



AUSTRALIA

WWF SUBMISSION – Productivity Commission Inquiry into the circular economy

WWF-Australia is part of the WWF International Network, the world's largest independent conservation organisation. WWF's global mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature. WWF-Australia has approximately two million financial and non-financial supporters.

We appreciate the opportunity to input into the Productivity Commission's Inquiry into barriers and opportunities for Australia to move towards a more circular economy.

Introduction

We are living through a period of disruption. Our climate is changing; industries are shifting; technology is evolving at break-neck speed. The World Economic Forum says we are entering the Fourth Industrial Revolution, defined as a “new chapter in human development” where advances in technology, from artificial intelligence to genetically modified organisms, will change the way we live, work, and relate to one another.¹ WWF prefers to speak of a ‘Regenerative Revolution’ that will put us on track to build a better future, based on emerging conceptions of a nature-positive and ‘Regenerative Economy’. WWF’s vision is that, by 2030, Australia is an active leader in the transition to a productive and resilient economy that lives within planetary boundaries and restores both natural and social capital. This requires moving from linear to circular business models that eliminate waste and pollution, keeping materials and products in use for longer, while also regenerating damaged ecosystems and halting species loss. A regenerative economy is climate resilient, electrified, and uses only clean and renewable energy. It is nature positive by design, socially inclusive and enhances well-being.

Examples of a regenerative transition can be seen around the world. For Australia, three major opportunities are clear:

1. **Renewable energy superpower** – Australia has the natural endowments and skills to become a major exporter of renewable energy and zero-carbon products. With the world now firmly on the path of decarbonisation, we expect to see declining demand for fossil fuels and rapid growth in markets for renewable energy and zero-carbon products. This could be a competitive advantage for Australia if we can create clean and circular manufacturing and service industries supported by clean renewable energy. Government policies that enable this shift to occur will be important. Australia is well placed to deliver against this ambition as it accelerates the expansion of firmed renewable electricity. Ensuring the roll out of our renewable energy transition utilises low carbon and circular materials (concrete, steel, polymers, aluminium, etc) will benefit the development of these markets.

2. **Nature-positive and circular industry** – A second opportunity lies in shifting to sustainable production. Australia can become a nature-positive and circular economy, where natural capital is conserved and restored by every industry, and waste and pollution are minimised through better design and longer use of products. This would help the environment, add value to exports and enhance ‘Brand Australia’. With global markets increasingly demanding transparent supply chains and evidence that products are produced sustainably, Australian producers can confidently sell into this growing green market. According to the Ellen Macarthur Foundation research², while moving to renewables can address 55% of global GHG emissions, to achieve UN climate goals it is imperative to tackle the remaining 45%. Australia can do more to accelerate the shift towards a circular economy by supporting the development of a market for recycled and circular materials including setting of circular targets, penalties for non-compliance and funding to support innovation.³

3. **Building skills and capacity** – Another opportunity for Australia is supporting governments, businesses and civil society organisations, both domestically and abroad, to develop the new skills, mindsets and tools required for a Regenerative Economy. We can help ourselves and other countries to build the capabilities, technologies and policy frameworks needed for a zero-carbon, circular, nature positive and more inclusive economy.

While the highlighted industries in the paper have the greatest potential to advance circular economy, namely mining, construction, manufacturing, agriculture and waste management, transitioning to a circular economy requires a fundamental shift in behavior change and societal perceptions, understanding and expectations. Therefore, a social science review to integrate behavior change initiatives should also be included within the Productivity Commission’s scope of consideration to bring individuals and organizations along in the transition to a circular economy. As part of this, incentives to encourage economic shifts and behaviour change will be needed as new markets and products and services are brought into the system. There is also a need to overlay action towards net zero and other climate change goals, and nature positive objectives with international commitments in the mix.

Information Request 1 – Circular economy success stories and measures of success

Built Environment

The Victorian government’s policy announcement of [Recycle First](#) and the subsequent development of the [ecoligiQ](#) program was a very clever intervention aimed at integrating recycled and reused contents into the massive build out of Victoria’s infrastructure projects. By June 2023, Victoria’s Big Build projects had committed to use over 2.5 million tonnes of recycled and reused materials. With government and industry leadership being allowed to risk share and innovate, Infrastructure Victoria found that “recovering and re-using resources is more productive and higher-value than disposing of these resources. For every 10,000 tonnes of waste recycled, 9.2 jobs are generated compared to 2.8 jobs for landfill. Increasing Victoria’s resource

recovery rate to 90% could create 2,400 jobs by 2039 compared to business as usual.”¹ While recycling is only a small part of the circular economy story, nonetheless this government industry collaboration has successfully kickstarted several innovation initiatives for the construction industry.

