VANADIUM FLOW BATTERY

RICHMOND VANADIUM TECHNOLOGY

POWERING THE FUTURE

ASX : RVT

CORPORATE PRESENTATION

February 2026

DATA CENTRES, SOVEREIGNTY & THE VANADIUM MOMENT

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

THE REAL DRIVER: AI + DATA CENTRES

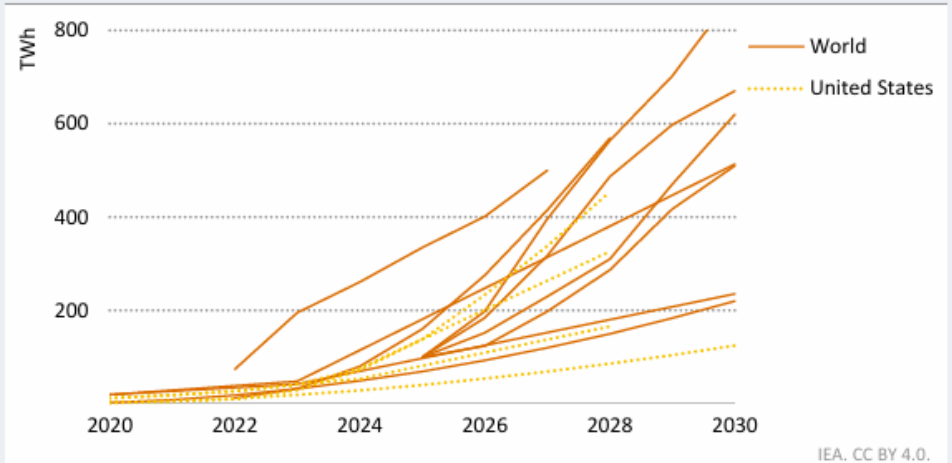
- Australia is entering a structural power demand shift.
- AI-optimised data centres can use 2–10x more power than traditional workloads.
- Australia is positioning as an Asia-Pacific digital hub.

DATA CENTRES REQUIRE:

- 24/7 uptime
- High reliability
- Increasing renewable penetration
- Firming capacity beyond 4 hours

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).

This is not a mining story.

It is a load story.

And load is accelerating…

WHY THIS MATTERS TO AUSTRALIA'S GDP..

Digital infrastructure is becoming core economic infrastructure.

DATA CENTRES UNDERPIN:

- Banking
- Defence
- AI services
- Health systems
- Mining automation

HYPERSCALE OPERATORS CHOOSE JURISDICTIONS BASED ON:

- Mining automation
- Energy reliability
- Cost
- Carbon intensity
- Policy stability

OECD & Australian Productivity Commission modelling highlights digital infrastructure as a primary **GDP multiplier**

THE EXPORT OPPORTUNITY

Five gigawatts of data centre capacity.

One hundred thousand jobs.

One hundred and ninety billion dollars of investment.

Hard truth:

If we can't firm renewables at scale, we lose data centre investment.

THE GRID PROBLEM

Renewables Without Duration Don't Work

WIND AND SOLAR SCALE FAST. RELIABILITY DOES NOT.

- Solar overbuild creates midday oversupply.
- Evening demand peaks remain.
- 2–4 hour lithium systems are built for price arbitrage.
- AI-driven loads require 8+ hour firming.
- LCOS gap widens materially beyond 4 hours.
- 8–12hr systems show 40–60% LCOS advantage for VFB.

The Five Components of Levelized Cost of Storage (LCOS)

CAPEX	O&M	AUGMENTATION / REPLACEMENT	END OF LIFE	EFFICIENCY
Including battery costs, permitting, construction, installation and fire safety.	Including scheduled & unscheduled maintenance, and performance data monitoring & retention.	Includes ongoing costs to recover battery capacity lost to degradation.	Includes recycling, disposal and remediation costs, but also any residual value.	The cost of energy lost to charging & discharging inefficiencies.

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.

