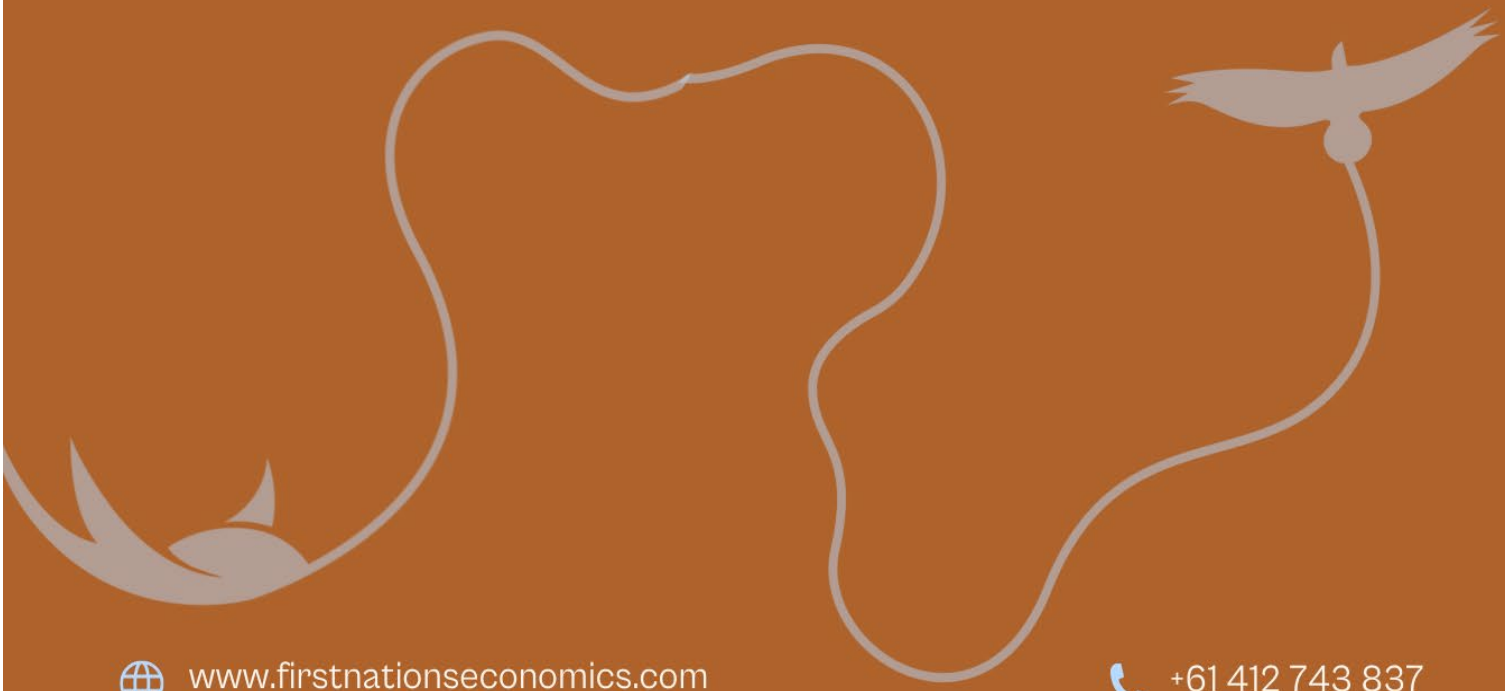
Submission: Australia's Circular Economy



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FIRST NATIONS ECONOMICS

Acknowledgement of Country

First Nations Economics acknowledges Aboriginal and Torres Strait Islander Peoples as the First Peoples and Traditional Custodians of Australia, its lands, seas and skies. Our offices are located on the lands of the Gadigal and Wangal clans of the Eora Nation in Camperdown, the lands of the Bundjalung Nation in Lennox Head and the lands of the Whadjuk Noongar people of Perth, Western Australia. We have staff on the lands of the Larrakia, the Yuggera and Wurundjeri Woi-wurrung and Bunurong / Boon Wurrung peoples. We pay our respects to the Elders of these lands on which we are visitors, both past and present, and thank them for their ongoing custodianship of Country.

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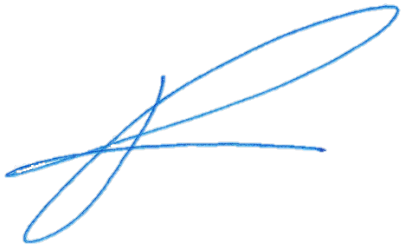
Introductory Remarks

Aboriginal and Torres Strait Islander peoples have been custodians of Country for at least 65,000 years (Clarkson et al., 2017) and have led circular economic practices for generations, living in balance with our ecological and spiritual environments since time immemorial. We used elements such as fire to sustainably manage vegetation and fauna (Gammage, 2011). We reduced the risks of out-of-control wildfires and increased biodiversity through cultural burning (Bird, 2008). Many communities closely monitored the health and wellbeing of Country, using natural calendars that were closely interlinked with spirituality and cultural practice to rotate harvesting when Country was showing signs of stress or overuse, allowing for the regeneration of these areas. Across this continent, our oral histories assert our ancestral connections to lands, waterways and songlines since creation. The Dreaming tells us of our communities living in sustainable balance with the natural environment, evidenced by our continuing connection to Country, our traditional protocols and practices, our knowledge and our ways of doing, knowing and being.

While Australia's *Circular Economy Framework* (DCCEEW, 2024) acknowledges that First Australians have always practiced the principles of the circular economy, there is little to no substantive commitment at a national level to including Aboriginal and Torres Strait Islander peoples in Australia's journey towards a more circular economy in a way that supports our sovereignty and self-determination. While there are vague references in the Framework to the National Agreement on Closing the Gap (Australian Government, 2020) and its commitments to equal partnership, the Productivity Commission's own 2024 Annual Data Compilation Report indicates that only five out of 19 targets are on track to be met by 2031. Additionally, the *Close the Gap Campaign 2025 Annual Report* calls for greater investment and structural reform to enable true self-determination for First Peoples and without the right frameworks to guide genuine collaboration and just distribution of power, it is unlikely truly equal partnership will be realised and the challenges addressed.

Recognising these challenges and opportunities, First Nations Economics calls for the greater participation of Aboriginal and Torres Strait Islander communities in decision-making which affects us and our communities, including on efforts to support a more circular economy in Australia. First Nations communities have tens of thousands of years of knowledges, experiences and understandings of sustainability that should be respected, valued and protected, in addition to forming the foundation of our efforts going forward. Any work undertaken to transform Australia's economy must first start with listening to the thousands of years of history that First Nations peoples have to offer us, and our efforts must be guided by the principle that there are no economies without communities.



Associate Professor Rick Macourt
Managing Director, Strategy and Foundation
First Nations Economics

Introduction

About First Nations Economics

First Nations Economics (FNE) is committed to walking alongside First Nations communities to achieve self-determined prosperity. Our mission is to work collaboratively with partners across government, corporate and non-profit sectors as independent First Nations economic advisors to achieve the social, cultural and economic sovereignty of First Peoples. We are a Supply Nation-registered charity and Public Benevolent Institution that works alongside First Nations communities on projects that achieve a net-benefit impact for First Peoples and support Indigenous ways of doing, knowing and being (First Nations Economics, n.d.). This in-turn supports the economic development of First Nations communities through our Foundation programs, including the Leah Armstrong Scholarship program, our education programs and our Pro Bono Advisory.

Our Insights

FNE believes that Aboriginal and Torres Strait Islander communities hold the key to a more sustainable Australia where we can both advance as a nation as well as prioritise caring for Country and communities. We welcome the Productivity Commission's interim report "Australia's circular economy: Unlocking the opportunities" and its call for information and submissions from Indigenous and non-Indigenous stakeholders. We particularly welcome the call for input into how governments can support greater First Nations participation in designing and delivering Australia's approach to a more circular economy.

