



QEM

ASX : QEM

Advancing the **Julia Creek Vanadium and Energy Project**

2024 AGM, November 20, 2024

"We would like to acknowledge the Wunumara people as Traditional Owners and their custodianship of the lands on which QEM operates its Julia Creek Project.
We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country.
We recognise their valuable contributions to Australian and global society."

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Disclaimer

Refer to QEM Limited ASX announcement 27 August 2024 for full details of the Julia Creek Project Scoping Study (including all relevant material assumptions). QEM confirms that it is not aware of any new information or data that materially affects the information included in the relevant announcement and that all material assumptions and technical parameters underpinning the forecast financial information and production target in the relevant announcement continue to apply and have not materially changed.

Scoping Study Cautionary Statement

The Scoping Study referred to in this presentation was undertaken for the purpose of initial evaluation of the potential for development of a series of an open pit and processing facilities at the Julia Creek Project. It is a preliminary technical and economic study of the potential viability of the Julia Creek Project.

The Scoping Study is based on low level technical and economic assessments (+/- 40% accuracy) that are not sufficient to support the estimation of Ore Reserves or to provide assurance of an economic development case at this stage or to provide certainty that the conclusions of the Scoping Study will be realised. Further exploration and evaluation work and appropriate studies are required before QEM will be able to estimate any Ore Reserves or to provide any assurance of an economic development case.

The Scoping Study is based on the material assumptions outlined in the Scoping Study. These include assumptions about the availability of funding. While QEM considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. To achieve the range of outcomes indicated in the Scoping Study, funding of in the order of \$744 million excluding contingency costs and indirect costs such as owner's costs and EPCM (inclusive of these elements, the pre-production capital expenditure is \$1,095 million) will likely be required. Investors should note that there is no certainty that the Company will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of QEM's existing shares.

Given the scale of the pre-production capital expenditure required, it is likely that QEM will need to access multiple streams of funding opportunities and/or partnering opportunities in order to support the pre-production capital expenditure, which may include a combination of project debt, equity capital, offtake prepayment, farm-in, joint venture and other appropriate initiatives.

It is also possible that QEM could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce the Company's proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

Competent Persons and Qualified Estimator Statements

The information in this announcement that relates to exploration results, mineral resource and contingent resource estimates for the Company's Julia Creek Project was first reported by the Company in its IPO prospectus dated 20 August 2018 and supplementary prospectus dated 12 September 2018 (together, the "Prospectus") and the subsequent resource upgrade announcements ("Resource Upgrades") dated 14 October 2018, 7 April 2022 and February 2024. The Company confirms that it is not aware of any new information or data that materially affects the information included in the Prospectus and Resource Upgrades, and in the case of estimates of Mineral Resources and Contingent Resources, that all material assumptions and technical parameters underpinning the estimates in the Prospectus and Resource Upgrades continue to apply and have not materially changed.

2024 - Achievements & Milestones



Excellent progress made throughout 2024

Jan	Renewable energy project sale to Enel Green Power Australia
Feb	First high purity V2O5 produced from industrial waste
Mar	Significant JORC resource upgrade for both commodities
Jul	Critical Minerals Development Zone established at Julia Creek/Richmond QEM Annual ESG & Materiality Report released reflecting on ten consecutive months of reporting
Aug	Scoping Study released showing attractive project economics. NPV (8%) AUD \$1,106M Application made for Coordinated Project Status (State Government)
Sept	EPBC referral submitted (Commonwealth Government) Advanced test work underway with University of Queensland
Oct	Successful rights Issue and capital raise for \$2.76m Advanced beneficiation test work underway with Core Resources.

2024 Update - JORC and SPE-PRMS Resources



One of the world's largest single vanadium resources with significant oil resource.



Vanadium Resource

Indicated JORC Resource increased by 28% to 461Mt V_2O_5 ie. half of Qld's known resource



