate.

The pre-production capital development cost is approximately US$1.66 billion, excluding US$168 million contingency. This represents an approximately 23% increase on the 2018 DFS estimate, driven by a number of factors:

- Engineering and design scope changes to de-risk the plant and supporting infrastructure, and to ensure successful ramp-up.
- Variations to materials of construction, designs to enhance ease of access for plant maintenance and increases in equipment redundancy at key process interfaces.
- Updating the refinery design to give flexibility to enable potential future treatment of primary, intermediate and secondary (recycled) metal. The Sunrise flow sheet has the capability to reject a large range of impurities, and hence has the flexibility to potentially treat different feedstocks in the future.
- Construction of a longer electrical transmission line from the regional centre of Parkes to site. The connection to the NSW electrical grid at Parkes is an important enabler for providing options for 100% renewable power supply.
- Escalation of indirect costs, particularly schedule-dependent assumptions such as labour costs, construction methodology and workforce requirements.

The current estimate of capital intensity for Sunrise has been benchmarked, using publicly available data, against the construction cost and actual production capacity of a number of successfully operating nickel/cobalt plants of similar scale in Australia, Philippines, Cuba and Papua New Guinea. While Sunrise’s capital intensity, at US$60k/t Ni-equivalent[14], sits at the higher end of that comparable range, it is worth noting that the Project incorporates a number of safety, environmental and operability design features that differentiate it substantially from other assets in the industry and are intended to ensure a rapid ramp-up with stable production at nameplate capacity thereafter.

Operating costs

Sunrise is designed to deliver some of the lowest cost metal units into the global battery supply chain. Supported by an integrated mining/refining operation and strong by-product credits, Sunrise will maintain first quartile average nickel production costs over its initial 25-year mine life.

The PEP has estimated a steady-state operations work force of approximately 377 people (not including maintenance support and mining and drilling contractors), an increase of around 25% from the DFS. Much of this increase has resulted from moving from a 3-panel shift roster to a 4-panel shift roster, which the Company expects to be viewed far more favourably by the workforce, the majority of which are expected to reside in local communities.

Processing inputs, primarily reagents such as sulphur and limestone, as well as other consumables were based on updated supplier quotes. An increase in electricity consumption from the updated energy balance model was also factored into the operating expenditure. Sulphur is assumed to be sourced from either Canada or the Middle East and shipped in bulk to Newcastle where it will be railed to the rail siding before being transported by road to site. High quality limestone supply will be sourced from a local supplier and transported by road to site.

The PEP estimate of the Project’s operating costs are tabled below:

Operating Costs	US$/lb Ni Years 2-11	US$/lb Ni Years 2-25
Mining costs	0.84	0.76
Processing costs	3.14	3.47
General, Admin & Other Site Overheads	0.18	0.21
Haulage & Port	0.15	0.14
C1 Operating Costs (before by-products)	4.31	4.58
By-product credits		
Cobalt Credits	(5.81)	(4.64)
Scandium Credits	(0.31)	(0.58)
Ammonium Sulphate Credits	(0.17)	(0.16)
Total By-product credits	(6.28)	(5.38)
Total C1 cost net of by-product credits	(1.97)	(0.80)

Note: By-product credits based on US$59,236/t Co (metal equivalent), US$1,500/kg Sc_2O_3 and US$130/t amsul.

Compared to the DFS, significant additional maintenance allowances are also included in the PEP model, based on a detailed bottom-up maintenance assessment conducted through the PEP phase which was supported by benchmarking of comparable operations. Sustaining capital includes construction of additional tailings storage capacity in future years as well as ongoing site rehabilitation costs. A total allowance of US$32 million per annum for maintenance and sustaining capital is included in the financial analysis during Years 2-25. A mine closure and decommissioning allowance of US$116 million has also been included in Year 26 of the financial model, even though the mine has a Proven and Probable Reserve life in excess of 50 years.

Although by definition not included in the C1 unit operating cost, all Australian Commonwealth, state and local government charges and levies are included in the cost estimate, including the 4% (less allowable deductions) NSW state revenue royalty and a 2.5% gross revenue royalty payable to Ivanhoe Mines.