Industry stakeholders have encouraged wider adoption through the establishment of a community of practice between industry and government to facilitate knowledge sharing, innovation, and coordination, ultimately promoting best practices, lessons learned, and emerging strategies. It is important to note that circular economy goes beyond waste management although high quality recycling and reuse of materials with key innovation outcomes have been important objectives to achieve in the steps towards circularity. The next steps around reducing material inputs as well as use of renewable and bio-based materials will be fundamental improvements.

Another example is the WWF-led [Materials and Embodied Carbon Leaders Alliance \(MECLA\)](#) where a joint government and industry initiative comes together to share case studies and leading practices. Through a systems change lens that looks across all parts of the building and construction ecosystem, the MECLA *do-tank* provides a place for innovation and knowledge sharing through Spotlight events, case studies and deep dives to building capability across industry and government.²

A third example yet to be fully realised is the development of the [Bradfield city centre master plan](#). The master plan is designed to “support of circular economy”. And within the [sustainability and resilience plan](#), in supporting natural systems, community wellbeing and economic prosperity, one of the five themes is on circular systems and ethical supply chains looking at employment opportunities of the future.

Two international examples follow:

The [UK Environment Agency’s \(EA\) Thames Estuary Asset Management Programme \(TEAM2100\)](#), an integrated delivery team focussing on flood management, has implemented contractual mechanisms (inspired by [The Chancery Lane Project](#) clauses) to require contractors to deliver against sustainability objectives, including carbon reduction and the use of circular economy materials.

The Netherlands: [Holland Circular Hotspot](#) chair Professor Cramer advocates for a pre-competitive collaboration between governments, businesses, and other social organisations (network governance model) to build the circular economy. Her visit to Australia in 2022 highlighted the work being done in the Netherlands in engaging supply chain. Her book on [10 Guiding Principles for building a circular economy](#) provides useful insights and case studies.

¹ Infrastructure Victoria, <https://www.infrastructurevictoria.com.au/resources/advice-on-recycling-and-resource-recovery-infrastructure>, 2020

² https://assets.infrastructurevictoria.com.au/assets/Advice-on-opportunities-to-reduce-greenhouse-gas-emissions-of-infrastructure- Final_2024-03-05-022223_vldi.pdf

Information request 2 Priority opportunities to progress the circular economy

Progressing towards a circular economy involves a multifaceted approach that spans various sectors and practices. Here are some priority opportunities to advance the circular economy:

1. **Design for Longevity:** Encourage product designs that prioritise durability, repairability, and upgradability. This can include modular products that are easy to disassemble and repair. Mandatory performance standards that provide for continuous improvements are essential. An effective regulatory regime that embeds longevity and requires more than minimum standards for manufacturers through effective product stewardship policies would avoid Australia be the dumping ground for manufactured goods including white goods that have inbuilt obsolescence.

2. **Sustainable Materials:** Promote the use of renewable, biodegradable, or recycled materials in production processes. This includes investing in research and development for alternative materials that minimize environmental impact. For the built environment this will include the importance of supporting a market place to development bio-materials or engineered living materials, as well as low carbon and circular materials.

3. **Resource Recovery:** Enhance systems for collecting and recycling materials from end-of-life products. This includes developing better sorting technologies and infrastructure to facilitate the recycling process.

4. **Product as a Service (PaaS):** Shift from ownership to service models, where companies retain ownership of products and customers pay for their use. This incentivises manufacturers to create longer-lasting products and encourages reuse and recycling.

5. **Consumer Engagement and Education:** Raise awareness among consumers about the benefits of the circular economy and provide information on how to participate, such as through recycling programs or choosing sustainable products.

6. **Collaboration Across Industries:** Foster partnerships between businesses, governments, and NGOs to develop circular economy initiatives. Collaborative efforts can lead to shared resources, knowledge, and best practices. The examples shared above (EcologiQ and MECLA are two examples).