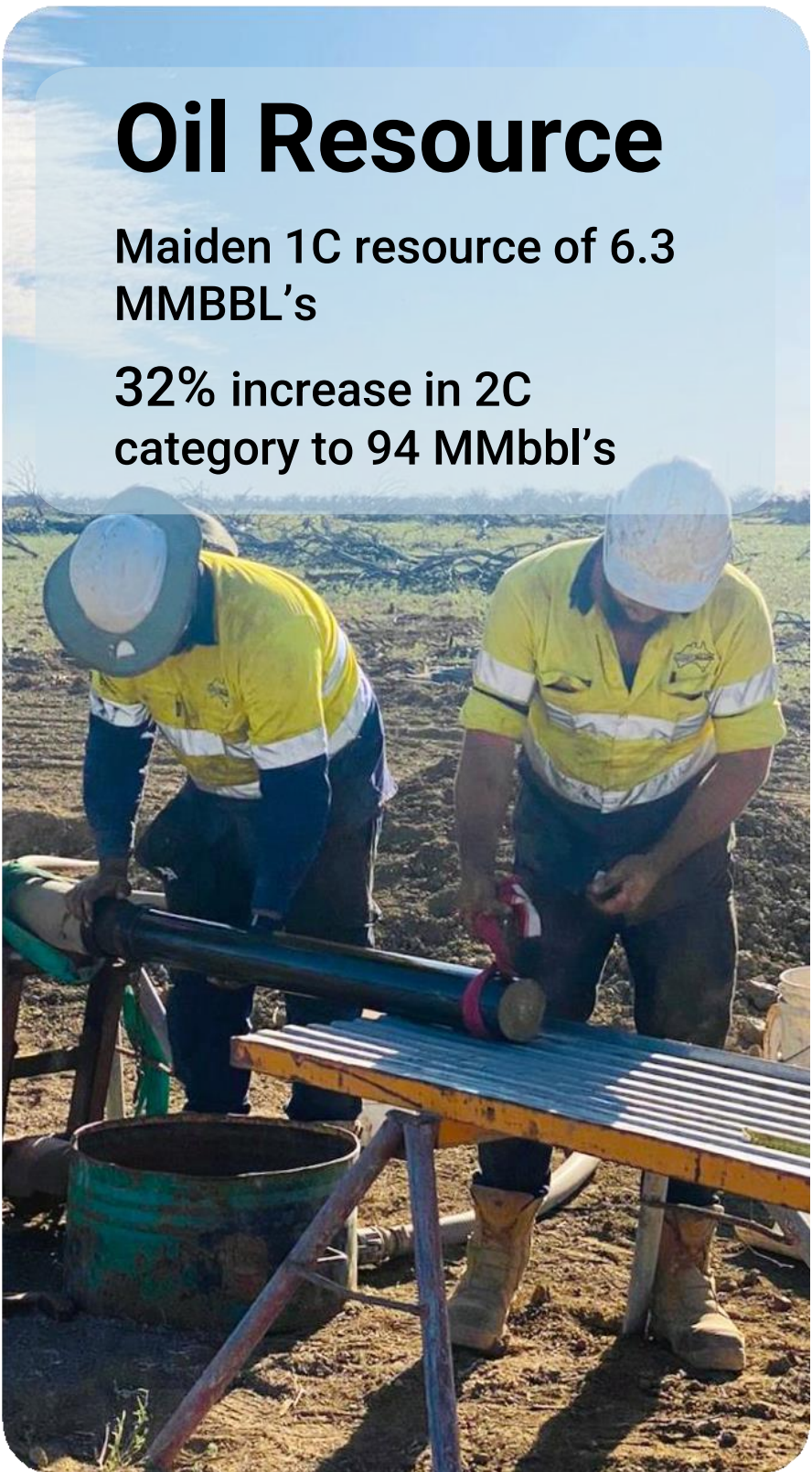
2,870 Mt

Inferred @ Ave V_2O_5 ore content of 0.31%



461 Mt

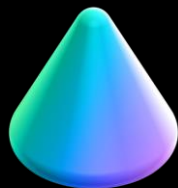
Indicated @ Ave V_2O_5 ore content of 0.29%



Oil Resource

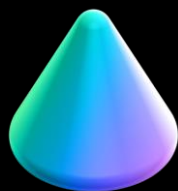
Maiden 1C resource of 6.3 MMBBL's

32% increase in 2C category to 94 MMBbl's



654 MMBbl's

3C 626 MMBbl's (SPE-PRMS) (recoverable @ 90%)



94 MMBbl's

2C 71MMbbl's (SPE-PRMS) (recoverable @ 90%)

Refer to QEM ASX Announcement dated 4 March 2024. QEM confirms that it is not aware of any new information or data that materially affects the information included in the relevant announcement, and all material assumptions and technical parameters underpinning the mineral resource estimates in the relevant announcement continue to apply and have not materially changed.

2024 Scoping Study Highlights



Post - Tax
NPV (8%):

AUD **1,106M**

IRR:

16.3%

Payback
Period:

5 Years

Pre - production
CAPEX
(ex-contingency,
owners' costs & EPCM)

AUD **791M**

Life of Mine:

30 Years

ROM:

5.1Mt (dry)

Annual
Production:

10,571 tonnes V_2O_5
313M litres of fuel

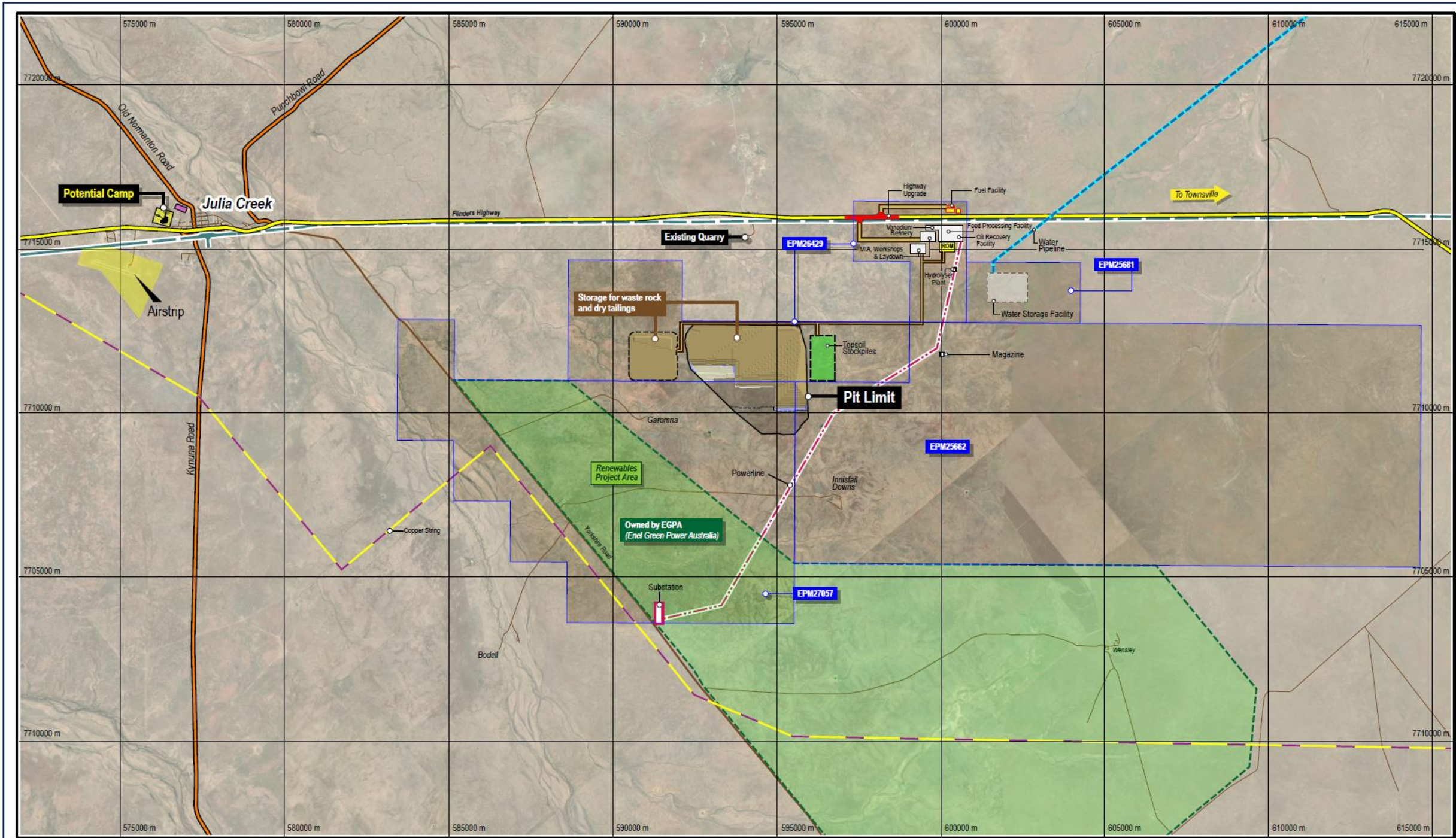
Total Projected
Revenue:

V_2O_5 : \$11.5B
Fuel : \$10.1B

Refer to ASX announcement dated 27 August 2024 and the following slide for further information. QEM confirms that it is not aware of any new information or data that materially affects the information included in the relevant announcement and that all material assumptions and technical parameters underpinning the forecast financial information and production target in the relevant announcement continue to apply and have not materially changed.

Julia Creek Vanadium and Energy Project

4 EPM's covering 250km2 in Queensland's NWMP. Well located on major infrastructure corridor, including Copperstring access.



LEGEND

EPM Boundary

Rail

Highway

Secondary Highway

Road

Haul Road

Copper String

0 2 4km

DO NOT SCALE THIS DRAWING - USE FIGURED DIMENSIONS ONLY. VERIFY ALL DIMENSIONS ON SITE. NOT FOR CONSTRUCTION. ILLUSTRATIVE PURPOSES ONLY.

CLIENT

PROJECT

NAME

JULIA CREEK SCOPING STUDY

DRAWING

PROJECT LOCATION

FIGURE No.

2-1

PROJECT No.