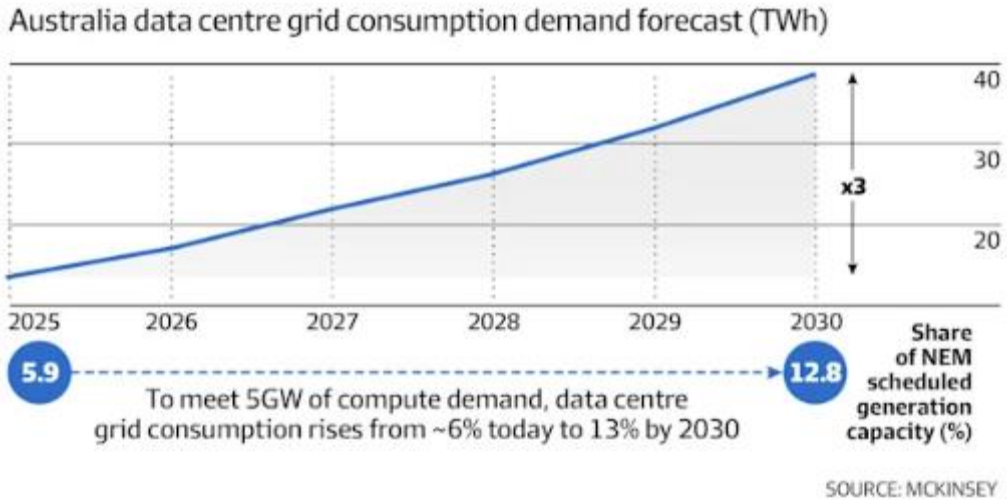
It is structural.

By leasing vanadium electrolyte, CAPEX is significantly reduced

RICHMOND VANADIUM TECHNOLOGY

THE STRUCTURAL DEMAND SHIFT

Why Raw Material is the Key.



Global data centre electricity demand set to more than double by 2030 (IEA)

AI workloads significantly increase energy intensity

Australia positioning as Asia-Pacific digital hub

Jamie Guthrie, an energy partner at law firm Gilbert + Tobin, says Australian developers and financiers have learnt from Singapore and Ireland, which both paused new data centre builds due to grid stress.

"Capital is being priced on the quality of energy contracting, the firmness of supply and the credibility of long-term renewable integration," Guthrie says.

"For institutional investors, data centres are becoming infrastructure-grade only when tied to reliable, clean power."

Data centres are becoming the new smelters of the digital age. They run 24/7. AI doesn't switch off at sunset. If Australia wants to host that infrastructure, we need firm power — not intermittent power.

THE TRIGGER – 1 GWh CHANGES EVERYTHING

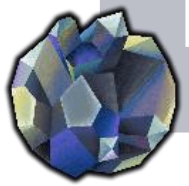
Why Raw Material is the Key.

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.

One gigawatt hour of vanadium flow storage requires roughly eight thousand tonnes of vanadium pentoxide equivalent.



Electrolyte demand drives vanadium production.

Five gigawatt hours — forty thousand tonnes.

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

Vanadium is:

The enabling material for Australia's AI export strategy.

THE TRIGGER – 1 GWh CHANGES EVERYTHING

Why Raw Material is the Key.

INDUSTRIAL SCALE DEMAND

- 1 GWh VFB requires ~8,000 tonnes V_2O_5 equivalent.
- 100MWh+ minimum for economic deployment.
- Industrial trigger level is 1 GWh.

IF AUSTRALIA DEPLOYS:

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

That is a structural offtake anchor.

SUPPLY CHAIN

- Electrolyte production economics improve dramatically with local V_2O_5 supply.
- 1 GWh electrolyte plant:
  - 150–300 jobs
  - ~USD 230m revenue
- Stack production:
  - 100–200 jobs per GW
- • Battery manufacturing:
  - 200–400 jobs per GW

If we remain “dig and ship”,
we miss the industrial multiplier.

RICHMOND VANADIUM TECHNOLOGY

NOW OR NEVER.. AI Compute Could Be the Next Iron Ore

AI Factories = Export Industry?

Without mining lease:
No electrolyte.
No sovereign supply.
No scalable LDES.
No industrial certainty for data centres.
Tie to:
WA deployment.
Federal Critical Minerals Production Tax Incentive.
Future Made in Australia objectives.