7. **Regulatory Support:** Advocate for policies and regulations that support circular economy initiatives, such as incentives for recycling, extended producer responsibility (EPR) schemes, and standards for sustainable materials. While voluntary schemes can get us some of the way, the government can create a level playing field and through their own procurement policies. Government can play a leadership role through government procurement policies. The Government's [Environmental Sustainable Procurement](#) policy is a terrific start and needs to be rolled out across all industries and jurisdictions including local government. The Australasian Procurement and Construction Council has also begun to develop green and circular [procurement pathways](#) but more can be achieved for government agencies. More can be achieved to support the capability uplift and skills development. While there are pockets of innovation, sharing the lessons and learnings will be fundamental. Consistency of regulations across different jurisdictions is also important. For example, some councils support recycling of food organics and garden organics (FOGO), while others do not.

8. **Innovation in Waste Management:** Invest in technologies and processes that improve waste management and recycling rates. This can include advancements in chemical recycling, composting, and waste-to-energy technologies.

9. Urban Circular Economy: Develop urban planning and place making strategies that promote circular economy principles, such as creating local loops for resources, community-based recycling programs, and sustainable public transportation.

10. Supply Chain Transparency: Encourage businesses to improve supply chain transparency to ensure sustainable sourcing of materials and to track the lifecycle of products effectively.

11. Circular Economy Metrics: Develop and implement metrics and indicators to measure progress towards circular economy goals. This will help in assessing the impact of initiatives and guiding future actions.

12. Investment in Circular Startups: Support and fund startups that are innovating in the circular economy space, whether through innovative technologies, business models, or services that promote sustainability. Unwriting risk will help innovative startups to get a kickstart and build a new industry. Another major barriers to achieving a more circular economy is the need for an effective marketplace for materials reuse. An example of this is building and construction materials, where 40% of landfill waste is from the building and construction industry. More effort is needed to understand the barriers and provide greater support for, and investment into, creating an effective marketplace. Organisations such as MECLA partner, [ASPIRE](#), are set up to help support a market place for resource use. Another similar organisation, [Circonomy](#), designed to provide that market place particularly for office fit outs, recently collapsed due to the economics. Such barriers need to be better understood.

Built Environment

In Australia, the built environment is responsible for a quarter of Australia's carbon emissions.³ At present, over 80 per cent of these emissions are associated with operational carbon – the kind of carbon emitted during processes such as lighting and heating buildings. The other 16 per cent comes from embodied carbon – the emissions from building materials, and the processes needed to create, demolish and re-use buildings.

Circular economy needs to be holistic and should integrate climate and nature positive principles. This includes mandating building design/renovations for energy efficiency and maximising recyclable products. We should also consider starting with “no build” in the conservation hierarchy – for example, in London, there is a need to argue the case for why a new building is necessary. In addition, during the product design phase and building, consideration should be given to the eventual disassembly of products. This includes the ability to disassemble wind turbines, solar PV panels and aluminum, and facilities to recycle them to avoid sending them to landfill.

As the largest procurer of construction materials such as concrete and steel and other building materials, governments play a key role in the signals they send to the market and are therefore a significant lever of change through their purchasing power. Policies that set expectations on head contractors to have an emissions reduction target that includes an requirement to procure low carbon and more circular materials and products have proven to be a successful levers of

³ Van der Heijden, J. (2017). From leaders to majority: a frontrunner paradox in built-environment climate governance experimentation, *Journal of Environmental Planning and Management* 61(1):1-19. DOI:10.1080/09640568.2017.1350147

changing the market.⁴ Setting an intention to buy low embodied carbon and circular materials and sending clear signals into the market by asking for low carbon products has proven to drive market dynamics and encourage manufacturers to invest in retooling. One example is the launch of LoCAL from Australia's largest aluminium extruder, Capral.⁵ Through their participation in the NSW government supported program, MECLA (Materials and Embodied Carbon Leaders' Alliance), Capral shifted its purchasing to buy low carbon aluminium billet to turn into windows and door frames for the Australian market. International engineering and construction company, Laing O'Rourke is the first company to have set carbon limits for Australian procured concrete.⁶ Both major companies see this as a competitive edge.

The built environment contributes substantially to landfill waste. Some estimates measure that up to 40%⁷ of all landfill comes from the building and construction industry including brick, plaster, wood, metal, carpet, and maybe other materials. Through the work of the [Materials and Embodied Carbon Leaders' Alliance](#) (MECLA), industry has identified areas of innovation opportunity to improve the reuse of building materials. The ability to repurpose bricks, wood, and other materials is possible if there are collaborative regulatory sandboxing to enable experimentation without the risk of substantial fines or penalisation. MECLA is hoping to dive deeper into these opportunities with the NSW EPA in 2025 to road test such a proposition and see what regulatory frameworks could enable greater reuse.

