



Unlocking System-Wide Dynamism in Australia's Critical Minerals Sector

Submission to the Productivity Commission –
Dynamism in the Australian Economy

Submitted by: Katherine Teh, Executive Chair, Spektrum Development

Date: 6 June 2025

Executive Summary

Australia is home to world-class critical minerals but is constrained by a fragmented, risk-averse, and siloed development model. The Productivity Commission's inquiry into dynamism offers an opportunity to reimagine how we unlock value—not just through faster permitting, but by aligning capital, communities, and infrastructure around legitimacy.

Delivering on Net Zero requires a secure, ethical, and constant supply of critical minerals—not just for Australia, but for our allies and the global economy. Australia has the potential to lead this race by embedding legitimacy into the core of its development model, enabling faster, fairer, and more resilient delivery. Where China relies on state control and scale, Australia can demonstrate that democracies can deliver speed through trust. A legitimacy-first model allows us to attract capital, build sovereign capability, and become the partner of choice for critical minerals.

North West Queensland (NW QLD) is a strong candidate for a systems-based pilot. With over \$500 billion in copper value and other critical minerals across 338 deposits and 40 projects at varying stages of development, the region remains underutilised. Barriers include sub-economic deposit sizes that do not justify standalone infrastructure, lack of coordinated infrastructure planning, and insufficient capital interest. Currently, each tenement holder independently lobbies governments for billions, resulting in duplication, inefficiency, and poor public value.

While the Australian Government's Critical Minerals Strategy 2023–2030 outlines six commendable pillars—including First Nations engagement and infrastructure investment—it lacks the structural mechanisms required to deliver these goals at scale. It largely reinforces incumbent development models, overlooking the need for institutional innovation to unify tenements, embed Free, Prior, and Informed Consent (FPIC), and translate legitimacy into an investment-grade signal.

Spektrum proposes an alternative: treat legitimacy not as a reputational bonus, but as a structural enabler. When systematised into investment logic, permitting reform, and infrastructure governance, legitimacy can de-risk projects, build trust, and attract long-term capital. We propose a master-planned, landscape-level FPIC-based precinct in NW QLD. This would include a Common Infrastructure Fund with shared ownership between miners, Indigenous communities, and government. It could evolve into a model aligned with the World Bank's direction on blended finance and First Nations economic empowerment.

This submission recommends the Productivity Commission formally include critical minerals in its dynamism agenda and adopt NW QLD as a national demonstration precinct.

We propose a master-planned, landscape-level Free Prior Informed Consent¹ (FPIC) -based precinct which can evolve into a Common Fund that miners and Indigenous community could be co-owners. It would enable shared infrastructure to optimise mining and processing in a Net Zero Precinct which is positioned to attract capital into the world's first FPIC landscape level minerals and processing precinct. To increase dynamism, uplift Indigenous socio-economic participation,

¹ [Consultation and free, prior and informed consent \(FPIC\) | OHCHR](#)

and unlock shareholder wealth it requires co-design with miners, infrastructure, government at all levels, pastoralists and Indigenous communities. The ownership model developed through the process seeks to align the interests of diverse stakeholders by blending financial contributions, governance rights and shared benefits. Such a model is aligned with the World Bank's Spring Session direction of utilizing blended finance to drive critical minerals and due to the dire state of our Indigenous communities, Australia may be able to request to fit the mandate of the World Bank if we undertook this in a way that delivered better socio-economic outcomes for the Indigenous communities of the northwest of Queensland.

The Productivity Commission is urged to explicitly include critical minerals in its work on dynamism and adopt NW QLD as a national demonstration precinct.

I. The Problem: Fragmentation Blocks Dynamism

Australia is not set up to succeed in the global critical minerals race. Key issues include:

- Asset hoarding and “valley of death” risks due to capital gaps and tenure misalignment.
- Cultural heritage and lack of FPIC for Indigenous communities.
- Permitting delays and litigation exposure from deficient stakeholder engagement.
- Duplication of asks: individual mining companies each seek state and federal funding for standalone infrastructure solutions they cannot afford alone.
- Lack of strategic aggregation across deposits, infrastructure, and processing capacity.

The Critical Minerals Strategy acknowledges many of these issues in principle but falls short in practice. It does not propose a mechanism to seed new solutions to current problems, unify fragmented tenement ownership, nor does it provide a structural pathway to embed FPIC at a system level. Although there is increasing recognition of the importance of social legitimacy, the Strategy does not yet propose a structured pathway to translate it into investment-grade signals that capital markets or policy frameworks can consistently recognise. Without such mechanisms, Australia's ability to attract global investment into critical mineral projects may remain constrained.

The result: world-class assets sit stranded, capital is sidelined, and communities are disempowered. The current approval time frames of 16-20 years are not just regulatory—they reflect a system “designed for risk aversion, not speed,” where “the biggest barriers are not geological—they are strategic, market-based, social, regulatory, and infrastructural.”