As independent First Nations economists, policy experts, executives and leaders, we hope that our lived experiences and expertise can:

- provide insight into the opportunities and barriers to greater Aboriginal and Torres Strait Islander partnership in the circular economy
- highlight ways Australia can inform our approach by listening to the voices of First Peoples; and
- provide practical solutions to ensure First Nations peoples can help lead the way to a more sustainable Australia.

From our understanding of your call for submissions, we believe FNE could contribute to the following areas:

- Case studies of circular economy activities already occurring in First Nations communities (Information request 1)
- First Nations perspectives on Australia's overall potential to move to a more circular economy, as well as how best to monitor progress and measure success from First Nations paradigms (Information request 1)
- Barriers experienced by First Nations communities in undertaking circular economy activities (Information request 2)
- Opportunities in Australia to improve environmental and economic outcomes through greater adoption of circular economy activities led by First Nations communities
- Actions governments and other stakeholders could take to facilitate Aboriginal and Torres Strait Islander roles in progressing the circular economy (Information request 4)

- Ways in which governments can partner with Aboriginal and Torres Strait Islander communities on place-based circular economy activities (Information request 8.1)
- How could governments support Aboriginal and Torres Strait Islander businesses and communities to identify opportunities and partnerships (Information request 10.2)
- Aboriginal and Torres Strait Islander knowledges and circular innovations (Information request 10.3)
- Actions Governments could take to facilitate First Nations roles in progressing place-based circular initiatives and ways to ensure governments value First Knowledges and protects Indigenous Cultural Intellectual Property (ICIP) rights (Information request 10.5).

Summary of Recommendations

From reading the *Circular Economy Framework* and the interim report *"Australia's circular economy: Unlocking the opportunities"* we believe the following recommendations would help strengthen planning for Australia's circular economy.

Recommendation 1 – First Nations Co-Design

First Nations Economics urges that any government-supported coordination, facilitation, or brokering services related to the circular economy be designed in partnership with Aboriginal and Torres Strait Islander communities, recognising their rights, knowledge systems, and leadership.

Recommendation 2 – First Nations Approaches

First Nations Economics recommends that for Australia's circular economy to achieve genuine success, it must recognise, respect and integrate the innovation, resilience and leadership of Aboriginal and Torres Strait Islander peoples through relational, ethical approaches grounded in First Nations values, embedding these principles in innovation policy, funding and implementation.

Recommendation 3 – First Nations-led Initiatives

First Nations Economics recommends that the Government prioritise and resource place-based circular economy initiatives co-designed and led by Aboriginal and Torres Strait Islander communities.

Case studies in First Nations communities (IR1)

While the concept of the circular economy began emerging in academia in the 1980s through ideas such as Kenneth Boulding's closed-loop economy or Walter R. Stahel's performance economy, across Australia and globally, First Nations communities have been demonstrating leadership in circular economy practices for generations. And while neoliberal institutions only recently began to internationally recognise Aboriginal sustainable practices, for example by inscribing the Budj Bim Cultural Landscape on the UNESCO World Heritage List for its sophisticated sustainable aquaculture practices in 2019, First Nations communities have and continue to live out the principles of the circular economy.

The following case studies demonstrate First Nations leadership in the circular economy, sustainable practices and community-drive change.

Case Study 1: Aboriginal Community-Controlled Organisations

According to the National Aboriginal Community Controlled Health Organisation (NACCHO), an Aboriginal Community-Controlled Organisation (ACCO) is an incorporated entity established and governed by an Aboriginal community, through an elected Aboriginal board, to deliver holistic and culturally appropriate services. These organisations embody traditional values such as self-determination, collective decision-making, and community benefit, aligning closely with the principles of a circular economy. Rather than pursuing linear service delivery with defined end-points, many First Nations approaches prioritise sustainability, regeneration, and intergenerational benefit.

An illustrative example is First Nations Economics, an Aboriginal-led charity and Public Benevolent Institution. Governed by a community-representative board, it is legally mandated to reinvest 100% of its profits into its core purpose: the economic empowerment of First Nations communities. Avoiding reliance on government funding, the organisation fosters a self-sustaining model–a "circular pipeline" of First Nations talent that delivers professional services to commercial clients. These engagements generate surplus value that is reinvested in community through pro bono advisory to ACCOs and supports foundational programs that cultivate the next generation of First Nations economic leaders.

Through robust community-led governance, values-driven operations, and a commitment to net-positive impact, First Nations Economics enables sustained cultural, social, and economic development. Every commercial engagement strengthens the organisation's financial sustainability while directly supporting Indigenous communities through service delivery, capability-building, and educational initiatives. Surplus resources also fund scholarships and programs that bridge Indigenous and non-Indigenous economic knowledge systems, expanding the pipeline of culturally grounded expertise required to drive systemic change at a national scale.

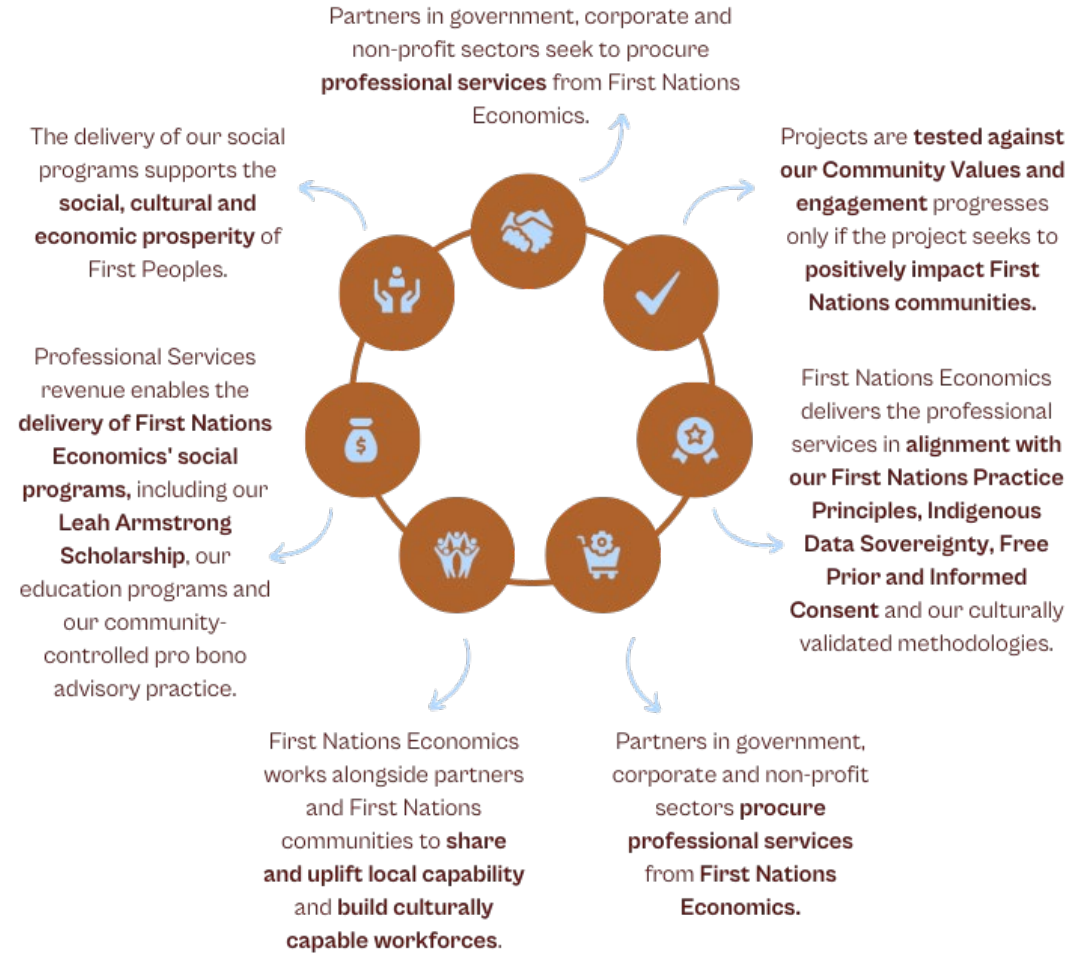


Figure 1: Operating Model - First Nations Economics

Case Study 2: Remote Community Recycling Hubs

The West Arnhem Regional Council (WARC), located in the Northern Territory of Australia, encompasses approximately 50,000 square kilometers of diverse landscape, including the World Heritage-listed Kakadu National Park. WARC is actively fostering leadership through its "Reduce, Reuse, Recycle Strategy 2024-2034." This strategy supports five remote Aboriginal communities (Gunbalanya, Jabiru, Maningrida, Minjilang, and Warruwi) to implement circular economy initiatives. This strategy directly confronts the challenges of the region, such as logistical constraints and the need for culturally appropriate engagement, by prioritising community-led systems that eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature.