Revenue

The Sunrise Project is a poly-metallic deposit, with multiple product revenue streams. Project revenues

estimated at the PEP assumptions are tabled below:

Revenue and Earnings	Total Life of Mine US$B Years 1-25	Average Annual US$M Years 2-11	Average Annual US$M Years 2-25
Nickel Sulphate	10.95	510	446
Cobalt Sulphate	4.67	273	189
Scandium Oxide	0.56	14	24
Ammonium Sulphate	0.16	8	7
Total Revenue	16.35	805	665
EBITDA	10.79	559	443
Pre-tax Free Cashflow	8.04	524	412
Post-tax Free Cashflow	5.56	398	308

Note: By-product credits based on US$59,236/t Co (metal equivalent), US$1,500/kg Sc_2O_3 and US$130/t amsul.

Financial Evaluation

The financial evaluation of the Project was conducted using a discounted cash flow (‘DCF’) methodology over an initial 25-year mine life. The financial model assumed a real 8% discount rate, 100% equity finance and a 30% corporate tax rate. Based on this analysis, the Project returns a NPV8 (real, ungeared post-tax) of US$1.21 billion (A$1.72 billion) and a real post-tax internal rate of return of 15.44%. Alternative economic outcomes based on a range of sensitivities are tabled below.

NPV Sensitivity Analysis (A$ billions)

NPV8[15]	-15%	-10%	-5%	Base Case	+5%	+10%	+15%
Nickel Sulphate Price	1.18	1.36	1.54	1.72	1.91	2.09	2.27
Cobalt Sulphate Price	1.45	1.54	1.63	1.72	1.81	1.91	2.00
Capital Cost	2.07	1.96	1.84	1.72	1.61	1.49	1.38
Operating Cost	1.88	1.83	1.78	1.72	1.67	1.62	1.57
AUD/USD	2.69	2.33	2.01	1.72	1.46	1.23	1.01

FUNDING AND DEVELOPMENT

COVID-19 has presented difficult conditions for financial markets and challenges for funding new projects. Pleasingly, though, engagement with the automotive and mining sectors on Sunrise remains on-going, despite these challenges.

While the timing for completion of a transaction is not possible to forecast, Clean TeQ will continue to engage with potential partners across the supply chain.

For more information, please contact:
Ben Stockdale, CFO and Investor Relations +61 3 9797 6700

This announcement is authorised for release to the market by the Board of Directors of Clean TeQ Holdings Ltd..

About Clean TeQ Holdings Limited (ASX/TSX: CLQ) – Based in Melbourne, Australia, Clean TeQ is a global leader in metals recovery and industrial water treatment through the application of its proprietary Clean-iX? continuous ion exchange technology. For more information about Clean TeQ please visit the

Company’s website www.cleanteq.com.

About the Clean TeQ Sunrise Project – Clean TeQ is the 100% owner of the Clean TeQ Sunrise Project, located in New South Wales. Clean TeQ Sunrise is one of the largest cobalt deposits outside of Africa, and one of the largest and highest-grade accumulations of scandium ever discovered.

About Clean TeQ Water – Through its wholly owned subsidiary Clean TeQ Water, Clean TeQ is also providing innovative wastewater treatment solutions for removing hardness, desalination, nutrient removal and zero liquid discharge. The sectors of focus include municipal wastewater, surface water, industrial waste water and mining waste water. For more information about Clean TeQ Water please visit www.cleanteqwater.com.

COMPETENT PERSONS’ STATEMENT

The information in this report that relates to Mineral Resources is based on information compiled by Mr John Winterbottom, a Member of the Australian Institute of Geoscientists. Mr Winterbottom is a full-time employee of Clean TeQ Sunrise Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit and to the activity which they are undertaking 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”.