Australia's current critical minerals approach focuses on what needs to be built, not how to unlock it. Three structural gaps persist:

1. Permitting Gridlock & Trust Deficit:

The permitting system remains reactive, adversarial, and politically vulnerable. Social licence is seen as a brake, rather than a condition for acceleration. Without a legitimacy pathway that aligns requirements from three tiers of government, proponents face

rising community risk and litigation and a devastating lack of interest from the capital markets.

2. Lack of Feedback Between Projects and Policy:

There is no structured feedback loop from project experiences into policy reform. Successful consent processes or legitimacy-driven models are treated as anomalies, not inputs for broader systemic learning. There is no current way that government initiatives to stimulate the sector can prioritise new ideas to these problems, favouring incumbents who appear to have a vested interest in the current development model staying as it is.

3. Absence of Investment-Grade Legitimacy Signals:

Unlike technical or financial risk, legitimacy risk lacks measurable, comparable indicators. Investors are left guessing, leading to capital mispricing, delayed decisions, or blanket avoidance of socially complex assets. Without systemic rethinking on how to combat China's chokehold on the pricing and market of critical minerals, there is no rationale for capital to support the critical mineral mining and processing required for our national interests and those of our allies.

II. The Opportunity: NW QLD as a Dynamic Pilot

Northwest Queensland (NW QLD) has the potential to become the world's first Free, Prior, and Informed Consent (FPIC)-based Net Zero Minerals and Processing Precinct, co-developed with Traditional Owners, tenement holders, and infrastructure investors. This is not a conventional resource play—it is a strategic, legitimacy-first model designed to unlock dispersed assets that are otherwise uneconomic in isolation and not able to optimise the geological wealth and create downstream processing.

This proposal is already gaining traction. The Mayi Traditional Owners have formally endorsed Spektrum's participatory, region-wide master-planning approach, demonstrating the appetite for a model that respects custodianship, distributes benefits, and accelerates approvals.

Unlike basin developments anchored around a single Tier 1 deposit, NW QLD presents a different reality: no single deposit is large enough to justify standalone infrastructure. Instead, the economic and ESG opportunity lies in coordination. The precinct is designed for dispersed, lower-volume critical mineral deposits, using a geology-first design approach to optimise processing and infrastructure locations based on aggregate orebody potential—not tenement boundaries.



This enables a hub-and-spoke model² where tenement holders retain full autonomy but can voluntarily opt into shared infrastructure, access coordinated services, and co-own the upside from regional uplift. It is an enabling structure—not a consolidating one.

Key Features of the Pilot

1. Shared Infrastructure via a Voluntary Common Fund

A Common Infrastructure Fund will finance, build, and govern shared services—such as water, energy, tailings, and logistics—based on aggregated demand and geology-based planning.

- **Voluntary participation** ensures that tenement holders can choose to join based on mutual value—not compulsion.
- **Co-ownership structures** align governance and returns with levels of contribution (financial, custodial, or land-based).
- **Safeguards against elite capture** include independent trusteeship, benefit-distribution transparency, and stakeholder oversight.

2. FPIC Embedded from the Start

Consent is not bolted on post-design of the project. Traditional Owners are involved from the earliest design phases, ensuring that the precinct advances with their values, rights, and aspirations embedded in its DNA.

3. Indigenous Economic Equity and Governance Roles

The precinct supports pathways to equity participation—not just in revenue, but in governance and infrastructure ownership. This strengthens intergenerational wealth creation and builds durable legitimacy.

4. Geology-Driven Aggregation for Scale and Sequencing

Infrastructure will be designed around mineral systems, not fragmented land titles—unlocking sequencing, synergies, and viability for deposits and critical minerals that would otherwise remain stranded.

5. ESG-Aligned Processing and Export Corridors

Downstream processing and export infrastructure will comply with global ESG standards, supporting Australia's role as a trusted, ethical supplier of critical minerals to decarbonising economies.

6. Blended Finance to De-risk Capital

The Fund will combine public, private, and concessional capital, aligned with World Bank guidance

² **Hub-and-Spoke Model:** A development framework where shared infrastructure (the "hub") serves multiple smaller, independently owned projects (the "spokes"). This allows each participant to benefit from economies of scale and coordinated logistics, while retaining project autonomy.



on blended finance for minerals, to attract institutional investment into a de-risked, socially anchored model.

Why the Common Fund Model Is Not Optional—but Essential

Today, fragmented infrastructure requests from individual miners—often totalling billions—are duplicative, inefficient, and politically unsustainable. No single proponent, particularly among junior and mid-tier players, can afford or deliver the infrastructure required to unlock their project. And government cannot fund all of them.