Key initiatives which embody these principles include:

- developing re-use shops to extend product lifecycles and circulate valuable goods within the community
- implementing organic waste action plans to promote composting and the reuse of green waste, thereby regenerating soils and minimising organic waste pollution
- creating viable recycling streams to recover valuable materials and reduce reliance on landfill disposal.

Aligned with WARC's broader regional plan, these efforts not only pursue the overarching goal of an 80 per cent reduction in waste to landfill, a key step in eliminating waste, but also aim to generate local Aboriginal employment (targeting a 25 per cent increase in the waste sector) and strengthen social cohesion through enhanced community participation and partnerships, fostering a resilient and equitable circular economy.

(West Arnhem Regional Council, 2025)

Case Study 3: The Ahupua'a – Hawai'i's Indigenous Circular Economy

Hawai'i's traditional *Ahupua'a* system offers a compelling historical blueprint for a functioning circular economy, deeply rooted in First Peoples land management principles. This system organised land into self-sustaining sections stretching from the mountains to the ocean (*mauka* to *makai*), ensuring resources were managed and cycled efficiently within interconnected ecosystems, reflecting core tenets of modern circularity[1].

Circular practices were integral to the *Ahupua'a*. Food production featured closed-loop systems like *lo'i kalo* (taro terraces) that naturally filtered and reused water and nutrients, alongside intercropping techniques that maximised yields while minimising waste, with excess plant matter repurposed. Water resources were meticulously managed from upland streams to the coast, feeding agricultural systems and innovative fishponds (*loko i'a*) designed for sustainable aquaculture. Material use emphasised longevity and minimal waste; versatile 'canoe plants' served multiple purposes, and tools and structures utilised recycled natural materials like stone, wood and fibre.

This environmental sustainability was underpinned by strong social and economic circularity. Community-led stewardship ensured resources were shared equitably, guided by generational knowledge transfer. The economy thrived on principles of reciprocity and collective welfare, contrasting sharply with later extraction-based models. The *Ahupua'a* demonstrates the power of integrating First Peoples knowledge into resource management, offering vital lessons for today. Modern circular economy policies could be enhanced by adopting principles like localised governance, centering social equity and Indigenous knowledge, and prioritising long-term ecological stewardship.

(Winter et al., 2023)

Case Study 4: Ayurveda SMEs Championing Circularity in India

India's Ayurveda sector, rich in Indigenous knowledge and primarily driven by small-to-medium sized enterprises (SMEs), is increasingly integrating circular economy principles. These businesses demonstrate how traditional wisdom aligns with modern sustainability imperatives, embedding circularity into their operations while navigating the challenges inherent in scaling such practices.

Ayurveda SMEs achieve this by prioritising sustainable sourcing through methods like organic farming and responsible harvesting. They embrace zero-waste production, utilising whole-plant extraction techniques and repurposing byproducts like herbal residue into fertilizers or new

formulations, effectively creating closed-loop systems. Furthermore, many are shifting towards biodegradable packaging and leveraging ethical branding to appeal to environmentally aware consumers, showcasing a holistic commitment to sustainability.

Despite these advancements, significant hurdles remain. SMEs often struggle with limited access to financial capital and green funding required for expansion and innovation. Navigating complex regulatory landscapes, including sustainability standards and export rules, presents another obstacle. Adapting traditional, eco-friendly production methods for larger scales without compromising their sustainable essence is also a key concern. Overcoming these barriers necessitates targeted support, such as government grants, tax incentives, and collaborative platforms, to help these businesses scale their impactful fusion of tradition and environmental stewardship globally.

(Pereira et al., 2022)

These case studies collectively demonstrate that First Nation communities–whether in Australia or abroad–are actively implementing circular economy projects in areas like waste recycling, sustainable harvesting, and resource recovery.

Monitoring progress and measuring success from First Nations paradigms (IR1)

Conventional monitoring and evaluation (M&E) frameworks in Australia tend to focus on quantitative, economic, and environmental metrics. However, literature emphasises that First Nations peoples often define and measure "success" differently, using culturally grounded frameworks centred on values of interdependence, respect for Country, kinship, and long-term community well-being.

For Aboriginal and Torres Strait Islander peoples, success is relational, intergenerational, and context-specific. It is measured by whether people, Country and culture are thriving together. These holistic paradigms challenge the dominant models of evaluation and offer powerful alternatives that can enrich Australia's transition to a circular economy.

First Nations paradigms prioritise outcomes that reflect:

- Cultural Continuity: Are traditional knowledges being preserved, valued and passed on to future generations?
- Health of Country: Are ecological systems healthy, biodiverse, and regenerating under Indigenous cultural land and sea management practices?
- Community Wellbeing: Are local communities empowered, safe, connected to land and culture, and actively involved in decision-making and equal partners?
- Intergenerational Impact: Are actions today ensuring sustainability and equity for future generations?

These values challenge the Western notion of success as solely Gross Domestic Product (GDP), material productivity or waste reduction, instead framing success around cultural security, sovereignty, and resilience.

Example 1:

FNE, in partnership with the NSW Department of Planning, Housing and Infrastructure (DPHI), developed an outcomes-based M&E Framework under the Cumberland Plains Conservation Plan (2024–2025) Caring for Country Aboriginal Outcomes Strategy. The framework is grounded in the aspirations of Gandangarra, Dharawal, and Dharug communities and designed to measure meaningful long-term impacts aligned with Aboriginal values and Country.

Key Outcomes Achieved:

- **Culturally Validated Indicators:** FNE co-designed a suite of performance indicators to track tangible and intangible outcomes across cultural, environmental, and economic domains that will enable the community to self-determine what success looks like in protecting the Cumberland Plains.
- **Community-Guided Strategy:** Through workshops, interviews, and yarning sessions, FNE developed a Theory of Change and Program Logic that centred on Aboriginal priorities and seasonal knowledge systems that support restoration and regeneration of the local natural environment through Indigenous land and sea management, while also balancing economic and social opportunities presented by development.
- **Strengthened Local Governance:** A Project Control Group and Co-Design Working Group were established, ensuring community-led oversight of monitoring processes.
- **Enhanced Measurement Capability:** Data collection tools, reporting schedules, and collateral were developed to enable community-controlled evaluation and storytelling.

The framework measures progress across four interconnected pillars:

1. **Health and Wellbeing of Country** – including biodiversity, land regeneration, and ecological resilience.
2. **Aboriginal Culture and Knowledge Transmission** – language revitalisation, knowledge sharing, and continuation of cultural practices.
3. **Relationships with Land and Water** – tracking connection, access, and stewardship of Country.
4. **Economic Participation and Self-Determination** – increased opportunities for Aboriginal-led enterprises, job creation, and community development.

Example 2:

Another leading example of First Nations-led M&E practice is the Arafura Swamp Rangers Indigenous Protected Area in Arnhem Land (NT), where Yolŋu and Bi Traditional Owners co-developed a Country-based monitoring system with scientists (Campion et al., 2023).

This model reflects:

- A system aligned with Aboriginal law, oral knowledge, and kinship.
- A community-designed seasonal monitoring calendar, grounded in local language and ecological cycles.
- An Aboriginal-led monitoring committee to oversee and adjust the M&E strategy.