ADV-AU-00503

Date

August 2024

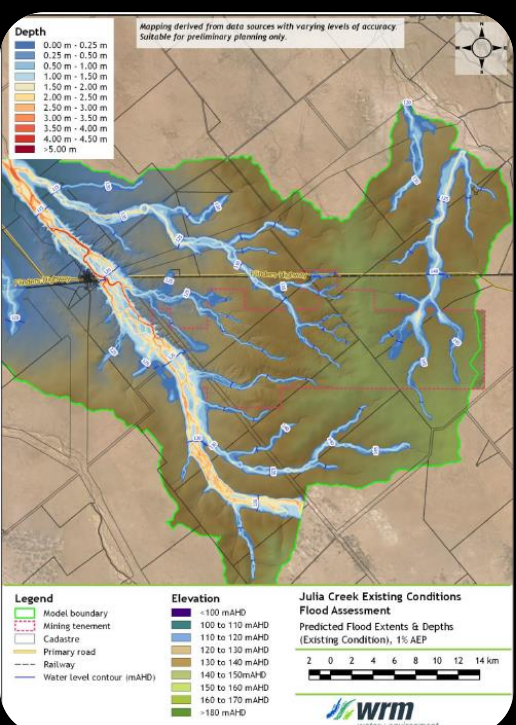
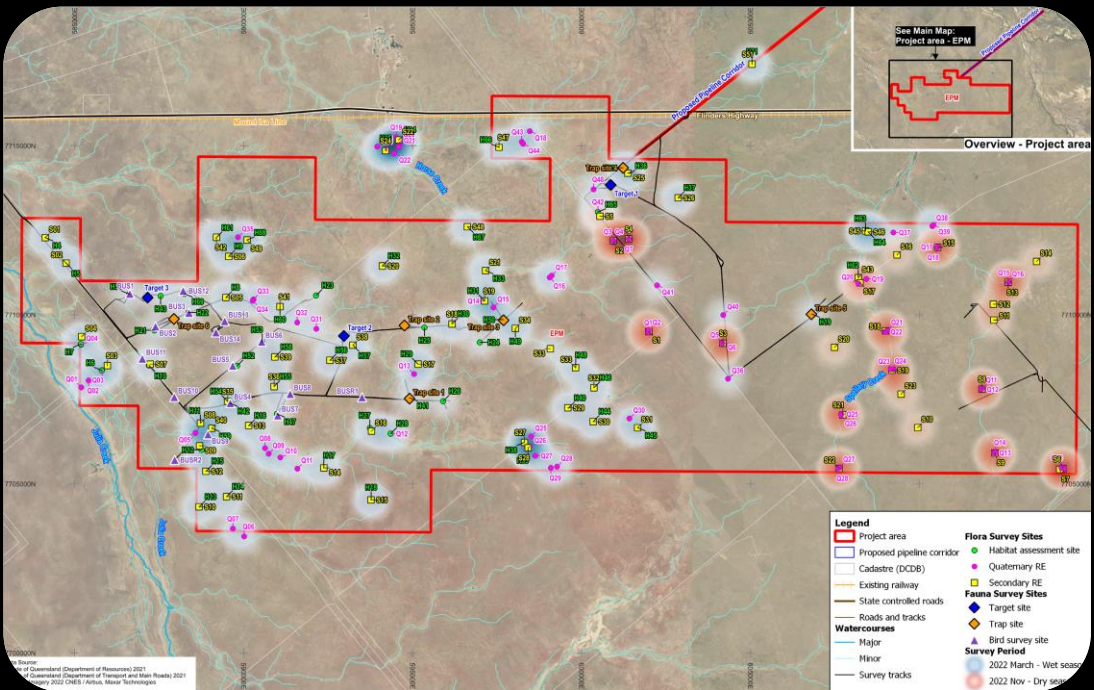
Source: QEM Scoping Study ASX Announcement, 27 August 2024

Environmental Progress

Environmental Studies Underway

Work Undertaken includes:

- A 12-month ground and surface water baseline monitoring assessment has been completed.
- Two ecological flora and fauna field surveys. This data was captured and used as part of the company's Ecological Assessment Report (EAR).
- Waste Characterisation studies are currently underway.
- Topographic survey of the entire 250km² tenement.
- A flood modelling study has recently been completed which included 5 design AEP events ranging from AEP 10% to 0.1%, along with two historical flood events (1994 & 2019).
- Initial Advice Statement submitted to the OCG office for assessment.



Vanadium Global Production

Market set for strong growth driven by LDES of 4-10 hours+ - VFB

Market expected to reach
\$2.36 Billion
in 2025 at CAGR of 10.2%

VFB demand expected to equate
~25% of vanadium market
by 2040 currently only ~ 4% (CRU- 17
Nov 2022)

Global Production 2023
125,190 MTV*
85% of supply from China,
Russia & South Africa (vanitec
2024)

Australia holds
31% of undeveloped
global reserves BUT has no
domestic production – YET!

Vanadium Listed as
Critical Mineral
in Aust, US, EU and Japan

Global Vanadium demand
200% Increase by 2050
5th highest growth market in
critical minerals according to the
World Bank- Minerals for Climate Action

