

POWERING THE FUTURE

**AUSTRALIA'S EMERGING
MINE-TO-BATTERY
VANADIUM OPPORTUNITY**

CRITICAL MINERALS, ENERGY SECURITY & SOVEREIGN INDUSTRIAL CAPABILITY



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IMPORTANT NOTICE AND DISCLAIMER

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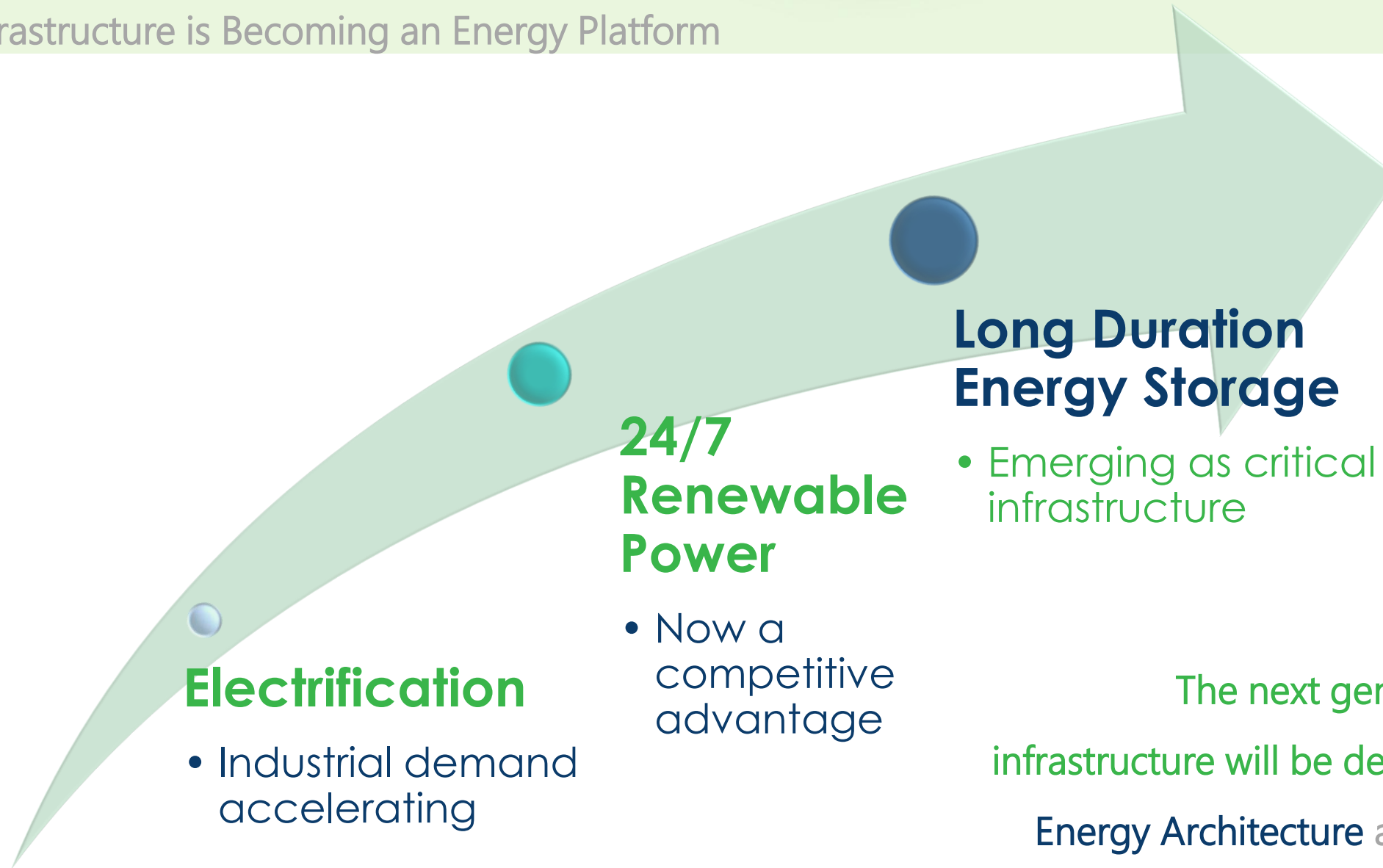
COMPETENT PERSON STATEMENT

