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Productivity Commission
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To Commissioners: Joanne Chong & Alison Roberts

Productivity Commission & the Circular Economy

The Total Environment Centre (TEC) welcomes the opportunity to engage with the productivity Commission and the inquiry into Australian opportunities in the circular economy (CE).

TEC was established in 1972 by pioneers of the Australian environmental movement. For more than 50 years, TEC has been working to protect this country's natural and urban environment, flagging the issues, driving debate, supporting community activism and pushing for better environmental policy and practice. In 2000 TEC released its first *Integrated Ecologically Sustainable Development Waste Management Plan* to divert waste from landfill to recycling and reuse. TEC has been pushing for extended producer responsibility (EPR) for tyres, e-waste (including batteries), agricultural and veterinary chemicals[1], and packaging[2] for more than 20 years.[3] TEC's multi award winning short film "Waste not"[4], launched the *Waste Not project*, interactive education website and "trashion" workshops to encourage high school students to reject fast fashion and reduce waste.[5] TEC was a fierce proponent for the Container Deposit Scheme.

Our submissions focus on learnings from our current battery and e-waste campaigns, with some comments on the broader CE.

Ultimately all economies are dependent on the natural environment and the services the natural environment provides.[6] A CE prevents the generation of waste and negative environmental impacts are reduced throughout the life-cycle of materials.[7] In addition, a CE must give back to nature and help remediate the natural environment.[8] We're pleased that in considering this issue, the Productivity

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[1] NSW Dept Environment and Conservation (2004) Report on the Extended Producer Responsibility Preliminary Consultation Program.
[2] TEC (2003) Media release
[3] See TEC Track record :
[4] https://www.wastenot.org.au/waste-not
[5] https://www.wastenot.org.au/
[6] Economies are profoundly dependent on nature for food and raw materials, pollination, water filtration, and climate regulation. World Bank Group (2021) *The Economic Case for Nature: A global Earth-economy model to assess development policy pathways*:; Almost half the world's GDP ($44t USD) is moderately or highly dependent on Nature. See: World Economic Forum (2020) *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*:
[7] page 9. OECD (2024) *Monitoring Progress towards a Resource-Efficient and Circular Economy*.
[8] The DCCEEW has previously acknowledged regenerating nature as one of three key principles of CE; DCCEEW (2024) Transitioning to a more circular economy.

Commission must have regard to the need to ensure industries develop in a way that is ecologically sustainable.[9]

TEC's submissions on productivity and the CE cover five main themes:

1. Industries and products with the greater negative environmental impacts in terms of (i) greenhouse gas emissions, (ii) nature and biodiversity loss, and (iii) pollution and waste, should be addressed with the highest priority.
2. The success of a circular economy should be measured primarily across those three priority areas, with additional targets on the first nine steps of the circularity ladder.
3. Product stewardship is the primary vehicle to assist Australia transition to a circular economy, but requires rapid expansion and improvement.
4. Additional actions are required to address the surplus of negative environmental impacts unabated by current stewardship schemes. These could be carried out by expanded schemes, or external to those schemes, with additional regulatory measures.
5. Incinerating materials for energy is a linear economic process that should not be subsidised by government nor promoted as part of the circular economy.

Our preoccupation is that CE becomes mainstream, rather than limited to boutique or pilot schemes.

Information request 1 - Circular economy success stories and measures of success

One successful example of closing loops is the ***Container Deposit Scheme***. All Australian states now have a mandatory scheme covering eligible drink containers, with a 10c deposit refunded on return. This scheme has secured state recovery rates of between 59% and 77% for these products.[10] Collectively, more than 30 billion beverage containers have been recovered nationally, and a 52% reduction of litter of in-scope beverage containers, for example in NSW.[11] This form of stewardship has been successful in part because it meets all five characteristics of effectiveness as developed by the *Product Stewardship Centre of Excellence,*[12] secured by regulation. The approach resulted from NGO pressure.

<u>How best to monitor progress and measure success</u>

As noted by the OECD, multiple indicators of success will need to be measured.[13] The 100 OECD Indicators,[14] and the 31 Circular Australia metrics[15] provide a firm foundation to measure progress, with some minor qualifications. Core indicators should be aimed at measuring actions to address each category of the triple planetary crisis we currently face, namely (i) climate disruption, (ii) nature and biodiversity loss, and (iii) pollution and waste.[16]

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[9] Section 8(1)(i) *Productivity Commission Act* 1998 (CTH).
[10] TEC (2023) 'Review: Australian Container Refund Schemes', 59% for WA and 77% for SA; Data for Victoria not yet available as they were the last State to commence.
[11] https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/return-and-earn
[12] Namely, high participation, clearly defined objectives, good governance, the use of financial incentives and effective marketing. See: UTS Institute for Sustainable Futures and the Product Stewardship Centre of Excellence (2023) *Evaluating product stewardship benefits and effectiveness*
[13] The OECD suggested each nation track no more than 20-25 core indicators according to their needs. See: page 10, OECD (2024) *Monitoring Progress towards a Resource-Efficient and Circular Economy*
[14] OECD (2024) *Monitoring Progress towards a Resource-Efficient and Circular Economy*.
[15] Talwar, S., Lewis, H., & Retamal, M. (2022). *Circular economy metrics: a review. Sydney*: Circular Australia
[16] UN Secretary-General António Guterres (2022) Message for International Mother Earth Day: Press release