* MTV is Metric Tonne Unit of Vanadium

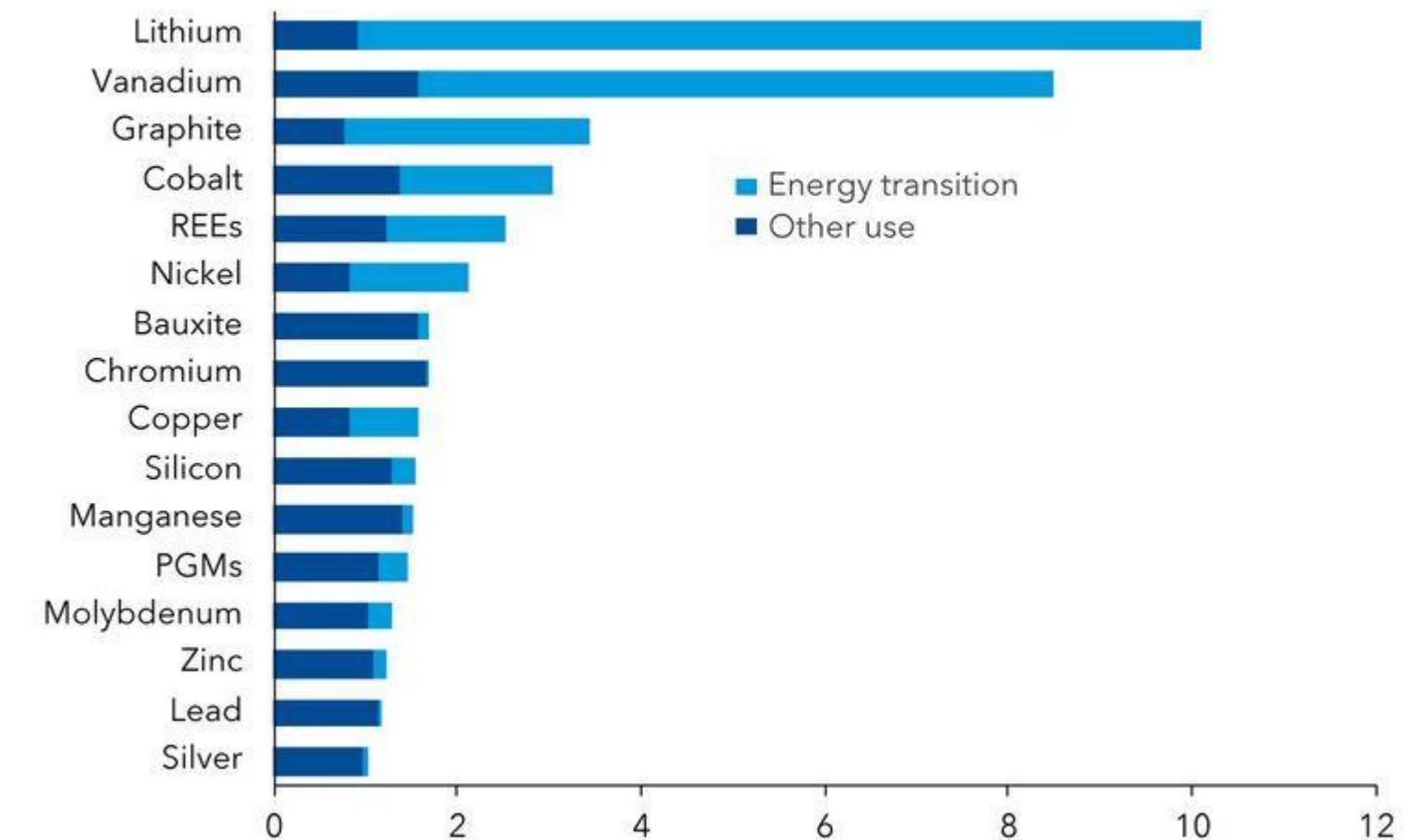


IMF predicts 8-fold surge in Vanadium Demand by 2050

A critical surge

Global demand for energy transition minerals will increase significantly in the coming decades.

Ratio of 2050 to 2022 demand under a net zero emissions scenario



Sources: International Energy Agency (IEA) World Energy Outlook (2023); and IMF staff calculations.

Note: The chart shows the IEA's projected increase in mineral demand (in quantity terms) broken down by sector as a ratio of 2050 to 2022 demand, under the IEA's net zero emissions transition scenario. REE = Rare Earth Elements; PGMs = Platinum Group Metals.