Simon Dorries, CEO of Responsible Wood, presented his views on timber and circularity to a recent MECLA meeting. With the volumes of softwood and hardwood plantations declining, imports of timber are increasing, and better practices for re-use and innovative products are a possible solution. Wood waste going to landfill in Australia is currently 1,825,000 tonnes (3 million m³) and wood imports are around 800,000m³ per year. If we could mobilise even 25% of our timber waste, we could develop a range of innovative circular economy products and become self-sufficient in structural wood supply. There are several interventions that could help create a more sustainable timber industry. MECLA hosted a recent Spotlight event on [The Way Forward with Trees](#) featuring a number of companies who are using innovative timber processing techniques to satisfy the growing demand for hardwood, as well as the challenges in supply by, for example, taking pulp grade resources and converting them into premium hardwood timbers. Manufacturing of reconstituted wood product from offcuts and scrap timber could displace or replace virgin wood. Recycled rubber content for use in particle board could also be an advanced materials product offering.

Energy Transition – the roll out of transmission grids and renewables

If Australia is to meet the promise of a fully electrified grid let alone being a Renewable Energy Superpower, this energy transition will require a significant use in many materials in addition to land and water, including but not limited to rare earth minerals, concrete, aluminium, polymers, and steel. Increasing the uptake of circular economy practices to minimise materials, water use

⁴ [Federal Buy Clean Initiative | Office of the Federal Chief Sustainability Officer: ecologiQ - Victoria's Big Build](#)

⁵ <https://www.capral.com.au/capability/lower-carbon-aluminium/>

⁶ [Laing O'Rourke sets carbon limits for Australian procured concrete | Laing O'Rourke \(laingorourke.com\)](#)

⁷ <https://sydneycityrubbish.com.au/construction-waste-in-australia-whats-the-story/>

and waste will mean that adoption of circular economy practices reduce site impacts on wildlife, habitat and water through resource minimisation, waste management and recovery of resources.

To develop a value added iron making processing industry in Australia, based on Deloitte analysis for WWF⁸, approximately 7.1GW of renewable power will be required for one 2.5MT p.a. green iron plant. A combined solar PV and wind turbine plant of this magnitude would require approximately 1.4 MT of materials from five inputs: concrete, polymers, steel, rare earth elements and aluminium. Concrete contributes 58% of the total material volume, mostly towards wind turbine footing supports. Polymers make up over 16% of material volume and are largely used in protective and reflective films used in solar panels. Rare earth elements are used to create and enhance the performance of magnets inside wind turbine generators. Aluminium is primarily used in solar PV framing and mounting structures as it is lightweight and corrosion resistant. It is estimated that a 7.1GW solar PV and wind turbine plant would consume approximately 7% of Australia's domestic concrete production, 5.5% of domestic aluminium production and 0.8% of local steel production (based upon 2022 production). This is clearly unsustainable given other infrastructure and housing priorities and therefore consideration needs to be given to a range of interventions around reuse, better design, and use of alternative and circular materials across all construction projects.

One of the crucial elements for the energy transition is minimising waste and land impacts including at end-of-life and decommissioning of renewable energy technologies. Materials that end up in landfill can pollute and represent a missed opportunity to reuse and recycle to reduce the mining of new materials which have high impacts on the environment. Product stewardship and end-of-life management can avoid materials ending up in landfill, lengthen their life and recycle them. Innovation is required to extend recycling processes to problem waste streams (e.g. turbine blades) and regulation and policy to increase re-use and create end-markets for recycled product. Trials such as the New South Wales Circular Solar Trial (developing a novel solar panel recycling process and activating end-markets for recovered solar panel glass) need to be expanded. Organisations such as [Circular PV](#) and others trying to bring to the market better and smarter ways of creating more circular supply chains.

Reducing food waste

An estimated 30–40% of all food produced is never eaten, representing around a quarter of total global calories. Embedded in lost or wasted food are one-fifth of agricultural land and water used for crops, as well as 4.4% of global greenhouse gas emissions. In fishing, the incidental catch of non-target species (commonly referred to as bycatch) results in 9 million tonnes of dead sea life (over 10% of total ocean catch) being discarded, as well as posing a major threat to many species. These numbers are staggering, but also highlight the immense environmental, economic and human health opportunities of addressing food loss and waste. In countries where farm and fishery losses are high due to poor infrastructure, investing in supply chain infrastructure – such as post-harvest storage technologies, processing techniques and packaging – can make huge reductions in food loss and waste.