Right now Australia is:

- Talking about AI

  Talking about energy transition

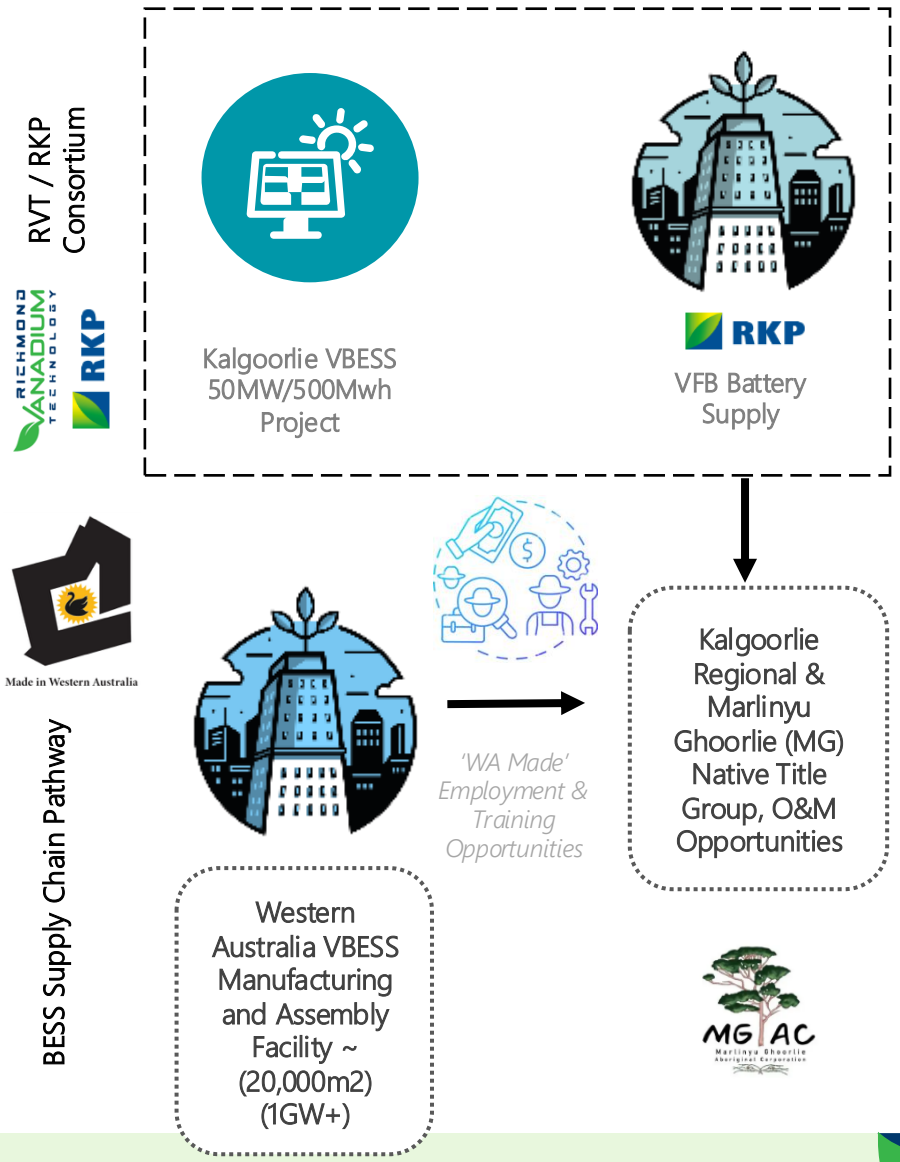
  Talking about superpower status

But we do not have:

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

Hard truth:

If we can't firm renewables at scale, we lose data centre investment.