The information in this report that relates to Ore Reserves is based on information compiled by Mr Luke Cox, a Fellow of the Australasian Institute of Mining and Metallurgy, and Mr Lee White, a Member of the Australasian Institute of Mining and Metallurgy. Mr Cox is a full-time employee of Clean TeQ. Sunrise Pty Ltd and holds performance rights in that company’s ultimate parent entity Clean TeQ Holdings Ltd.. Mr White is employed by Kalem Group Pty Ltd and is engaged as an internal consultant to Clean TeQ. Sunrise Pty Ltd. Messers Cox and White 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 information in this report that relates to metallurgy and mineral processing is based on information compiled by Dr James Kyle, a Fellow of the Australasian Institute of Mining and Metallurgy. Dr Kyle is a casual employee of Clean TeQ Sunrise Pty Ltd. Dr Kyle has 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 information in this report that relates to the Sunrise Project capital cost estimate is based on information compiled by Mr Simon Donegan, a Member of the Australasian Institute of Mining and Metallurgy. Mr Donegan is employed by BDB Process Pty Ltd and is engaged as an internal consultant to Clean TeQ. Sunrise Pty Ltd. Mr Donegan has 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.

Messers Winterbottom, Cox, White, Kyle and Donegan consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.

FORWARD-LOOKING STATEMENTS

Certain statements in this news release 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 the Company 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 new release.

Statements in this news release that constitute forward-looking statements or information include, but are not limited to, statements regarding: financing of the Sunrise Project; the outlook for electric vehicle markets and demand for nickel and cobalt; completing final design and detailed engineering; making a Final Investment Decision; the timing of commencement and/or completion of construction, commissioning, first production and ramp up of the Project; the potential for a scandium market to develop and increase; metal price assumptions; cash flow forecasts; projected capital and operating costs; metal recoveries; mine life and production rates; and the financial results of the PEP including 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; capital cost; average operating costs before and after by-product credits; proposed mining plans and methods; the negotiation and execution of offtake agreements; a mine life estimate; 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.

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; 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.

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

Although the forward-looking statements contained in this news release 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 news release 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 news release.

Appendix A – JORC Table

Section 1 Sampling Techniques and Data

(Criteria listed in Section 1, and where relevant in Section 2, also apply to this section.)

Criteria	JORC Code Explanation
Sampling techniques	● *Nature and quality of sampling (eg cut channels, random ch* ● *Include reference to measures taken to ensure sample repre* ● *Aspects of the determination of mineralisation that are Mate* ● *In cases where ‘industry standard’ work has b*

Drilling techniques	● *Drill type (eg core, reverse circulation, open-hole hammer, r*
Drill sample recovery	● *Method of recording and assessing core and chip sample re* ● *Measures taken to maximise sample recovery and ensure re* ● *Whether a relationship exists between sample recovery and*
Logging	● *Whether core and chip samples have been geologically and* ● *Whether logging is qualitative or quantitative in nature. Core* ● *The total length and percentage of the relevant intersections*

Sub-sampling techniques and sample preparation	● *If core, whether cut or sawn and whether quarter, half or all* ● *If non-core, whether riffled, tube sampled, rotary split, etc an* ● *For all sample types, the nature, quality and appropriateness* ● *Quality control procedures adopted for all sub-sampling stag* ● *Measures taken to ensure that the sampling is representativ* ● *Whether sample sizes are appropriate to the grain size of th*

Quality of assay data and laboratory tests	● *The nature, quality and appropriateness of the assaying and* ● *For geophysical tools, spectrometers, handheld XRF instrum* ● *Nature of quality control procedures adopted (eg standards,*

Verification of sampling and assaying	● *The verification of significant intersections by either indepen* ● *The use of twinned holes.* ● *Documentation of primary data, data entry procedures, data* ● *Discuss any adjustment to assay data.*
Location of data points	● *Accuracy and quality of surveys used to locate drill holes (co* ● *Specification of the grid system used.* ● *Quality and adequacy of topographic control.*
Data spacing and distribution	● *Data spacing for reporting of Exploration Results.* ● *Whether the data spacing and distribution is sufficient to est* ● *Whether sample compositing has been applied.*
Orientation of data in relation to geological structure	● *Whether the orientation of sampling achieves unbiased sam* ● *If the relationship between the drilling orientation and the ori*

Sample security	● *The measures taken to ensure sample security.*
Audits or reviews	● *The results of any audits or reviews of sampling techniques*

Section 2 Reporting of Exploration Results

Criteria	JORC Code Explanation
Mineral tenement and land tenure status	● *Type, reference name/number, location and ow* ● *The security of the tenure held at the time of re*
Exploration done by other parties	● *Acknowledgment and appraisal of exploration b*