Importantly, the framework tracked not only environmental outcomes (e.g. species abundance, fire regimes) but also:

- Cultural outcomes: ceremony participation, knowledge transfer, language use.
- Socioeconomic outcomes: ranger employment, food security, and community governance.

This holistic evaluation ensured that progress was assessed based on whether Country, people, and culture were all being cared for and benefiting together.

Recommendations

First Nations Economics recommends the following actions to embed First Nations paradigms in circular economy monitoring frameworks:

1. Co-design Indicators: Governments should work with Traditional Owners to define locally relevant, culturally grounded indicators that reflect holistic priorities across Country, culture, and community well-being. Work with Traditional Owners to define place-based success measures that reflect cultural, ecological, and social priorities.

2. Support Indigenous Data Sovereignty & Governance: Partner with First Nations-led data governance organisations to ensure consent-based, ethical collection, storage, and application of information in line with Indigenous rights and interests. Partner with First Nations-led data governance bodies to ensure ethical, consent-based collection and use of information.

3. Resource Community-Led Monitoring: Provide long-term, flexible funding to enable First Nations communities, including ranger groups and Traditional Owner organisations, to conduct monitoring using their own frameworks and methodologies. Provide long-term, flexible funding to support First nations rangers, knowledge holders, and communities to monitor on their own terms.

4. Integrate into National Reporting: Ensure that First Nations-defined success metrics and narratives are included in Australia's national circular economy indicators and progress tracking systems, alongside Western metrics. Ensure that First Nations-defined metrics and narratives are embedded into Australia's circular economy indicators and progress reports.

Barriers experienced by First Nations communities (IR2)

First Nations communities across Australia hold deep ecological knowledge systems and cultural values that have embodied circular practices for millennia. Despite this alignment, Aboriginal and Torres Strait Islander peoples remain largely excluded from formal participation in Australia's emerging circular economy.

Systemic and Structural Barriers

One of the most significant challenges for First Nations communities is the limited access to capital, financing, and enabling infrastructure necessary for circular economy participation. This is particularly acute in regional and remote areas where logistical costs and supply chain constraints make circular practices difficult to implement. Government procurement systems and market structures often exclude First Nations businesses, which limits access to commercial opportunities in recycling, green manufacturing, and materials recovery. Traditional knowledge and innovation—core strengths of First Nations cultures—are frequently unrecognised or undervalued in economic frameworks, resulting in both missed opportunity and cultural harm. Compounding this, short-term and fragmented funding cycles hinder the ability of First Nations organisations to develop, scale, and sustain initiatives over time.

Policy and regulatory barriers also play a significant role. In some cases, mainstream waste management or land-use policies have been designed without consultation, making them ill-fitted to community needs or even prohibitive. For example, if a community seeks to establish a local recycling business, they may encounter complex licensing procedures; if they attempt to implement traditional practices such as controlled burning or wild harvesting, they often face restrictive regulations. Literature shows that policies that do not recognise Indigenous land rights or cultural knowledge effectively marginalise First Nations participation in sustainable industries. A practical illustration is the early exclusion of traditional burning practices under initial carbon credit frameworks, where the science-driven and administratively burdensome requirements prevented Aboriginal rangers from participating—until subsequent policy adjustments were made.

Historical and systemic factors further compound these challenges. Legacies of colonisation—including the dispossession of land, economic marginalisation, and erosion of cultural governance—have created trust deficits and structural inequities that persist. Without secure land tenure, for instance, communities are unable to confidently invest in long-term sustainability initiatives on Country. Literature and global commentary stress that enduring power imbalances and the legacy of exclusion from decision-making must be addressed to enable First Nations-led circular economy solutions.

Cultural and Governance Barriers

Many circular economy initiatives are developed without meaningful engagement with Traditional Owners or community-led governance. This not only undermines Indigenous self-determination but often results in policies and projects that fail to align with local cultural values, protocols, or customary law or which effectively meet their intended First Nations outcomes. The lack of Aboriginal and Torres Strait Islander representation in decision-making processes and a lack of just power distribution contributes to a disconnect between circular economy strategies and the lived realities of First Nations communities. Moreover, there is a cultural misalignment between Western economic models– which are often centred on efficiency, profit, or productivity – and First Nations worldviews, which prioritise collective wellbeing, responsibility to Country, and intergenerational stewardship.

This philosophical mismatch can discourage participation or create misunderstandings, particularly when First Nations knowledge systems are treated as secondary or tokenistic. As noted by the Australian Circular Economy Hub, Western discourse can inadvertently dominate or dilute First Nations perspectives, sidelining the very knowledges that could enhance sustainability (Wadhwani, 2023). Without meaningful integration of Indigenous values and systems, circular economy initiatives risk perpetuating exclusion. The absence of strong protections for Indigenous Cultural Intellectual Property (ICIP) further places communities at risk of appropriation or misuse of their traditional knowledge and practices.

Capacity and Information Barriers

The lack of tailored, culturally appropriate information and support impedes many communities from fully engaging with circular economy frameworks, not withstanding communication barriers. Current policies and programs are rarely communicated in ways that reflect First Nations worldviews or address community-specific realities, or posed in a way which are accessible to non-Indigenous communities. Moreover, training and workforce development pathways that integrate First Nations knowledges with circular economy skills–such as sustainable design, repair, and ecological restoration–are scarce and there is rarely attribution of ICIP. Data sovereignty also remains a challenge, with many metrics developed through Western paradigms that fail to account for First Nations measures of success or provide communities with ownership and control over how data is collected and used. This can lead to restricted worldviews and economic practices that exclude First Peoples and knowledges.

Geographic and Service Delivery Challenges

First Nations communities located in remote and regional areas face unique barriers related to distance, cost, and under-servicing. Transporting materials for recycling or reuse is often prohibitively expensive, and the absence of local facilities such as recycling stations or materials recovery centres limits practical engagement. In many communities, basic infrastructure for waste management or digital connectivity is insufficient, making participation in circular economy activities logistically difficult or impossible without targeted investment and support.

Recommendations

First Nations Economics recommends the following actions to remove barriers and enable Aboriginal and Torres Strait Islander participation and leadership in the circular economy:

1. Co-design Policy and Funding Frameworks: Engage Traditional Owners, Elders, and First Nations organisations in the design and delivery of circular economy strategies, ensuring alignment with cultural values and community aspirations.

2. Invest in First Nations-Led Infrastructure and Enterprise: Establish targeted investment programs to develop infrastructure, support business development, and foster circular economy innovation in remote and regional communities.

3. Embed First Nations Governance and Data Sovereignty: Ensure First Nations representation in governance structures and uphold the rights of communities to control how their knowledge and data are used.

4. Protect Indigenous Cultural and Intellectual Property (ICIP): Introduce strong legislative and policy mechanisms to safeguard traditional knowledge, support benefit-sharing, and prevent cultural appropriation.

5. Prioritise Indigenous Procurement: Create mandatory procurement targets that embed Aboriginal and Torres Strait Islander businesses across circular economy supply chains, particularly in government-funded projects.

6. Support Long-Term Capability Building: Fund culturally appropriate education, training, and workforce pathways that integrate traditional knowledge with circular economy practices.

7. Establish Knowledge-Sharing and Monitoring Platforms: Facilitate ongoing partnerships, peer learning, and First Nations-led evaluation systems to support the long-term success of circular economy initiatives.

Opportunities in Australia to improve environmental and economic outcomes (IR3)

Australia's ambition to double its circularity by 2035 presents an opportunity to embed Aboriginal and Torres Strait Islander leadership into the heart of this transition. As highlighted in the *Australia's Circular Economy Framework* (2024), a just and effective transition requires place-based, culturally relevant approaches that reduce material footprint, create local jobs, and regenerate Country.