Reducing food waste also reduces emissions lost through production and transportation of goods, it reduces methane generated, and it reduces water loss and related nature impacts of the supply chain. Consideration should be given to how we might ensure our progress towards a

⁸ Yet to be published

circular economy also helps deliver against net-zero targets and does not lead to unexpected emissions increases elsewhere.

Resources and critical minerals: There is significant capacity to shift to new technologies with fewer critical minerals, including electric vehicle batteries with different chemistries, stationary applications without lithium-ion batteries and electric traction motors and wind turbine generators with low or no rare earth elements. A 2022 [WWF report](#) shows the demand for 7 of the key critical minerals can be reduced by 58% from now to 2050 with new technology, circular economy models and recycling.

Plastics

With respect to international commitments, reference should also be made throughout this framework to likely obligations coming out of the global plastics treaty negotiations, which will deliver global rules on plastic production, trade, design, transparency and waste management, and which the Australian Government has committed to playing a leadership role in supporting.

WWF's report [Halve Humanity's Footprint](#) recommends aiming to deliver by 2030: a 50% reduction of the footprint of diets, a 40% reduction in the net consumption of all materials (minerals, metals and non-metals), and a 50% reduction in the use of primary biomass sources (wood and crops) for energy production, bringing the overall biomass demand down by 15.5%. As part of this it will be critical to mainstream circular and regenerative business models and to implement legislation that incentivises and facilitates circular economy principles.

Regenerating Nature – The third pillar of circular economy

Regenerating nature is the third pillar of the circular economy and while often the forgotten part of the circular economy it is the most important because it emphasises the necessity of not only minimising harm to the environment but also actively restoring and enhancing natural systems. While traditional circular economy models focus primarily on reducing waste and maximizing resource efficiency, integrating ecological regeneration recognises that the health of our ecosystems is vital for sustainable development. This approach acknowledges that human activities can deplete natural resources and degrade ecosystems, and therefore, a circular economy should also aim to replenish and regenerate these systems.

First Nations communities are integral to the regeneration of nature through their deep-rooted knowledge, sustainable practices, and holistic worldview. Their perspectives promote a more equitable and sustainable relationship between humans and the natural world. By recognising and working with First Nations communities in ecological regeneration, we can work towards a more inclusive and effective approach to nature repair and stewardship.

Following are several strategies to effectively integrate nature into the circular economy:

1. Nature-Based Solutions (NBS): - Definition: Implement solutions that utilise natural processes to address societal challenges, such as climate change, water management, and biodiversity loss. Examples include: Restoring wetlands for flood control, using green roofs to manage stormwater, and planting trees in urban areas to improve air quality.

2. Ecosystem Services Valuation: - Definition: Recognize and quantify the economic value of ecosystem services, which include pollination, water purification, carbon sequestration, and soil fertility. - Action: Integrate these values into decision-making processes, accounting for the benefits that ecosystems provide when designing policies or business models.

3. **Regenerative Agriculture:** - Definition: Adopt agricultural practices that restore soil health, enhance biodiversity, and improve water retention while producing food sustainably. Practices: Techniques include crop rotation, agroforestry, permaculture, and organic farming. These practices help to build soil organic matter and sequester carbon.

4. **Circular Supply Chains:** Definition: Create supply chains that are designed to minimize waste and maximize resource efficiency while considering the ecological impact of sourcing materials. Implementation: Source materials from sustainable or regenerative sources, utilise by-products as inputs in other processes, and ensure that materials can return to nature safely at the end of their life cycle.

5. **Biomimicry:** Definition: Design products and processes inspired by nature's strategies and systems. Examples: Developing materials that mimic the properties of natural substances (like spider silk) or creating systems that operate like natural ecosystems, promoting efficiency and sustainability.

6. **Closed-Loop Systems:** Definition: Implement systems where waste is minimized, and materials are continuously reused, recycled, or composted. Action: Develop industrial symbiosis, where the waste from one industry becomes the raw material for another, mimicking natural nutrient cycles.

7. **Restoration and Conservation Efforts:** Definition: Engage in active restoration of degraded ecosystems and conservation of natural habitats. Action: Support reforestation, wetland restoration, and biodiversity conservation initiatives.