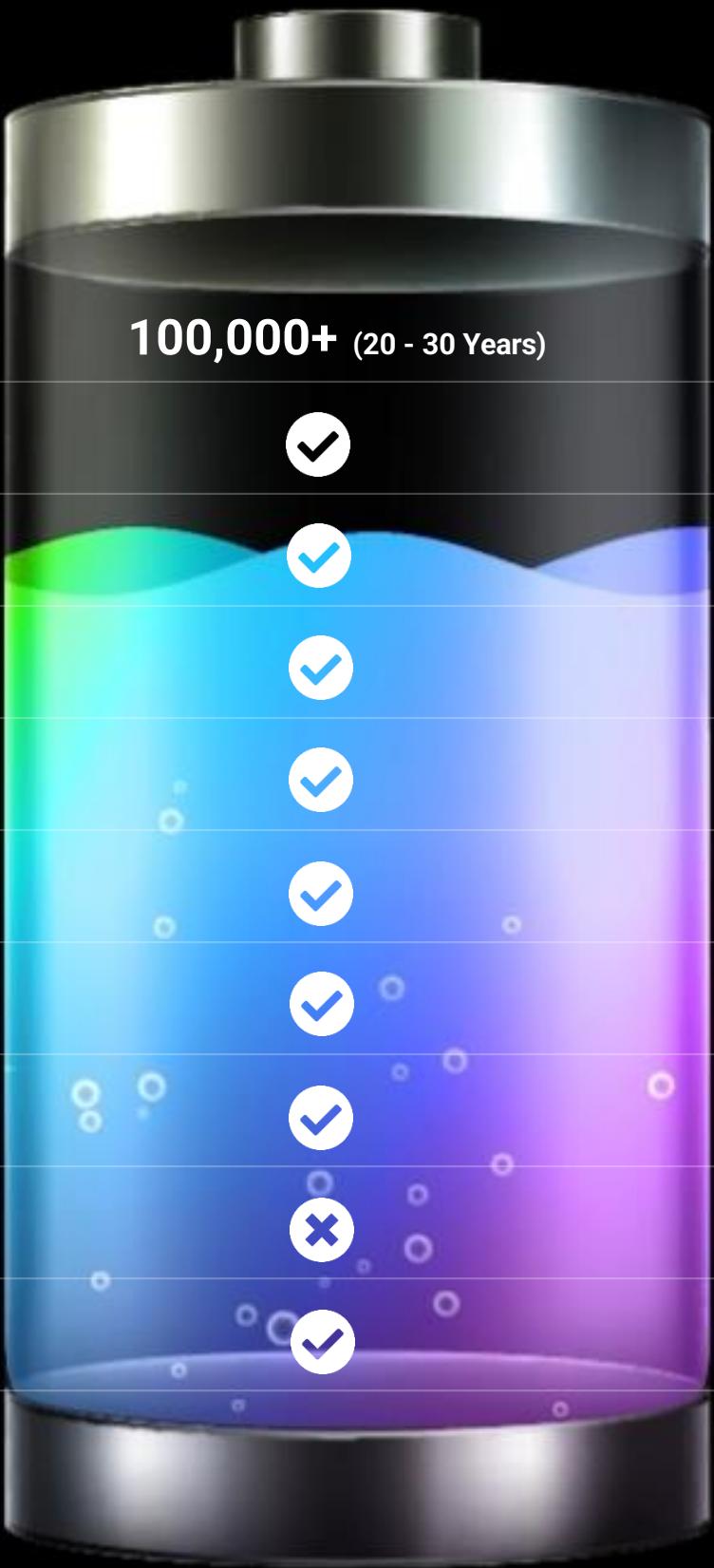
IMF

Renewable Storage

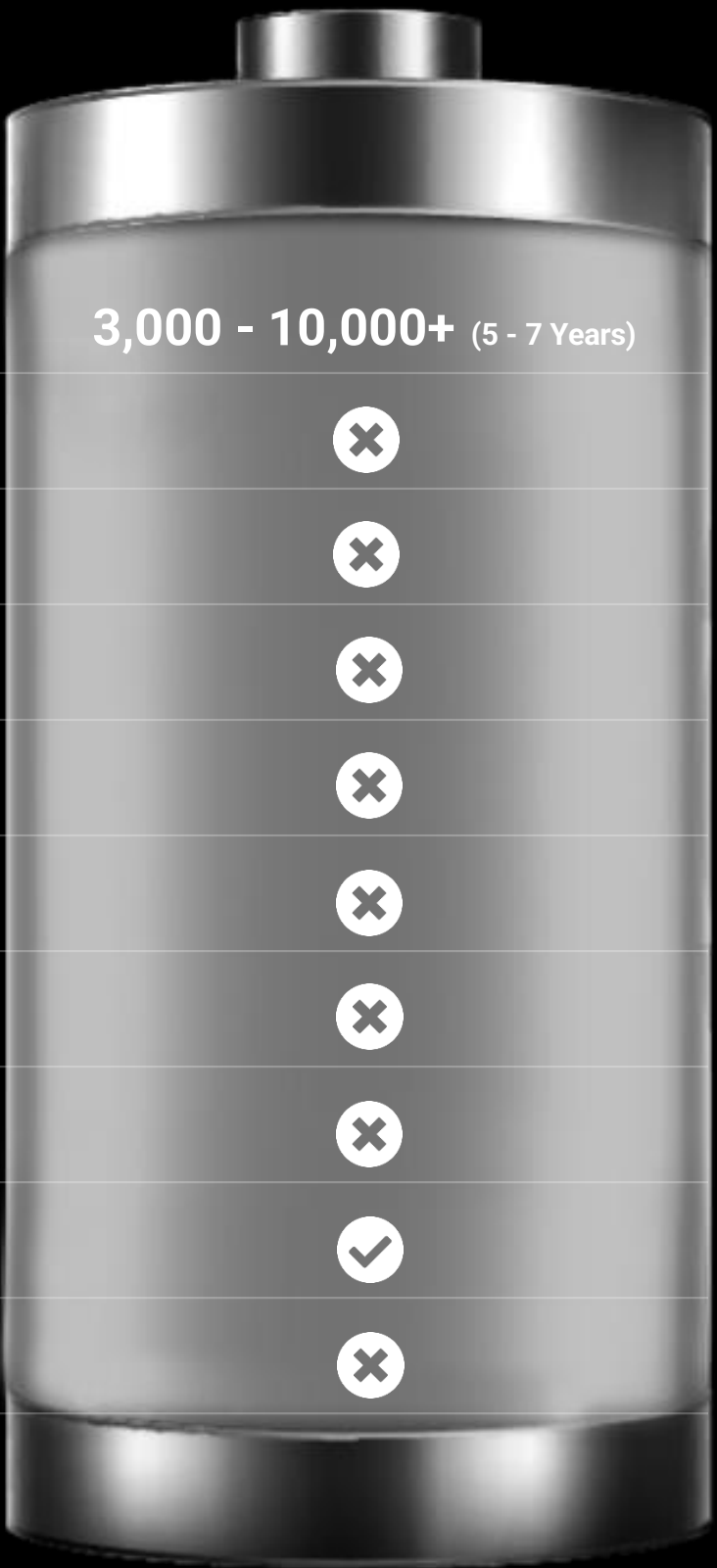
Building a Renewable Future with Vanadium Flow Batteries (VFB)