Circular economy practices have often excluded First Nations businesses due to limited access to capital, restrictive procurement processes, and lack of infrastructure in regional and remote areas. Addressing these failures requires tailored interventions:

- Mandating First Nation participation in circular economy supply chains.
- Establishing First Nations-led recycling and resource recovery enterprises in regions with high waste volumes (e.g. mining tailings, solar panel waste).
- Embedding First Nations procurement targets into circular transition plans.

This approach not only improves material recovery and economic outcomes but directly supports Closing the Gap targets relating to economic participation and community-led infrastructure development.

Rather than establishing entirely new initiatives, leveraging existing robust policy frameworks offers a more efficient and strategic approach. The Closing the Gap reforms, the Indigenous Procurement Policy, and the Northern Australia Infrastructure Facility provide established mechanisms through which circular economy investments can be strategically directed towards First Nations priorities. For instance, the National Reconstruction Fund could incorporate dedicated access pathways for First Nations entities to support circular economy infrastructure development. Community-controlled organisations are well-positioned to play a central role in delivering circular services, particularly in regions where First Nations communities already lead impactful environmental programs such as ranger initiatives, regenerative agriculture, and bush food enterprises. Aligning circular economy policy with these pre-existing mechanisms minimises duplicative costs and ensures the culturally appropriate and efficient allocation of public resources.

Valuable insights can be drawn from international jurisdictions and First Nations-led initiatives. In Aotearoa New Zealand, Māori land trusts have successfully established circular agri-businesses, while Canadian First Nations have pioneered community-owned renewable energy and waste management enterprises. These examples highlight the potential for synergistic outcomes arising from integrating First Nations governance and market innovation. Australia has a significant opportunity to build upon its internationally recognised Aboriginal ranger programs and Indigenous Protected Areas by investing in pilot circular economy initiatives on Country, such as solar panel recovery, localised composting systems, and the valorisation of bush fibres. Establishing regulatory sandboxes and bilateral knowledge-sharing agreements with international First Nation partners would further strengthen this transition.

Significant community and business support exists for culturally aligned circular interventions. First Nations communities demonstrate a strong interest in engaging in economic development that simultaneously protects Country, strengthens cultural heritage, and generates local employment opportunities. Numerous Indigenous businesses already operate within sectors identified as priorities within the circular economy, including construction, agriculture, and mining services. However, they are frequently relegated to subcontractor roles due to systemic underinvestment and a lack of culturally responsive program design. A compelling case exists for government investment in First Nations workforce development and the scaling of Aboriginal and Torres Strait Islander enterprises within circular economy sectors, alongside the formalisation of First Nations leadership roles in the design and delivery of circular economy policy. Establishing a First Nations Circular Economy Advisory Council, supported by dedicated funding and cultural authority, could effectively embed co-governance principles into the national transition strategy.

Empirical evidence strongly supports the cost-effectiveness of circular economy interventions that yield cultural, economic, and environmental co-benefits. CSIRO analysis suggests that doubling Australia's circularity by 2035 could contribute an additional $26 billion to GDP and reduce national emissions by 14 per cent. Ensuring that a proportional share of these benefits

accrues to First Nations communities through equitable participation, community ownership models, and targeted support mechanisms would generate transformative outcomes. First Nations-led solutions – such as reusing solar photovoltaic materials in remote communities, community-based composting initiatives, and bush medicine enterprises – are cost-effective and regenerative. They reduce reliance on expensive external supply chains and enhance regional economic resilience. The well-established social return on investment associated with Indigenous land and environmental management suggests comparable returns from circular economy initiatives designed and delivered by First Nations organisations.

Recommendation

First Nations Economics advocates for the immediate and decisive integration of self-determination into Australia's circular economy transition. This requires: a First Nations Circular Economy Framework aligned with Closing the Gap; dedicated funding within national investment mechanisms; and embedded First Nations participation across all project stages via procurement, co-design, and governance. Cultural knowledge and land-based practices must be recognised and protected as valuable assets with benefit-sharing and intellectual property safeguards. Evaluation frameworks should incorporate First Nations-specific indicators and community-defined success measures, ensuring environmentally sound, just, inclusive, and future-oriented outcomes.

Actions to facilitate First Nations roles in progressing the circular economy (IR4)

There are several examples where infrastructure investment decisions have proceeded without adequate integrated planning involving First Nations communities, resulting in inefficient land use, loss of cultural heritage, and unnecessary material use. In remote and regional areas, projects such as road upgrades or health facility developments have often excluded Indigenous Land Use Agreements (ILUAs) or failed to align with existing community infrastructure, leading to costly redesigns or abandonment of materials (e.g., prefabricated components that could not be reused elsewhere). This issue is documented by Patadia (2020), who outlines how housing in Navajo communities was frequently built with materials that were environmentally unsustainable and culturally incongruent (i.e., concrete block trailers). These developments ignored First Nations spatial design principles and community mobility needs, leaning to rapid deterioration, inefficient material use, and socio-economic disconnect.

Improving assessment processes to embed First Nations knowledge systems can lead to more sustainable use of land and materials. First Nations planning frameworks often incorporate natural land formations, seasonal cycles, and shared-use models, which can reduce the footprint and waste of public infrastructure projects. Including Traditional Owners in early-stage planning ensures projects align community value and Country, reducing delays and material waste due to misalignment with cultural or environmental factors.

Key barriers that prevent the broader adoption of integrated urban planning inclusive of First Nations participation include:

- Jurisdictional Misalignment: Federal, state, and local government planning processes are often siloed, making it difficult to integrate Aboriginal land rights, Native Title interests, and cultural heritage protections early in the planning cycle.
- Lack of Cultural Competency: Planning bodies may lack the training or governance frameworks required to engage respectfully and effectively with First Nations stakeholders.
- Limited First Nations Representation: There is insufficient inclusion of Indigenous professionals and organisations in statutory planning processes, hindering the visibility of culturally and ecologically sustainable planning methods.

Without policy intervention, design for disassembly is likely to remain niche in the Australian market, primarily limited to progressive private sector projects and off-grid developments. However, some Aboriginal community housing providers and organisations have trialled modular and relocatable housing solutions, which align with both circular economy principles and cultural mobility needs of First Nations communities. Without government support, these innovations will remain underdeveloped and unaffordable for the communities that need them the most.

Recommendation

To address these gaps and ensure First Nations people are at the centre of Australia's transition to a circular economy in the built environment, FNE recommends:

1. Mandate early and genuine engagement with First Nations communities in infrastructure assessment and design to ensure cultural alignment and reduce material waste.
2. Fund demonstration projects in First Nations communities using modular, prefabricated, and disassemblable infrastructure to showcase circular economy benefits.
3. Update procurement policies and building standards to prioritise circular design, cultural fit, and end-of-life reuse in government-funded infrastructure.
4. Create a national infrastructure assessment tool led by First Nations experts that incorporates lifecycle impacts, material reuse, cultural relevance, and local economic outcomes.

Partnering with First Nations communities (IR8.1)

First Nations communities across Australia–particularly in regional and remote areas–are well-positioned to lead and contribute to the circular economy through culturally grounded, place-based initiatives. Improving the collection and recovery of off-the-road (OTR) tyres offers a tangible and high-impact opportunity for partnership with First Nations communities. These partnerships can deliver dual outcomes: improved environmental management through localised tyre recovery, and socioeconomic benefits through employment, enterprise development, and regional capacity building.

The following mechanisms are recommended to facilitate meaningful government partnerships with First Nations communities in this space:

1. Co-Design of Local Collection and Recovery Networks

Governments should work in genuine partnership with First Nations communities to co-design local and regional OTR tyre collection systems that are responsive to geographic, cultural, and environmental contexts. This includes identifying appropriate locations for collection hubs–ideally aligned with transport routes, mining operations, or agricultural supply chains–and ensuring that Traditional Owners are engaged from the planning stage through to implementation.

Co-design processes must be grounded in cultural protocols and delivered through collaborative planning workshops, community meetings, and leadership forums. Engagement must be led by community priorities, with clear articulation of mutual goals, decision-making authority, and pathways to economic participation. Where feasible, OTR collection sites should also integrate other circular activities (e.g. e-waste, scrap metal) to leverage shared infrastructure and employment opportunities.