Where the Company refers to the results of the Prefeasibility study, the Mineral Resource Estimate and the Ore Reserve Estimate as outlined in this presentation and as disclosed in the Independent Technical Assessment Report in the Company's Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 and released to the ASX on 9 December 2022, it confirms that it is not aware of any new information or data that materially affects the information included in that Report and that all material assumptions, including the forecast financial information, and technical parameters continue to apply and have not materially changed.

Information on historical exploration results and Mineral Resources and Ore Reserves presented in this presentation, together with JORC Table 1 information, is contained in the Company's Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 and released to the ASX on 9 December 2022.

THE GLOBAL SHIFT

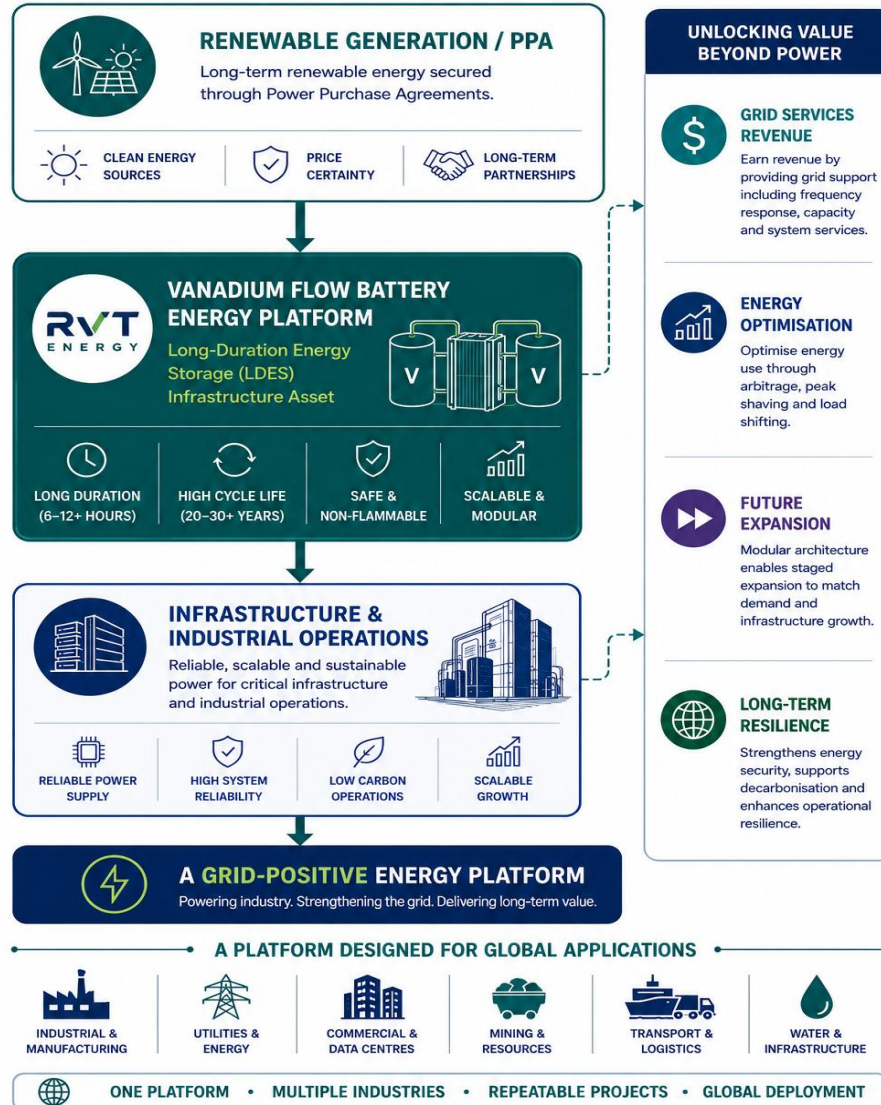
Infrastructure is Becoming an Energy Platform



The next generation of industrial infrastructure will be defined as much by its **Energy Architecture** as its physical assets.