Vanadium



Lithium



LONG ASSET LIFE - Number of Cycles

Low Self Discharge (Stays Charged)

Long Duration Energy Storage (LDES 4hr+)

Highly Expandable

SAFETY – Non-Flammable, Non-Toxic.

Charges and Discharges Simultaneously

COST - Lower Operating Cost (LCOS)

Suitable for Connection to Power Grid

Small Footprint

Can be Completely Recycled

Source: energyandcapital.com

VFB Global Installations



Approx. 300 large scale VFB projects worldwide under construction or operational (Vanitec 2024)



Examples of Australian VFB installations:



Source: Vanitec.

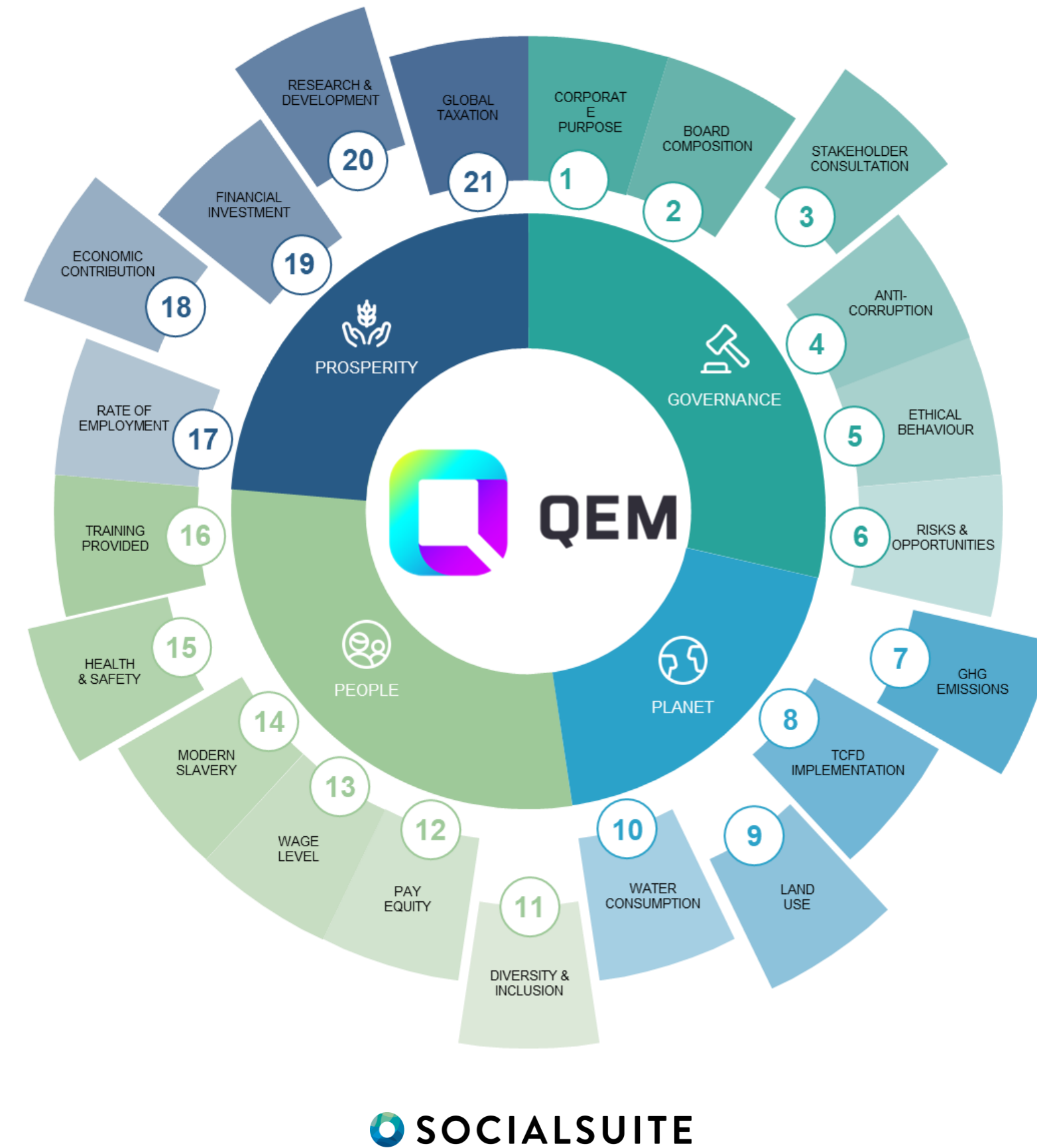
QEM Limited: Full Member of Vanitec since 2016