The **Common Fund** model is designed to address this fragmentation while protecting independence. It:

- Does not require transfer or consolidation of tenement ownership;
- Enables voluntary participation with tailored benefits and no loss of autonomy;
- Offers access to infrastructure that would be otherwise unaffordable or unviable;
- Aligns with a region-wide, FPIC-aligned masterplan that reduces permitting risk and regulatory uncertainty;
- Attracts ESG-aligned capital seeking credible, low-risk exposure to critical minerals.

By prioritising coordination over control, the Common Fund creates shared value without eroding rights. It allows proponents to remain agile and independent, while benefiting from the scale, capital access, and legitimacy that only regional collaboration can unlock.

III. Legitimacy as National Capability: Unlocking Australia's Critical Minerals Opportunity

To deliver on the ambitions of the Critical Minerals Strategy 2023–2030, Australia must treat legitimacy not as a project hurdle but as a national capability—embedded across regulatory, investment, and commercial systems.

Spektrum defines legitimacy as a structural condition—not a communications outcome. It is achieved when materially affected stakeholders and the public-at-large recognise both the project and the process as credible. This means the project is understood to be pursuing people-positive and nature-positive outcomes through a process that is fair, inclusive, and participatory. Unlike conventional models that treat social licence as a reputational hurdle or regulatory checkbox, Spektrum treats legitimacy as a strategic enabler of investment, delivery, and resilience. When achieved, legitimacy becomes an investment-grade signal—



attracting capital, accelerating timelines, and reducing risk across social, ecological, and governance domains.

Legitimacy, in Spektrum’s model, rests on four interlocking foundations:

- **Procedural fairness:** Transparent, inclusive, and participatory decision-making aligned with Sustainable Development Goal 16, IFC safeguards and FPIC standards.
- **Outrage-informed design:** Recognition and mitigation of emotional, psychological, and justice-based risks that drive conflict and resistance.
- **Investment-grade signalling:** Structured reporting that makes trust, consent, and social alignment visible and comparable to investors.
- **Co-design and shared agency:** Projects are shaped with communities, not for them—embedding dignity, benefit-sharing, and local authorship into the core design.

Critically, Spektrum does not assume legitimacy can always be achieved. It is a collective aspiration—one that must be tested against the project’s ability to deliver people-positive and nature-positive outcomes in a way that is also commercially viable. If legitimacy cannot be secured on these terms, the project would not proceed. In this way, legitimacy is not just a gateway to approval—it is the ethical and financial logic of development itself.

This shift requires structural reform across four fronts:

1. System Redesign for Fit-For-Purpose Regulation

Current regulatory and business models are built for high-volume, low-value commodities like coal and iron ore, typically managed by major corporates. In contrast, critical minerals projects tend to be low-volume, high-value, often led by smaller or mid-tier proponents. These operators are structurally disadvantaged by fragmented permitting systems, duplicative environmental processes, and rigid infrastructure funding models that assume corporate scale.

To address this, Australia must:

- **Enable regionally scaled approvals** for critical minerals precincts—consistent with proposed EPBC reforms.
- **Reduce duplication** between State and Commonwealth processes.
- **Create flexible pathways** for smaller proponents that reflect the realities of consent-building, infrastructure pooling, and blended finance.

2. Regulatory Sandboxes and Regional Coordination

We need regulatory sandboxes where legitimacy pathways can be tested, monitored, and scaled. These zones should be paired with regionally coordinated development models that:

- Aggregate supply and align infrastructure planning;

- Allow Indigenous communities to co-design from the outset under FPIC principles;
- Facilitate circular economy practices and ESG-grade export supply chains.

This approach shifts Australia from fragmented ambition to systemic execution—de-risking projects and building trust before conflict emerges.

3. Legitimacy as an Investment Filter

Investors lack tools to assess legitimacy risk comparably across projects. Yet social licence is increasingly the single most important delay factor in global mining. Australia should embed “legitimacy readiness” into national investment vehicles such as Future Made in Australia, National Reconstruction Fund (NRF), and Northern Australia Infrastructure Facility (NAIF) —elevating it alongside geology and capital stack. This would:

- Reward projects that front-load trust and de-risk community relations;
- Unlock institutional capital otherwise withheld due to reputational or regulatory uncertainty;
- Accelerate ESG-aligned, FPIC-compliant resource development.

4. A New Democratic Model for Strategic Industry

Where China’s state-led model relies on control and scale, Australia has an opportunity to prove that democracy can scale—faster and fairer—when legitimacy is embedded at the core. This model unlocks:

- **State benefit:** Shared infrastructure that lifts all assets while reducing environmental and social impacts.
- **Indigenous benefit:** Co-governance and ownership that build intergenerational wealth and self-determination.
- **Investor benefit:** Aggregated, de-risked, consent-based projects that attract long-term capital at scale.