THE GLOBAL SHIFT

Infrastructure is Becoming an Energy Platform



- Infrastructure is changing
- Historically infrastructure consumed electricity
- Tomorrow's infrastructure will:
 - **Generate;**
 - **Store;**
 - **Optimise and**
 - **Participate in Energy Markets.**

That changes investment

THE GRID PROBLEM

Renewables Without Duration Don't Work... Why Vanadium Fits the Shift

LONG-DURATION STORAGE CHANGES THE EQUATION

- Australia will require multiple battery chemistries to support future energy systems
- Lithium has been transformative for mobility
- But long-duration storage increasingly addresses a different problem — grid resilience and industrial continuity
- As grids become more renewable-intensive, duration and reliability become increasingly important
- **Vanadium flow batteries** are particularly relevant where long cycle life and infrastructure resilience matter

WHAT WINS IN 8+ HOUR SYSTEMS?

Attribute	Lithium	Vanadium Flow
Duration sweet spot	2–4 hrs	6–12+ hrs
Degradation	3–5% p.a.	~0%
Replacement cycle	7–10 yrs	20+ yrs
Residual value	Disposal cost	Recyclable asset (99% electrolyte recovery)
Fire Risk	High (thermal runaway)	Zero (non-flammable electrolyte)

This is not about chemistry preference.
It's about duration economics.
Long-duration is not optional.
It is systems resilience.



By leasing vanadium electrolyte,
CAPEX is significantly reduced

DATA CENTRES, SOVEREIGNTY & THE VANADIUM MOMENT

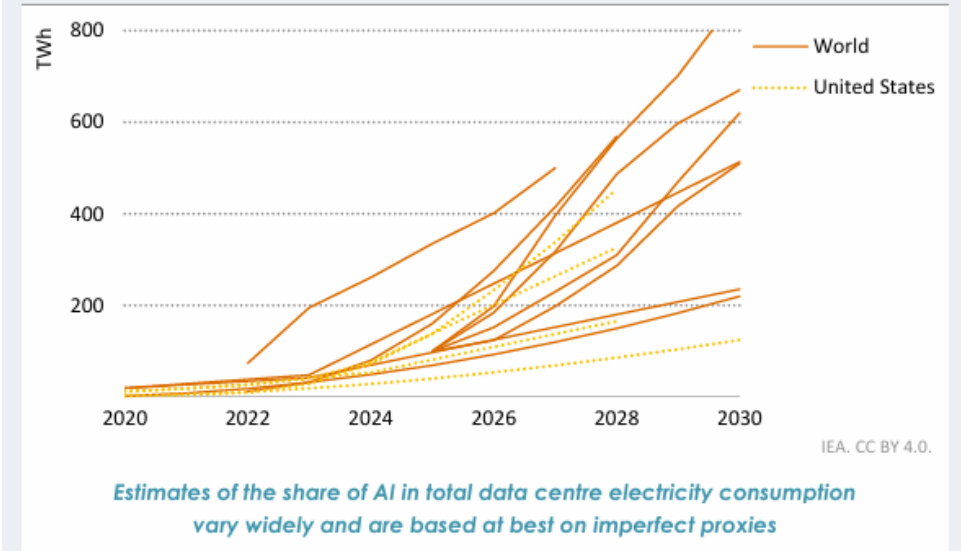
Why Long-Duration Storage Demand Will Reshape Australia's Critical Minerals Supply Chain

THE CONVERGING DEMAND SHOCK..