Geology	● *Deposit type, geological setting and style of mi*
Drill hole Information	● *A summary of all information material to the un* ● *easting and northing of the drill hole colla* ● *elevation or RL (Reduced Level –* ● *dip and azimuth of the hole.* ● *down hole length and interception depth.* ● *hole length.* ● *If the exclusion of this information is justified or*
Data aggregation methods	● *In reporting Exploration Results, weighting ave* ● *Where aggregate intercepts incorporate short l* ● *The assumptions used for any reporting of met*
Relationship between mineralisation widths and intercept lengths	● *These relationships are particularly important i* ● *If the geometry of the mineralisation with respe* ● *If it is not known and only the down hole length*
Diagrams	● *Appropriate maps and sections (with scales) a*
Balanced reporting	● *Where comprehensive reporting of all Explorati*
Other substantive exploration data	● *Other exploration data, if meaningful and mate*
Further work	● *The nature and scale of planned further work (e* ● *Diagrams clearly highlighting the areas of poss*

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code Explanation

Database integrity	● *Measures taken to ensure that data has not been corrupted by, for e* ● *Data validation procedures used.*
Site visits	● *Comment on any site visits undertaken by the Competent Person an* ● *If no site visits have been undertaken indicate why this is the case.*
Geological interpretation	● *Confidence in (or conversely, the uncertainty of) the geological interp* ● *Nature of the data used and of any assumptions made.* ● *The effect, if any, of alternative interpretations on Mineral Resource e* ● *The use of geology in guiding and controlling Mineral Resource estim* ● *The factors affecting continuity both of grade and geology.*
Dimensions	● *The extent and variability of the Mineral Resource expressed as leng*
Estimation and modelling techniques	● *The nature and appropriateness of the estimation technique(s) applie* ● *The availability of check estimates, previous estimates and/or mine p* ● *The assumptions made regarding recovery of by-products.* ● *Estimation of deleterious elements or other non-grade variables of ec* ● *In the case of block model interpolation, the block size in relation to t* ● *Any assumptions behind modelling of selective mining units.* ● *Any assumptions about correlation between variables.* ● *Description of how the geological interpretation was used to control t* ● *Discussion of basis for using or not using grade cutting or capping.* ● *The process of validation, the checking process used, the compariso*
Moisture	● *Whether the tonnages are estimated on a dry basis or with natural m*

Cut-off parameters	● *The basis of the adopted cut-off grade(s) or quality parameters appli*
Mining factors or assumptions	● *Assumptions made regarding possible mining methods, minimum mi*
Metallurgical factors or assumptions	● *The basis for assumptions or predictions regarding metallurgical ame*
Environmental factors or assumptions	● *Assumptions made regarding possible waste and process residue di*

Bulk density	● *Whether assumed or determined. If assumed, the basis for the assu* ● *The bulk density for bulk material must have been measured by meth* ● *Discuss assumptions for bulk density estimates used in the evaluatio*
Classification	● *The basis for the classification of the Mineral Resources into varying* ● *Whether appropriate account has been taken of all relevant factors (* ● *Whether the result appropriately reflects the Competent Person&rsqu*
Audits or reviews	● *The results of any audits or reviews of Mineral Resource estimates.*
Discussion of relative accuracy/ confidence	● *Where appropriate a statement of the relative accuracy and confiden* ● *The statement should specify whether it relates to global or local esti* ● *These statements of relative accuracy and confidence of the estimat*

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in section 2 and 3, also apply to this section.)

Criteria	JORC Code Explanation
Mineral Resource estimate for conversion to Ore Reserves	● *Description of the Mineral Resource estimate used as* ● *Clear statement as to whether the Mineral Resources*
Site visits	● *Comment on any site visits undertaken by the Compe* ● *If no site visits have been undertaken indicate why th*