2. Investment in First Nations-Led Recovery Infrastructure

   Governments should allocate targeted funding for infrastructure that supports First Nations ownership and operation of OTR tyre recovery facilities. This may include establishing fixed regional hubs or deploying modular and mobile processing equipment that can travel between remote communities, significantly reducing transport costs and emissions.

   Investment should prioritise community-controlled organisations and First Nations corporations with demonstrated governance capacity and connection to Country. In addition to capital investment, government programs must provide ongoing operational support, business mentoring, and technical assistance to ensure sustainability. Where possible, infrastructure development should be aligned with Aboriginal land use plans and supported by environmental and cultural heritage assessments.

3. Support for First Nations Circular Economy Enterprises

   To maximise community benefit, governments should support the creation and scaling of First Nations-led circular businesses that repurpose OTR tyres into marketable products. This includes fostering opportunities in sectors such as construction (e.g. rubberised asphalt or noise barriers), sports and recreation (e.g. soft-fall surfaces), arts and design (e.g. sculpture, jewellery), and landscaping (e.g. mulch, retaining walls).

   Support should include seed grants, impact investment funds, procurement access, and business capacity-building tailored to entrepreneurs. Priority should be given to businesses that employ local people, reinvest in community initiatives, and embed cultural values into their operations. Governments should also collaborate with industry and research partners to connect First Nations enterprises to innovation hubs, commercial partnerships, and product development pipelines.

4. Formal Agreements Upholding First Nations Rights

   To ensure that OTR tyre recovery activities respect Indigenous rights and support self-determination, all projects must be formalised through legally binding partnership agreements. These agreements should clearly outline the roles, responsibilities, and decision-making structures of each party, as well as how financial and non-financial benefits will be shared.

Mechanisms such as FPIC, Indigenous Land Use Agreements (ILUAs), and Benefit Sharing Agreements should be standard practice for any project involving Indigenous land, knowledge, or labour. These agreements must be developed through transparent, culturally safe processes and include provisions for community oversight, dispute resolution, and long-term review.

5. Innovation and Localised Solutions
   Governments should fund pilot projects that explore community-driven and culturally relevant applications for recovered OTR tyres. These may include repurposing tyres into culturally inspired community infrastructure (e.g. outdoor seating, shade structures), creating environmentally conscious art installations, or incorporating tyre-derived products into Indigenous housing or tourism ventures.

   Pilot projects should be co-designed with Traditional Owners and Indigenous designers or engineers to ensure cultural relevance and local ownership. Evaluation metrics should go beyond economic return to include indicators such as intergenerational knowledge transfer, increased cultural visibility, environmental health, and community pride. Successful models should be documented and shared nationally to encourage replication and scaling.

6. Integration with Indigenous Ranger and Land Management Programs
   OTR tyre collection and recovery activities can be seamlessly integrated into existing Indigenous ranger programs and Caring for Country initiatives. This provides a cost-effective and community-appropriate way to expand the scope of environmental stewardship activities while also addressing illegal dumping and improving land and waterway health.

   For example, ranger groups can be trained and equipped to identify, collect, and transport discarded tyres as part of broader waste management or environmental monitoring roles. Partnerships with local councils or resource recovery networks can create employment pathways and revenue opportunities. Integrating tyre recovery into ranger workplans also strengthens the cultural and environmental responsibilities that underpin these programs, making circular economy action part of a broader Indigenous-led conservation strategy.

Recommendation

First Nations Economics recommends that governments prioritise genuine partnerships with Aboriginal and Torres Strait Islander communities to lead the recovery and reuse of off-the-road (OTR) tyres as part of Australia's circular economy transition. These partnerships should be built on co-design principles that respect cultural protocols, recognise Traditional Owner leadership, and embed First Nation decision-making throughout project planning, implementation, and evaluation.

Formal agreements–grounded in FPIC and aligned with ILUA's – must underpin all initiatives to ensure rights are upheld and benefits are equitably shared. By centring First Nations partnerships, government action can deliver stronger environmental outcomes while creating meaningful employment, enterprise, and cultural stewardship opportunities across regional and remote Australia.

Supporting First Nations businesses and communities to identify opportunities and partnerships (IR10.2)

FNE advocates for a holistic, inclusive, and rights-based approach to supporting coordination, facilitation, and brokering services within circular economy initiatives. From a First Nations perspective, such support must address economic and environmental objectives and uphold self-determination, cultural integrity, and community empowerment. Coordination and facilitation mechanisms must explicitly recognise the unique historical, cultural, and social contexts in which Indigenous communities operate and ensure that these services are co-developed, community-led, and grounded in cultural safety and equity (Langton, 1993; UNDRIP, 2007).

Grounding Coordination Services in Indigenous Knowledge and Governance

The recognition and integration of traditional knowledge systems are central to the success of circular economy initiatives in First Nations communities. For over 65,000 years, First Peoples have sustainably managed Country through sophisticated intergenerational knowledge systems (Gammage, 2011; Pascoe, 2014). These knowledge systems offer frameworks for designing regenerative economic models aligned with ecological cycles and community well-being. These place-based knowledge systems offer valuable frameworks for designing circular economic models that align with ecological cycles and community well-being.

Government-supported coordination and brokering services must prioritise mechanisms that enable First Nations communities to design and implement their own circular economy strategies. This includes supporting the establishment of First Nations-led coordination bodies, local hubs, and governance structures that can facilitate collaboration between community members, businesses, researchers, and governments. These entities must be adequately resourced and supported to operate autonomously, with governments acting as enablers rather than directors.

International examples demonstrate the success of community-led coordination in First Nations circular housing and construction. For example, Patadia (2020) presents a case in the Navajo Nation where circular construction methods using prefabricated, culturally appropriate materials like hempcrete supported local employment, reduced waste and revitalised traditional design forms. This highlights the value of integrating Indigenous knowledge systems into local coordination hubs to facilitate partnerships between communities, industries and researchers in technically viable and culturally congruent ways.

As Angarova (2022) observes, First Peoples have maintained regenerative circular systems for generations, rooted in values such as reciprocity, care for Country, and community well-being. These relational values challenge extractive economic norms and reinforce the importance of First Nations-led coordination systems that operate within frameworks of cultural law, spiritual responsibility, and intergenerational accountability.

Community-Driven and Culturally Responsive Facilitation

Government-supported coordination services must go beyond generic facilitation to actively embed the principles of Indigenous self-determination. Facilitation efforts should empower communities to define their economic, environmental, and cultural priorities. This includes enabling

communities to identify local circular economy opportunities–such as cultural land management programs, sustainable housing initiatives, community recycling projects, and local food systems–that draw on traditional knowledge and innovative practices.

Facilitation services must be community-driven, empowering First Nations communities to define their economic and cultural priorities. These services should support local circular opportunities, including cultural land management, community recycling, and sustainable housing that draws on traditional ecological knowledge (TEK) (Altman & Markham, 2015). Co-design with Elders and knowledge holders ensures that programs are culturally relevant, promote intergenerational learning, and reflect Indigenous governance principles (Marika et al., 2009).

Strengthening Infrastructure and Capacity through Brokering Services

In many First Nations communities–particularly in remote areas–critical gaps in infrastructure, market access, and service delivery inhibit participation in circular economy activities. Brokering services can play a vital role in addressing these gaps by linking Indigenous communities with technical experts, investors, supply chains, and regulatory support.

These services must operate ethically and equitably, protecting Indigenous Cultural and Intellectual Property (ICIP) and ensuring transparent benefit-sharing arrangements (Janke, 2009; Arts Law Centre of Australia, 2023). For example, brokering can support regional enterprises in waste reuse or circular construction, provided communities maintain control over IP and profits.

Enabling Policy and Program Alignment

Government support should also be embedded in broader policy and regulatory frameworks that are tailored to the lived realities of Indigenous communities. Place-specific policy implementation is essential to account for differing land tenure systems, access to infrastructure, community governance structures, and socio-economic conditions. Programs must be designed to enable the full and free participation of Indigenous communities and remove systemic barriers such as restrictive funding criteria, burdensome compliance requirements, and jurisdictional overlap.