- Three structural shifts are now converging globally
 - **AI + data centre growth**
 - **Electrification of mining and industry**
 - **Grid stability / transmission constraints**
- AI and data infrastructure are fundamentally changing future power demand
- Mining electrification is increasing pressure on already constrained grids
- Renewables generation is scaling rapidly — but storage duration remains unresolved
- The challenge is no longer simply generating energy It is storing and dispatching it reliably

GLOBAL DATA CENTRE ELECTRICITY DEMAND EXPECTED TO MORE THAN DOUBLE BY 2030

Figure 2.5 ▶ Estimated data centre electricity demand due to AI, 2020-2030



Sources: IEA analysis based on data from Deloitte (2024), Gartner (2024), Goldman Sachs (2024), Schneider Electric (2024), SemiAnalysis (2024), and Shehabi, et al., (2024). www.iea.org

This is not a mining story.

It is a load story.

And load is accelerating...

DATA CENTRES & ENERGY

Reliable power is becoming strategic infrastructure.

INDUSTRIAL DEMAND

- AI/data centres
- compute growth
- defence systems
- electrified mining

REQUIRES

- resilient grids
- long-duration storage
- sovereign energy systems

INDUSTRIAL SCALE DEMAND

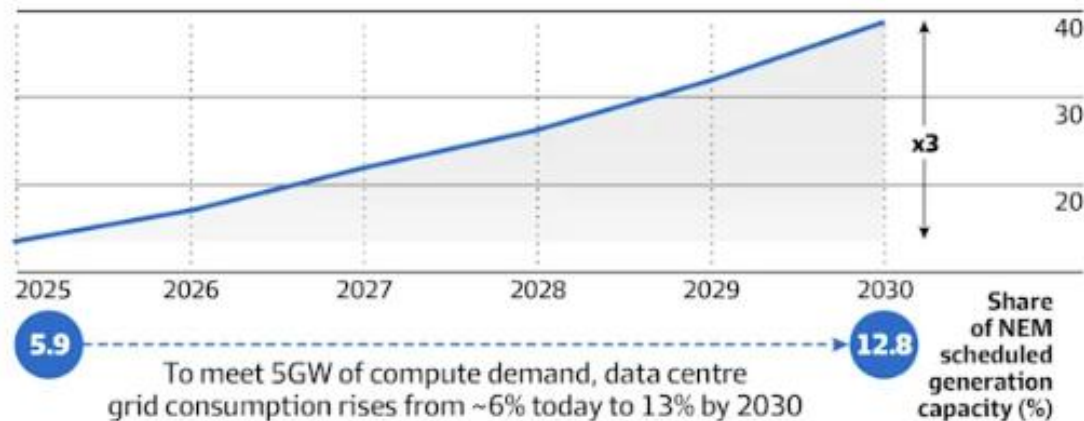
Right now Australia is:

- Talking about AI
- Talking about energy transition
- Talking about superpower status

But we do not have:

- Firm power at scale
- Domestic long-duration supply chain
- Mining approvals complete

Australia data centre grid consumption demand forecast (TWh)



Source: McKinsey and Company Energy Insights and National Electricity Market (NEM) scheduled capacity metrics www.mckinsey.com

Energy Resilience

is rapidly becoming part of
National Resilience

DATA CENTRES & ENERGY SECURITY

Reliable power is becoming strategic infrastructure.



Data centres drive long-duration storage.

One gigawatt AI facility running continuously — requires eight gigawatt hours of storage to firm just eight hours.



Long-duration storage drives electrolyte demand.

Utility-scale deployment of long-duration storage has the potential to materially increase demand for vanadium electrolyte and upstream vanadium supply.



Electrolyte demand drives vanadium production.

5 GWh of long-duration systems to support data centres, Equates to ~40,000 tonnes V_2O_5 demand

- Data **centres** drive demand
- Duration drives storage choice
- Storage choice drives vanadium demand

*The only question left is whether
Australia moves fast enough to
capture it*

As grids become more constrained, duration and reliability increasingly matter

EMERGING LONG-DURATION STORAGE INFRASTRUCTURE

This is Already Happening

Operational

RKP Xinjiang / Jimusar Project, China: 200 MW / 1GWh solar input, utility scale grid balancing infrastructure – the worlds first GWh scale VFB

Deployment Model

TerraFlow / Storion, US:

Data-centre-focused LDUPS
architecture claiming sub-5 ms
response and long-duration VFB
integration



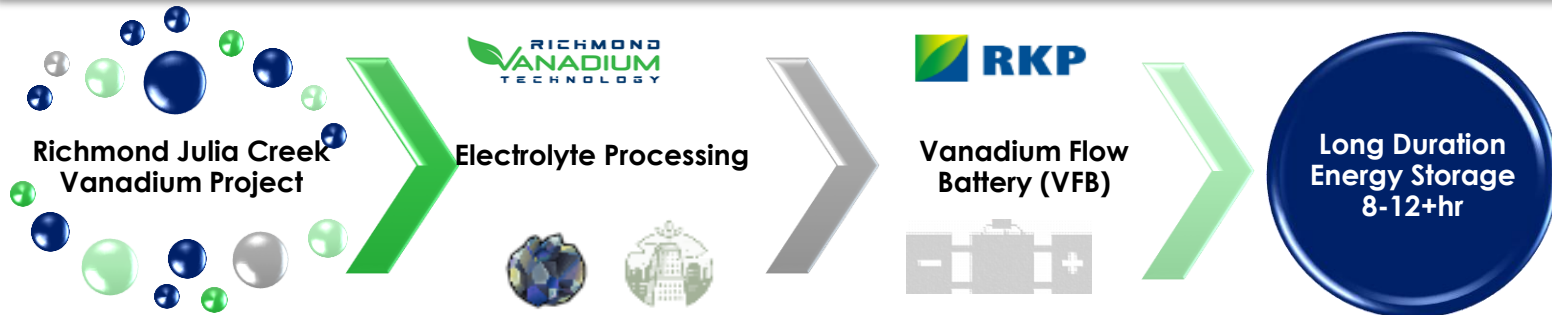
RVT - THE SUPPLY ANCHOR

Why raw material is the key

RVT's "Mine-to-Energy" strategy:

Supporting an integrated Australian vanadium value chain

Integrated "Mine to Battery" energy development concept



Mine → Vanadium Supply → Electrolyte → VFB → Energy System Value Chain

Vanadium concentrate produced from RVT's project and stored in Australia for future electrolyte processing.

Future stages include QLD electrolyte manufacturing and local battery assembly facilities.



- 1 GWh electrolyte plant: 150–300 jobs
- Stack production: 100–200 jobs per GW
- Battery manufacturing: 200–400 jobs per GW

INFRASTRUCTURE DEMAND CREATES VANADIUM DEMAND

This is exactly the building infrastructure that generates, stores, optimises and creates value from energy

One Platform

Multiple Industries

Repeatable Projects

Global Deployment

AUSTRALIA'S EMERGING MINE-TO-BATTERY VANADIUM OPPORTUNITY

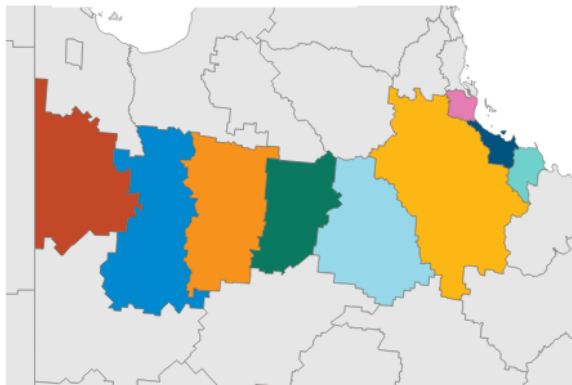
North Queensland's Project Pipeline: Australia's Critical Minerals Supply Chain

- Australia's critical minerals opportunity is no longer just about extraction, it is about energy security, industrial resilience and sovereign capability
- There is a structural shift where mining, energy infrastructure, AI/data infrastructure and sovereign manufacturing are becoming increasingly interconnected