In doing so, we avoid the false trade-off between speed and accountability.

As the legitimacy challenge intensifies, we must recognize:

“Outrage is not a communication failure. It is a design failure. If we ignore this, litigation and protest will continue to delay nationally significant projects.”

IV. Recommendations

1. Elevate Critical Minerals as a Driver of National Productivity and Dynamism

- **Recommend** that critical minerals mining and processing be explicitly included in the Commission’s reviews of productivity and economic dynamism, given their strategic importance to national security, supply chain resilience, and the Net Zero transition.

- **Advise** the government to recognise the fundamental differences between critical minerals and bulk commodities in terms of project scale, capital structure, and development risk. Policy should be aligned to the needs of small to mid-cap miners, rather than defaulting to models built for major miners, in order to resolve current investment barriers and unlock sector growth.
- **Encourage** a system-wide lens to identify opportunities where new development approaches—such as legitimacy-first planning and aggregated infrastructure models—can unlock latent economic potential.

2. Recommend NW QLD as a National Dynamism Pilot for Systems Innovation

- **Identify** NW QLD as a high-potential region for a national demonstration precinct, based on its concentration of critical minerals and underutilised assets.
- **Recommend** that government consider establishing a regulatory sandbox in NW QLD to trial innovative permitting and approval processes that embed legitimacy from the outset and integrate across all three tiers of government.
- **Encourage** support for FPIC aligned precinct-level master planning, including a potential pathway toward a Common Infrastructure Fund, to optimise regional infrastructure and attract investment.

3. Assess FPIC-Aligned Development as a Scalable Policy Framework

- **Advocate** for increased support to build Indigenous governance capability, ensure meaningful participation in project design, and enable long-term economic equity in critical minerals precincts.
- **Investigate** the regulatory and policy conditions needed to support FPIC-aligned development—including mechanisms for early co-design, benefit-sharing, and legitimacy performance tracking.

4. Review Capital Alignment with Precinct-Based and Indigenous-Equity Models

- **Recommend** a review of existing government-managed capital instruments (e.g. NAIF, CEFC, National Reconstruction Fund, Future Made in Australia) to assess their alignment with early-stage, multi-stakeholder precinct development and the financing of common-user infrastructure.
- **Explore** opportunities for blended finance in collaboration with global institutions such as the World Bank, IFC, IEA, and Exim Banks, to de-risk capital and enable Australia to lead in legitimacy-based development models.

5. Assess how environmental taxonomies can enable value creation for FPIC-aligned production



- **Recommend** that government examine how Australia's and the EU's sustainable finance taxonomies define critical mineral production, and assess whether FPIC-aligned development models meet or exceed these standards.
- **Explore** how alignment with such taxonomies could unlock price premiums with ESG-sensitive offtakers, and identify potential pathways to preferential trade treatment, such as tax incentives or tariff-free access under emerging economic corridors and critical minerals agreements.

V. Conclusion

The Productivity Commission has a rare opportunity to catalyse a step-change in Australia's development—moving beyond piecemeal reform to address the structural misalignments at the heart of our underperformance in critical minerals mining and processing.

The problem is not geology—it is that our systems are not fit for purpose. Current regulatory frameworks and infrastructure incentives were designed for bulk commodities—long-life, high-volume projects that can withstand delays, fragmented permitting, and build-your-own infrastructure models. But critical minerals present a different challenge: shorter-life, smaller deposits that must move quickly to attract capital and meet fast-evolving global demand.

For these types of deposits, the existing model doesn't work. They require aggregation into viable hubs, where multiple tenements can share infrastructure, access low-cost energy, and feed into strategically located processing facilities. Without this integration—across geology, processing, energy, and transport—productivity remains constrained by the inefficiencies of fragmentation, not by a lack of resources or technical capability.

By contrast, a legitimacy-first, regionally coordinated model—such as the proposed FPIC-based Net Zero Minerals Precinct in Northwest Queensland—offers a practical and scalable solution. It enables productivity through system design: streamlined regulation, shared infrastructure, capital alignment, and trust-based development. It doesn't rely on coercion or control. It invites voluntary participation, aligned incentives, and long-term benefit-sharing.

Developing this model will require effort, innovation, and collaborative leadership. But it is precisely the kind of challenge Spektrum is designed to take on—and that Australia must embrace if we are to lead in the global energy transition.

NW QLD offers a live opportunity to test this model. With groundwork already laid—through early co-design, stakeholder backing, and increasing industry interest—it provides a tangible proof of concept for how we can turn stranded assets into shared prosperity. Faster. Fairer. And with enduring legitimacy.

We urge the Productivity Commission to support the exploration of this pilot—not as an isolated experiment, but as a potential blueprint for how Australia can deliver dynamism, legitimacy, and investment alignment in the era where critical minerals mining and processing has become vital.