Key policy levers include:

- Targeted funding streams for First Nation-led circular economy projects.
- Incentives for industry partnerships with Indigenous organisations through public procurement.
- Support for culturally appropriate training and workforce development, co-delivered with First Nation RTOs and community leaders.
- Adapting regional development frameworks to prioritise First Nation participation in the circular economy explicitly.

Upholding Equity, Social Justice, and Cultural Integrity

A just circular economy must be socially inclusive and restorative. For First Nations peoples, this means ensuring that circular economy initiatives actively address historical and ongoing marginalisation, rather than perpetuating extractive or exclusionary models.

Coordination efforts must redress systemic marginalisation, not replicate extractive models. Programs should be grounded in the principles of FPIC and justice, as articulated in UNDRIP (2007).

This includes First Nations advisory panels, equity monitoring mechanisms, and transparent benefit-sharing processes (Langton, 1993).

This also includes:

- Establishing First Nations advisory panels to oversee program design and implementation.
- Creating accountability mechanisms to monitor equity outcomes.
- Ensuring transparent processes for knowledge-sharing, benefit distribution, and partnership evaluation.

Building Long-Term Capability and Resilience

Supporting First Nations participation in the circular economy requires long-term investment in skills development, education, and enterprise growth. Government-backed coordination services should be leveraged to support First Nations entrepreneurs and social enterprises through access to training, capital, and mentoring networks. This includes building local capacity to lead circular initiatives across construction, energy, food systems, manufacturing, and waste management sectors.

For example, First Nations-owned businesses can be central in delivering low-carbon housing solutions using sustainable materials and traditional design elements, contributing to climate resilience and cultural revitalisation. Similarly, youth-focused training programs in renewable energy, circular product design, or eco-tourism can foster intergenerational engagement and future economic self-sufficiency.

Recommendation

First Nations Economics urges that any government-supported coordination, facilitation, or brokering services related to the circular economy be designed in partnership with Aboriginal and Torres Strait Islander communities, recognising their rights, knowledge systems, and leadership. A successful circular economy in Australia must not only regenerate ecological systems and build economic resilience but also respect and uplift the social, cultural, and economic well-being of Aboriginal and Torres Strait Islander peoples.

Aboriginal and Torres Strait Islander knowledges and circular innovations (IR10.3)

First Nations Economics supports a transformational approach to the adoption and diffusion of circular innovations–one that centres First Nations rights, knowledge systems, and cultural integrity. Government actions to promote circular innovation must move beyond conventional innovation frameworks to embrace diverse ways of knowing, being, and doing. For First Nations peoples, innovation is not a new concept–it is embedded in over 65,000 years of environmental stewardship, ecological knowledge, sustainable resource use, and community-led governance structures (Pascoe, 2014; Gammage, 2011).

Foundational Principles for Inclusive Innovation

A genuine commitment to the principles of First Nations self-determination and respect for ICIP must underpin any policy seeking to support circular innovation. First Nations knowledge systems are not merely "inputs" into existing innovation pathways. Rather, they are complex, holistic frameworks of understanding that are interwoven with cultural identity, spiritual beliefs, social structures, and responsibilities to Country (Smith et at., 2021).

Government efforts must recognise that Indigenous knowledge is dynamic and evolving, and robust ethical standards, including the principle of FPIC, must govern its application to circular economy innovation. This is not only an alignment with international human rights under UNDRIP (2007), but a necessary foundation for genuine partnerships and sustainable outcomes.

This holistic framing of First Nations innovation aligns with Beamers et al.'s (2023) concept of an "Ancestral Circular Economy", which re-centres circularity as an Indigenous principle based on stewardship redistribution, and regeneration. The Hawaiian model of *aloha 'aina* demonstrates how circularity can be governed through First Nations socio-ecological systems that embed cultural values within innovation and policy design.

Angarova (2022) similarly argues that circular innovation must be rooted in Indigenous value systems, not superimposed through Western economic lenses. She advocates for economies that prioritise regenerational, relational accountability, and Indigenous leadership reinforcing the importance of returning to systems that prioritise collective well-being and cultural continuity over profit maximisation.

Valuing and Protecting Knowledge in Innovation

Governments must implement clear, enforceable measures that recognise and protect First Peoples' knowledge to facilitate the adoption of circular innovations that genuinely benefit First Nations communities and the broader Australian economy. Governments must embed Indigenous Knowledge Systems in innovation policy, funding, and program delivery to facilitate the adoption of circular innovations that genuinely benefit First Nations communities. This includes supporting First Nations-led circular projects in land management, sustainable infrastructure, and waste minimisation (Altman & Markham, 2015). Protection of ICIP must involve developing legal protections, access protocols, licensing frameworks, and safeguards against misappropriation (Janke, 2009). Existing intellectual property laws inadequately recognise communal ownership and cultural specificity. Governments must support:

- the development of sui generis legal protections tailored to the needs of First Nations communities;
- protocols and access agreements that place decision-making power with knowledge holders;
- ICIP licensing models co-designed with communities that govern the commercial use of knowledge;
- mechanisms to prevent unauthorised use, commodification, or misappropriation of traditional knowledge, designs, and practices.

These actions are foundational to enabling trust and facilitating meaningful participation in circular innovation processes.

Supporting First Nations-Led Research and Innovation Pathways

The government must directly invest in First Nations-led research, design, and knowledge translation to foster circular innovation in ways that reflect Aboriginal and Torres Strait Islander perspectives. When applied in a culturally respectful and participatory manner, challenge-based innovation funding can help align government priorities with community aspirations.

However, such funding models must be co-designed with Aboriginal and Torres Strait Islander stakeholders, support community-driven agendas and be governed through equitable partnerships. Effective challenge-based funding initiatives must:

- be informed by community-identified priorities, not externally imposed agendas;
- promote co-research with Aboriginal and Torres Strait Islander organisations, academics, and knowledge holders;
- support culturally appropriate methodologies and Aboriginal research protocols;
- build the capability of emerging Aboriginal researchers and innovators; and
- encourage experimentation, creativity, and long-term thinking that aligns with cultural values and community needs.

These models must prioritise long-term thinking, creativity, and cultural values (Langton, 1993; Marika et al., 2009). Research approaches informed by First Nations circularity must prioritise ethical knowledge sharing and the lived experience of community governance. As shown in the Hawaii-based case study, the success of circular innovation rests on First Nations-led research systems that integrate customary law, ecological practice, and cultural obligations (Beamer et al, 2023).

Facilitating Equitable Knowledge Exchange

The diffusion of circular innovations requires platforms that support two-way knowledge sharing–between First Nations communities, research institutions, industry actors, and governments. These platforms must be built on respect, reciprocity, and cultural safety. Governments can facilitate this by supporting the development of First Nations-led innovation hubs that serve as custodians of cultural and scientific knowledge and support networks that connect communities with research, markets and industry. These platforms must uphold FPIC and ensure that First Nations communities control how their knowledge is shared and used (Arts Law Centre of Australia, 2023; Smith et al., 2021).

Ensuring Fair Benefit-Sharing and Commercial Opportunities

Equitable benefit-sharing is essential to supporting the sustainable diffusion of circular innovations rooted in First Nations knowledge. The commercial use of First Nations knowledge must deliver tangible social, cultural, and economic benefits. This includes enforceable benefit-sharing mechanisms, support for First Nations-owned enterprises, procurement strategies prioritising First Nations circular products, and transparency in financial and IP outcomes (Curtis et al., 2021).

Addressing Systemic Barriers to First Peoples Participation

To enable genuine participation in circular innovation ecosystems, governments must address systemic barriers related to land tenure, access to finance, cultural safety in education, and governance recognition. These changes ensure First Nations peoples can lead sustainable innovation (OECD, 2019).