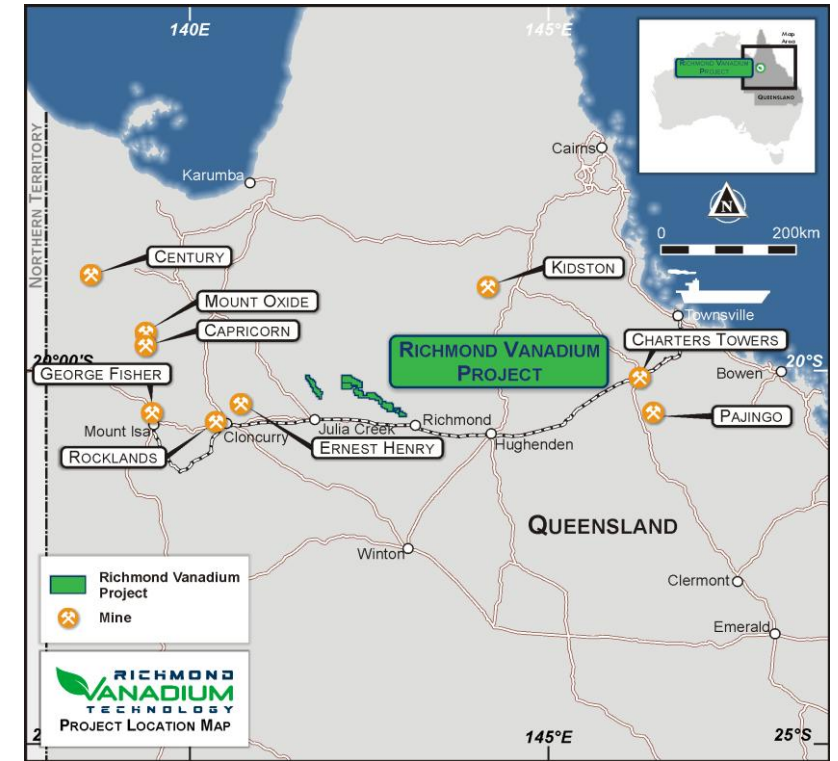
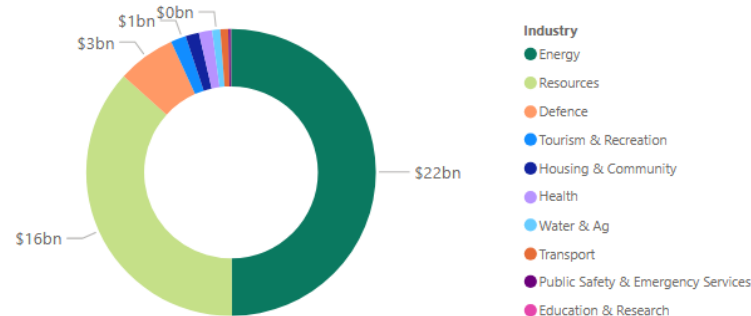
21 Energy Projects | 20 Resource Projects | \$55.2B Investment Pipeline

- RVT's Richmond Julia Creek Vanadium Project sits within the broader North Queensland industrial corridor extending through Townsville
- 1.8Bt Vanadium Project¹ with a completed Pre-Feasibility Study²

● Burdekin
● Charters Towers
● Cloncurry
● Flinders
● Hinchinbrook
● McKinlay
● Mount Isa
● Richmond
● Townsville