Study status	● *The type and level of study undertaken to enable Min* ● *The Code requires that a study to at least Pre-Feasib*
Cut-off parameters	● *The basis of the cut-off grade(s) or quality parameter*
Mining factors or assumptions	● *The method and assumptions used as reported in the* ● *The choice, nature and appropriateness of the select* ● *The assumptions made regarding geotechnical paran* ● *The major assumptions made and Mineral Resource* ● *The mining dilution factors used.* ● *The mining recovery factors used.* ● *Any minimum mining widths used.* ● *The manner in which Inferred Mineral Resources are* ● *The infrastructure requirements of the selected minin*
Metallurgical factors or assumptions	● *The metallurgical process proposed and the appropri* ● *Whether the metallurgical process is well-tested tech* ● *The nature, amount and representativeness of metall* ● *Any assumptions or allowances made for deleterious* ● *The existence of any bulk sample or pilot scale test w* ● *For minerals that are defined by a specification, has t*

Environmental	● *The status of studies of potential environmental impa*
Infrastructure	● *The existence of appropriate infrastructure: availabilit*
Costs	● *The derivation of, or assumptions made, regarding pr* ● *The methodology used to estimate operating costs.* ● *Allowances made for the content of deleterious elem* ● *The source of exchange rates used in the study.* ● *Derivation of transportation charges.* ● *The basis for forecasting or source of treatment and* ● *The allowances made for royalties payable, both Gov*
Revenue factors	● *The derivation of, or assumptions made regarding re* ● *The derivation of assumptions made of metal or com*
Market assessment	● *The demand, supply and stock situation for the partic* ● *A customer and competitor analysis along with the id* ● *Price and volume forecasts and the basis for these fo* ● *For industrial minerals the customer specification, tes*
Economic	● *The inputs to the economic analysis to produce the n* ● *NPV ranges and sensitivity to variations in the signifi*

Social	● *The status of agreements with key stakeholders and*
Other	● *To the extent relevant, the impact of the following on* ● *Any identified material naturally occurring risks.* ● *The status of material legal agreements and marketin* ● *The status of governmental agreements and approva*
Classification	● The basis for the classification of the Ore Reserves in ● Whether the result appropriately reflects the Compete ● The proportion of Probable Ore Reserves that have b
Audits or reviews	● The results of any audits or reviews of Ore Reserve e
Discussion of relative accuracy/ confidence	● *Where appropriate a statement of the relative accura* ● *The statement should specify whether it relates to glo* ● *Accuracy and confidence discussions should extend* ● *It is recognised that this may not be possible or appro*

[1] Company estimate - assumes NCM811 or similar chemistry, an average 40-50kWh pack per EV and

continued trend improvements in cathode active material energy density.

[2] Average post-tax free cashflow years 2-25

[3] Ungeared net present value calculated using real 8% discount rate

[4] AUD/USD 0.70 exchange rate applied for life of mine

[5] C1 Cash Cost includes mining, processing, site overheads (including administration), haulage and port charges

[6] By-products include cobalt, scandium oxide and ammonium sulphate

[7] A number of alternate economic assumptions were adopted for other purposes including as modifying factors for the estimation of resources and reserves as detailed in Appendix A. The adoption of alternate economic assumptions is appropriate in the context of those specific purposes.

[8] Although the plant design allows production to be flexed up to these levels for either cobalt or nickel in any given year, overall refining capacity is limited to a total combined maximum of 30,000 tonnes per annum metal equivalent production

[9] The optimised mine plan involves stockpiling of intermediate material in early years for processing in later years.

[10] Figure represents total ore mined over life of mine averaged over the 24 year period. In reality, mining ceases in year 18 and from year 19 ore is reclaimed from stockpiles of ore mined in earlier years

[11] Scandium is recovered as a by-product of nickel and cobalt production initially as a scandium hydroxide concentrate which is stored on-site until required for conversion to scandium oxide. The figures quoted are scandium oxide (Sc_2O_3) equivalent.

[12] Scandium hydroxide stored on-site is refined and sold to order. The Company has assumed sales of scandium oxide will ramp-up progressively from 2 tonnes per annum in Year 3 to 20 tonnes per annum by Year 10.

[13] Assumes AUD/USD 0.70

[14] Based on average annual forecast nickel and cobalt production rates over the life of mine

[15] Real post-tax ungeared

Photos accompanying this announcement are available at

https://www.globenewswire.com/NewsRoom/AttachmentNg/2a21fa7b-4001-4b43-abeb-4cecf5d003be

https://www.globenewswire.com/NewsRoom/AttachmentNg/e5e2efcb-5732-4e16-b408-af812f94d2ad

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