This includes:

- reforming land and resource tenure arrangements that limit access to capital and infrastructure;
- investing in culturally responsive education and employment pathways linked to innovation industries;
- recognising and supporting Aboriginal community-controlled governance models as legitimate and authoritative; and
- addressing social and cultural determinants of innovation participation, including housing security, health, and digital access.

Without such foundational reforms, attempts to promote circular innovation risk replicating existing inequalities and excluding communities with the most relevant knowledge.

Recommendation

First Nations Economics emphasises that for Australia's circular economy to achieve genuine success, it must recognise, respect and integrate the innovation, resilience and leadership of First Nations people. Government must prioritise the leadership of First Nations people by creating a policy environment that shifts away from extractive and transactional practices. This should be done through relational, ethical approaches grounded in First Nations values, embedding these principles in innovation policy, funding and implementation that respect rights, protect knowledge and support cultural and economic empowerment.

Progressing place-based circular initiatives while valuing First Knowledges and protecting ICIP (IR10.5)

First Nations Economics welcomes the Productivity Commission's inquiry into how governments can support First Peoples in advancing place-based circular economy initiatives. These initiatives present significant opportunities to promote First Nation self-determination, revitalise cultural practices, generate economic benefits, and support the long-term sustainability of Country. However, to achieve these outcomes, place-based circular initiatives must be designed and delivered through culturally appropriate, rights-based, and community-led approaches that recognise the unique relationships First Peoples maintain with their lands, waters, and knowledge systems.

The foundational principles that must guide place-based circular initiatives include Indigenous self-determination, the protection of Country, and recognition of Indigenous knowledges as sophisticated systems of ecological, social, and spiritual understanding. These principles are grounded in the UNDRIP declaration, which affirms the rights of Indigenous peoples to develop their own economic priorities (Art. 23), control the development of their traditional knowledge (Art. 31), and participate in decision-making affecting their lands and resources (Art. 32) (United Nations, 2007). Nationally, the Closing the Gap Agreement (2020) is imperative to co-design and co-deliver initiatives supporting First Nations community priorities.

Place-based circular economy strategies must be locally determined and culturally relevant. Governments should invest in First Nations-led organisations and community governance structures to lead the planning and implementation of circular projects. These may include cultural land and sea management, circular housing initiatives using traditional materials, community-owned recycling infrastructure, and regional food systems that regenerate ecosystems while upholding cultural practices (Altman & Markham, 2015; Marika et al., 2009). Supporting these initiatives requires flexible, long-term funding models and administrative arrangements that accommodate Indigenous governance protocols and support community capacity-building (OECD, 2019).

Governments must invest in education, training, and business development programs that combine TEK with contemporary circular economy practices to enable genuine participation in place-based circular initiatives. First Nation communities must be resourced to engage in infrastructure development, product design, and innovation that reflects First Nations values of relationality, sustainability, and reciprocity (Smith et al., 2021). Business incubators, mentoring programs, and tailored procurement strategies can stimulate First Nation entrepreneurship and build circular economy value chains in remote and regional areas (Curtis et al., 2021).

International scholars have also reinforced the value of First Nations-led circular systems. Beamer et al. (2023) concept of an "Ancestral Circular Economy," demonstrates the capacity of Indigenous systems to support circular policies based on equity, regeneration, and community governance. These models offer valuable insights into how circular initiatives in Australia can integrate First Peoples socio-ecological systems and redistribute power and resources through relational, culturally grounded frameworks. Likewise, Patadia (2020) illustrates how the Navajo community applied circular housing principles by integrating sustainable materials like hempcrete and modular design with traditional spatial and cultural logic. These initiatives enabled cost-effective, low-waste housing solutions while preserving cultural identity and local employment. Echoing this, Angarova (2022) highlights that Indigenous circular economies are guided by deeply held cultural principles that centre care for land, sustainable use and the rights of future generations. She emphasises that returning to such economies is not only environmentally necessary but also a matter of justice and cultural survival. These values provide a critical foundation for any truly place-based circular strategy.

Integral to all place-based circular economy activities is the recognition, protection, and governance of First Peoples' knowledge. Governments must ensure ICIP is safeguarded through legal frameworks, funding agreements, and research protocols that uphold the principles of FPIC and community control. The development of sui generis legal protections is urgently required to account for the collective and intergenerational nature of Indigenous knowledge, which does not fit neatly within existing Western IP frameworks (Janke, 2009). Knowledge sharing must occur through First Nations-led platforms, such as digital archives, innovation hubs, and community

learning centres, that are governed according to cultural law and provide mechanisms for equitable benefit-sharing (Arts Law Centre of Australia, 2023).

Governments must also support the built environment and local infrastructure to reflect First Nations design and sustainability principles. This can be achieved by supporting First Nations architects and builders to revive traditional building techniques using circular construction models that reduce waste, improve thermal performance, and uphold cultural values (Pascoe, 2014). Patadia's (2020) study further illustrates how Indigenous design can effectively adapt into circular housing systems that reflect cultural values while advancing sustainability. Infrastructure investments must also include support for renewable energy, waste management, and transport solutions that enable communities to participate fully in circular systems.

Recommendation

First Nations Economics recommends that the Government prioritise and resource place-based circular economy initiatives co-designed and led by First Nations communities. This approach must embed First Peoples' knowledge systems, respect cultural and intellectual property rights and foster relational economies that generate environmental, economic and social benefits while advancing self-determination and culture revitalisation.

Concluding Remarks

The idea of extending the use of resources as much as possible to ensure the maximum transfer of value and sustainability is not new. It is not limited to the academic writings of the 1980s, the government practices of the 2000's and it certainly has existed long before modern day understanding of closed-loop economies. First Nations people have practiced circular economics for generations, but their lessons and experiences have largely gone unnoticed and undervalued.

As Australia seeks to chart its way forward in its journey towards a circular economic, we must remember that this journey must be guided by the voices of this continent's First Peoples. First Nations Economics reaffirms that Aboriginal and Torres Strait Islander peoples have and will always continue to live in balance and harmony with Country, guided by knowledge systems that prioritise sustainability, reciprocity, and caring for Country. Our communities continue to demonstrate that First Knowledges are not only relevant but essential to shaping economic systems that serve both people and planet.

As an organisation we have reviewed existing evidence alongside our lived experience as First Nations people and practitioners to ensure that Australia's journey towards a more circular economy recognises that First Nations voices remain underrepresented economic and public policy, our communities are less likely to attract investment, and thousands of years of cultural practice continues to be undervalued. Without structural reforms that centre self-determination, recognises Indigenous Cultural and Intellectual Property rights as defined by First Peoples, and embeds First Nations ways of knowing, doing and being, Australia risks perpetuating extractive colonial systems that have defined the last two and a half centuries. A truly circular economy cannot be achieved through technical innovation or economic modelling alone–it must be built

upon relationships of respect, shared governance, and cultural integrity that is so well exemplified by First Nations cultural protocols and practices.

Throughout this submission, FNE has sought to provide clear recommendations grounded in genuine First Nations lived experience and supported by both community case studies and global best practice and evidence. We have highlighted how First Nations-led monitoring and evaluation, place-based circular initiatives, First Nations innovation pathways are already transforming communities and ecosystems as they have done since we first walked this earth. We have also outlined the systemic barriers–economic, regulatory, infrastructural, and political–that must be addressed to unlock the full potential of First Nations participation and leadership in circular economic practice.

We call on the Australian Government and stakeholders to move toward meaningful partnership with First Nations communities as committed to in the National Agreement on Closing the Gap. This includes establishing a First Nations-led Circular Economy Framework, embedding co-design in policy and procurement, resourcing First Nations infrastructure and enterprises, and upholding our rights to data sovereignty, knowledge protection, and culture. It is our firm belief that circularity begins with community. When our communities thrive–culturally, socially and economically–our environments heal, our economies strengthen, and our futures become more equitable and resilient.

There can be no circular economy without communities, and Aboriginal and Torres Strait Islander peoples were Australia's first communities.

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