Marlinyu Ghoorlie Opportunity

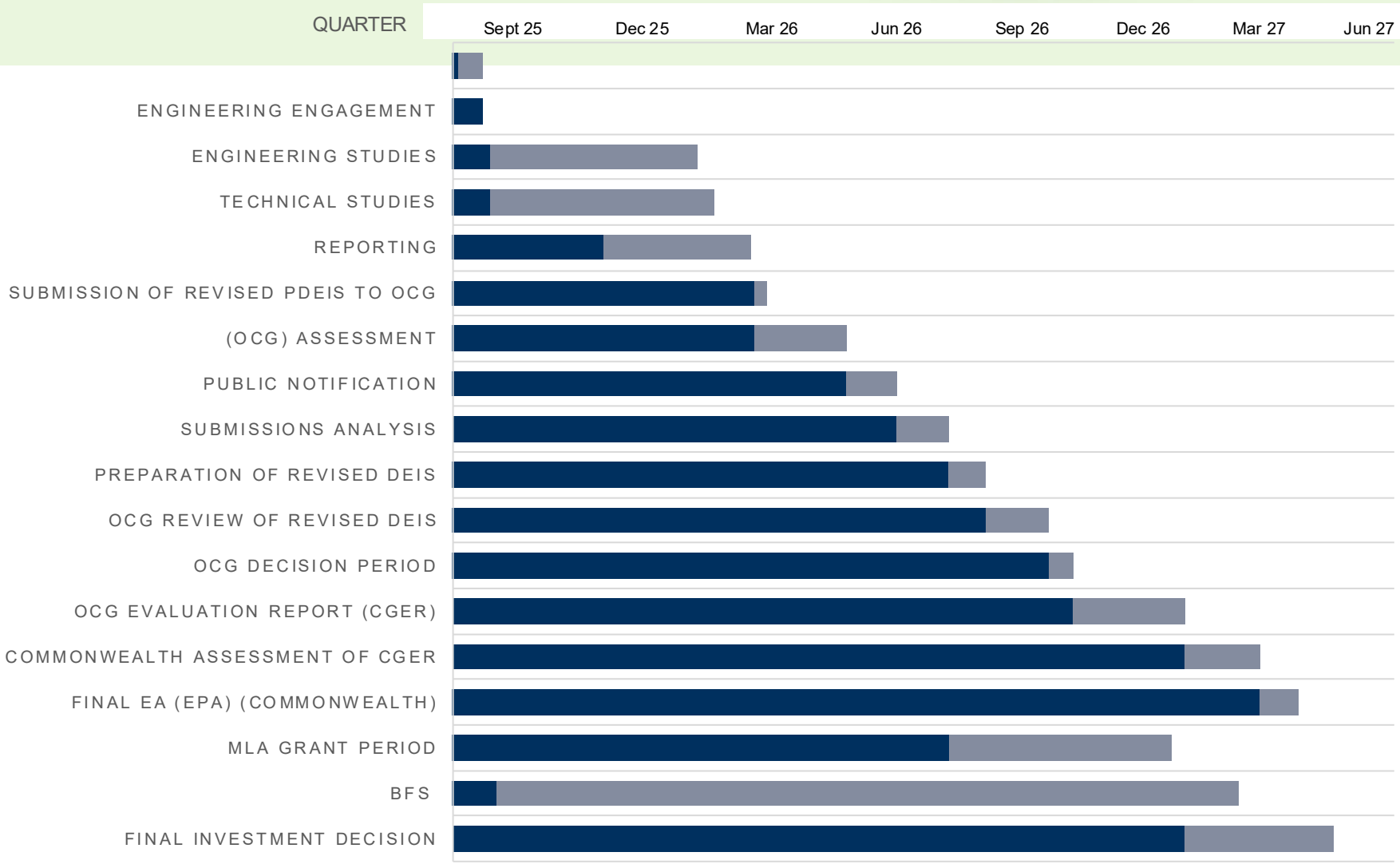
Establish fully funded **Vanadium lease agreements** that will provide stable, long-term **revenue** streams and benefits to **First Nations Groups**

First Nations Engagement

The RVT/RKP Consortium is advancing a leading equity and social justice approach to partnering with Traditional Landowners (TLOs), through negotiations that facilitate genuine ownership and control regarding energy futures and financial benefit.

The RVT/RKP Consortium is working with TLOs to not only participate in energy projects, but to become owners and long-term project partners through electrolyte ownership and leasing models. This is additional to identifying opportunities for involvement in projects through training and employment as well as community partnership opportunities.

RVT TIMELINE: CRITICAL PATH 2025 TO 2027



Q2 2026
WA EOI Stage 2
QLD Mining Approvals Delivery

Q3–Q4 2026
Battery throughput & offtake logic locked
Mining Lease targeted

2027 – BFS Intensive Phase
Integrated mine + battery + electrolyte economics
EPCM pathway firmed

~Mid-2028 – FID-Ready Platform
Explorer to Developer Pathway

Brendon Grylls

Executive Chair

Monique Stevens

Company Secretary

Joanne Bergamin

Communications and Stakeholder Engagement

E: info@richmondvanadium.com.au

SCAN ME

VANADIUM FLOW BATTERY

www.richmondvanadium.com.au
Richmond Vanadium Technology
@richvanadium

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

RICHMOND VANADIUM TECHNOLOGY