QEM's ESG UPDATE

Highlights and achievements H1 2024:

- 10th consecutive quarter that QEM is monitoring and disclosing the Company's ESG progress and initiatives via Socialsuite's ESG Go platform.
- QEM's investment in our Julia Creek community – sponsored Dirt N Dust Festival & Saxby Roundup.
- QEM's water monitoring program in Julia Creek continued.
- QEM became a WISER (Women In Sustainable Energy & Resources) Inc. Bronze Partner & sponsored IWD Event.
- Completed inaugural stakeholder Materiality Assessment with updated ESG focus areas (see diagram opposite).
- Completed first full year of offsetting unavoidable GHG emissions through verified carbon credits.
- Updated ESG website dashboard.

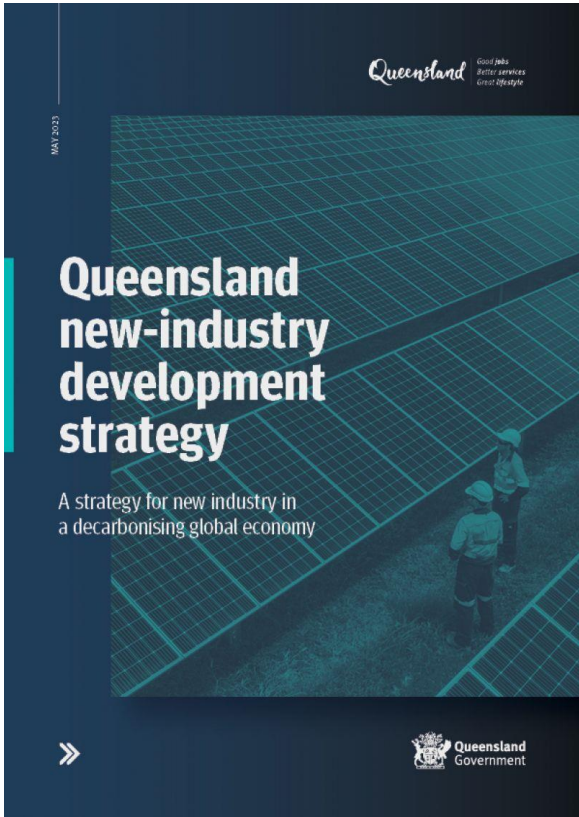
QEM's ESG Focus Areas*



*QEM has adopted the WEF Stakeholder Capitalism Metrics ESG Framework

Strong Government Support

A framework of support across the Value Chain



National Battery Testing Centre



Right Project at Right Time

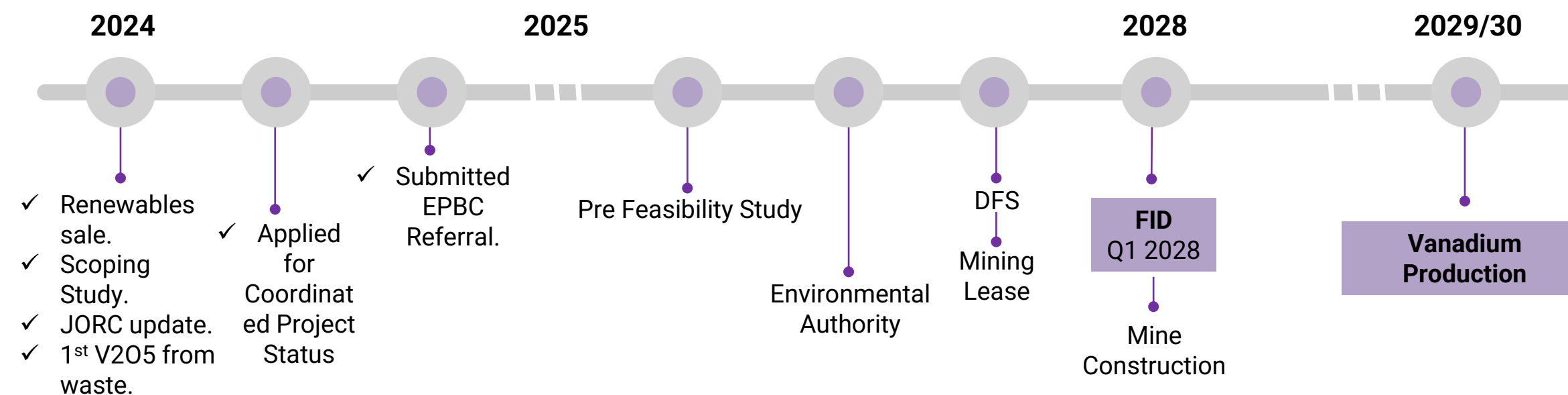
- **Multi Commodity Exposure** in high growth markets
- Globally significant Critical Minerals opportunity
- Domestic Fuel Security
- Strong Government Support- State & Federal

Target milestones to 2026

- Complete MET test work
- Enter Pre-feasibility Study
- Complete Technical Studies for EIS



Project Development





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