Project value (\$M) by Industry



The region is already transitioning into an Energy Infrastructure corridor

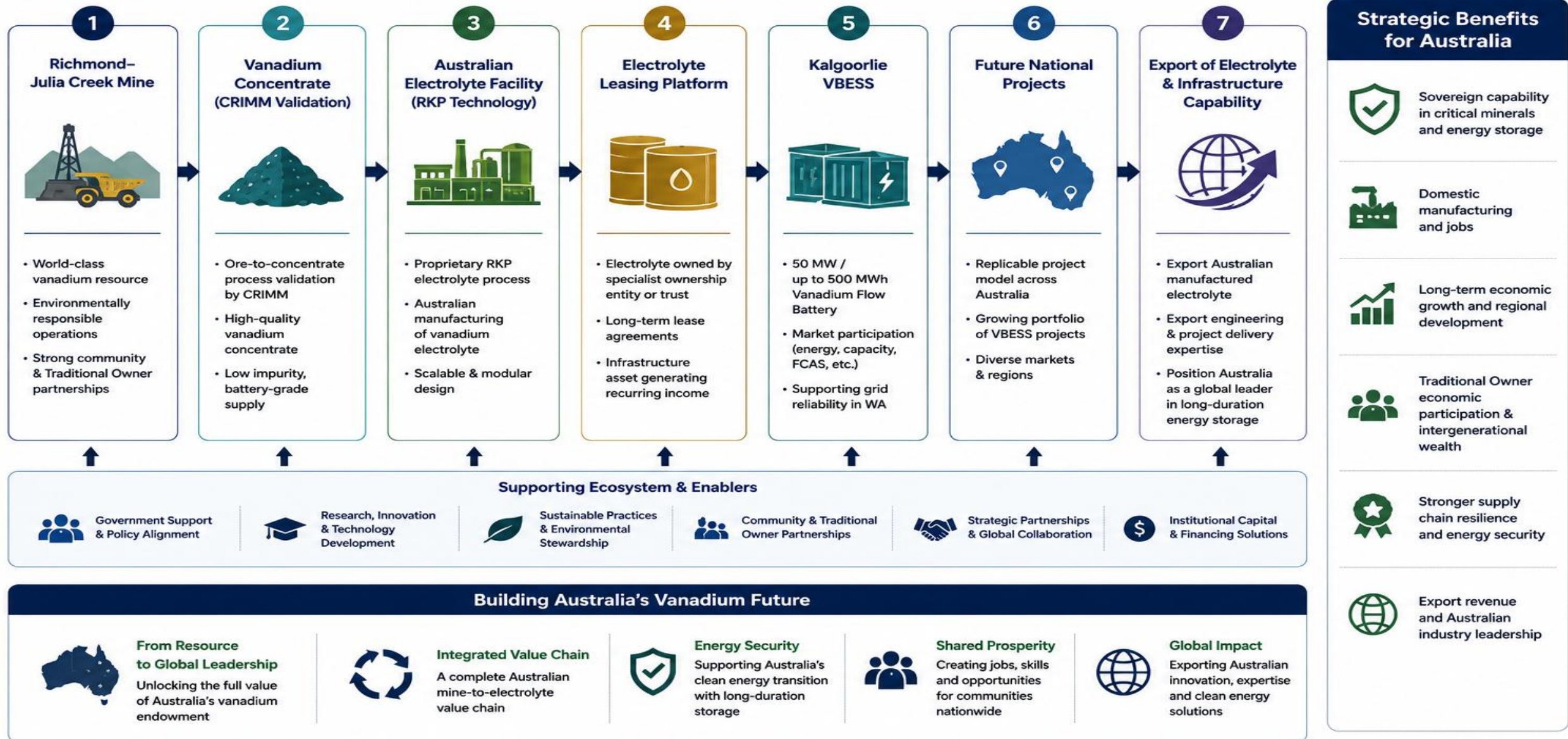
Source: Townsville Enterprise Limited (TEL), North Queensland Project Pipeline / Future Economy investment data 2025 www.townsvilleenterprise.com.au

¹ Richmond Vanadium Technology (RVT) Company Prospectus (14 Oct 2022) and Supplementary Prospectus (21 Oct 2022) released to the ASX on 9 Dec 2022

² Richmond Vanadium Technology (RVT) Independent Technical Assessment Report (ITAR) at Schedule 1 within the 2022 Prospectus filings

EVERY INDUSTRIAL ASSET REQUIRING RELIABLE, RENEWABLE POWER

Becomes a potential deployment opportunity



Brendon Grylls

Executive Chair

Monique Stevens

Company Secretary

Joanne Bergamin

*Communications and
Stakeholder Engagement*

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This presentation has been authorised for release by the
Board of Richmond Vanadium Technology Limited