8. **Integrating Biodiversity into Nature Positive Business Models:** Definition: Consider biodiversity impacts in product design, production processes, and corporate strategies. Action: Conduct biodiversity assessments and adopt practices that protect and enhance local ecosystems as part of business operations.

9. **Collaborative Governance:** Definition: Foster collaboration among stakeholders, including businesses, governments, NGOs, and local communities, to create policies and practices that prioritize ecological health. Action: Develop multi-stakeholder initiatives that focus on regional ecological challenges and opportunities for circular economy practices.

10. **Education and Awareness:** Definition: Raise awareness of the importance of integrating nature into the circular economy among consumers, businesses, and policymakers. Action: Promote educational campaigns that highlight the connections between economic activities, ecosystem health, and long-term sustainability.

11. **Monitoring and Reporting:** Definition: Establish metrics and indicators to monitor the health of ecosystems and the effectiveness of circular economy initiatives. Action: Use tools such as biodiversity assessments, ecosystem service evaluations, and sustainability reporting frameworks to track progress.

Incorporating nature into the circular economy requires a paradigm shift in how we view and interact with the environment. By recognising the intrinsic value of ecosystems and actively working to enhance their health, we can create a more resilient, sustainable, and regenerative economic model that benefits both people and the planet.

First Nations communities also play a vital role in regenerating nature, drawing on traditional ecological knowledge, cultural practices, and sustainable resource management strategies that

have been developed over many tens of thousands of years including through traditional ecological knowledge, sustainable land management practices, cultural practices and spirituality, collaborative governance, and cultural revitalisation. Our Indigenous peoples are integral to the regeneration of nature through their deep-rooted knowledge and connection to Country.

Key Government Interventions for Regenerating Nature include:

1. **Policy Frameworks:** Establish clear policies and regulations that support regenerative practices in agriculture, forestry, and land use. This could include incentives for practices such as agroecology, reforestation, and sustainable land management. Economic strategies that include behaviour change (incentives/disincentives), and regulations to mandate reductions, for example plastic bags, coffee cups, building waste etc. These regulations should prioritise eliminating unnecessary packaging, scaling up reuse and refill systems, in line with the waste hierarchy and Australia's biodiversity and climate commitments.

There is also strong potential for the global treaty on plastic pollution to deliver global rules on plastic production, trade, design, transparency and waste management. The treaty should be noted within this framework as it provides a unique time-bound opportunity to drive harmonised circular economy transition within the context of the globalised market in which plastic is produced, traded and managed.

2. **Financial Incentives:** Provide subsidies, grants, or tax breaks for businesses and farmers who engage in regenerative practices. This can encourage the adoption of methods that enhance ecosystem health.

3. **Research and Development:** Invest in research to develop new regenerative techniques and to understand the benefits of ecosystem restoration. This can include funding for universities, NGOs, and private sector initiatives.

4. **Public Awareness Campaigns:** Educate the public about the importance of regenerating nature and how it relates to the circular economy. This can foster a culture that values sustainability and encourages community involvement in regeneration efforts.

5. **Restoration Projects:** Support large-scale ecological restoration projects, such as wetland restoration, reforestation, and the rehabilitation of degraded lands. Governments can lead these initiatives and collaborate with local communities and organizations.

6. **Integrated Land-Use Planning:** Promote land-use planning that integrates ecological considerations into urban and rural development. This includes protecting natural habitats and ensuring that development projects incorporate green spaces.

7. **Monitoring and Reporting:** Establish systems to monitor and report on biodiversity and ecosystem health, ensuring accountability and tracking progress towards regeneration goals.

8. **Collaboration with Indigenous Communities:** Engage with Indigenous peoples who have traditional knowledge and practices related to land stewardship. Their involvement can enhance the effectiveness of regeneration efforts.

9. **Circular Economy Frameworks:** Incorporate regenerative practices into existing circular economy frameworks and initiatives, ensuring that economic activities contribute positively to natural systems.

10. International Cooperation: Participate in global agreements and initiatives focused on biodiversity and ecosystem restoration, recognizing that ecological health transcends national borders.

By incorporating the regeneration of nature as a fundamental element of the circular economy, governments can promote a holistic approach that benefits both the environment and society, leading to a more sustainable and resilient future. First Nations communities can and do play a vital role in looking after much of Australia's estate and their deep cultural attachment to looking after Country is an essential element for Australia to repair and restore and regenerate nature, and creating a more circular economy.

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