In relation to the first category; greenhouse gas emission (GHG) reductions should not be assessed on a per capita basis alone. Reduction in Australia's total GHG emissions ought to priortised to focus on reducing net emissions to at least 43% below 2005 levels by 2030.[17]

In terms of biodiversity; *Circular Australia's recommendation to* assess land cover, soil organic carbon, phosphorus capture and reuse, and water reuse, are necessary requirements for healthy ecosystems, but need expansion as they do not specifically assess biodiversity. Additional indicators for terrestrial and aquatic biodiversity ought to be included.

The metrics tracking waste and pollution proposed by *Circular Australia* could be complemented by tracking bioaccumulating heavy metals and persistent organic pollutants, both in terms of use, and levels assessed in systemised samples from soil, water, air and waste.[18] In this regard, the OECD recommended tracking *pollutant discharges from production activities to water bodies & proportion safely treate*d, as a core indicator. This should be expanded to capture pollutant discharges throughout the life cycle of the product, rather than limited to the production phase.

Metrics that target each of the first nine of the ten Rs that make up the "*Circularity Ladde*r"[19] also ought to be included. Without specific metrics to assess the *Refusal* step*, Rethinking* and *Redesigning* rungs, action taken to discourage unnecessary consumption, promote community education or reduce the use of environmentally harmful chemicals, may be given less attention than tracked outcomes. We note the OECD had similar difficulty determining appropriate methods to track and calculate these aspects, and suggested tracking government measures supporting CE and encouraging reuse, repair, remanufacturing.[20] This could involve tracking targets for, say recycled content requirements, and subsequently measuring implementation. This may align with the *environmental performance indicators,* recommended by the Product Stewardship Centre for Excellence, in terms of materials, efficiency and design & packaging.[21] TEC would support tracking additional activities in this manner as an indicator of successful transition towards a CE.

Metrics targeting reduction in chemicals that inhibit recycling of the products should also be included. In relation to batteries and electronics this would include the use of lead as a plasticiser, and persistent organic pollutants like brominated Flame retardants and Poly- and perfluorinated alkyl substances (PFAS). These chemicals add significant costs to recycling processes and limit potential for safe and efficient recycling. Together with a target to reduce total plastic production, this would align with Australia's foreshadowed plan for the circular economy as outlined in the recent *Strategy for Nature* 2024-2030.[22]

A longevity indicator for electrical and electronic products[23] ought to be included, but expanded to include larger battery types. Consideration should be given to expand durability measures to other

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[17] As required by the Climate Change Act 2022 (CTH) and the Paris Agreement.

[18] Consideration should be given to including samples for marine plastic. page 59. OECD (2024) M*onitoring Progress towards a Resource-Efficient and Circular Economy*

[19] *Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture, Repurpose, Recycle* (excluding *Recover*). Potting, J. et al. (2017), *Circular Economy: Measuring Innovation in the Product chain.*

[20] We note the OECD suggested tax benefits for businesses for the purchase/use of repaired, refurbished, remanufactured items be tracked, but this would not quantify potential weight or content of waste kept in circulation.

[21] page 10. UTS Institute for Sustainable Futures and the Product Stewardship Centre of Excellence (2023) *Evaluating product stewardship benefits and effectiveness*

[22] page 33. Australian Federal Government 92024) *Strategy for Nature 2024–2030*. Set to meet obligations under target 7 and 16 of the *Kunming Montreal Global Biodiversity Framework.*

[23] page 11. Talwar, S., Lewis, H., & Retamal, M. (2022). *Circular economy metrics: a review. Sydney*: Circular Australia

industries, where poor quality products lead to unnecessary waste, like clothing and textiles,[24] or bicycles.[25]

While measuring waste to energy is important to monitor, it should not be proffered as a measure of success. While significant technological improvements have been made, waste to energy still creates additional emissions, toxic pollutants and ash waste high in arsenic, mercury, lead and cadmium that contributes to all three environmental crisies.

The emissions produced by incineration are realised immediately, whereas those emissions from landfill are released gradually.[26] Reliance on waste for energy creates a demand for that stock, potentially conflicting with other CE efforts. Burning waste stifles innovation and deprives future recycle and reuse opportunities.

Information request 2 - Priority opportunities to progress the circular economy

Industries and products with the greater negative environmental impacts in terms of (i) greenhouse gas emissions, (ii) nature and biodiversity loss, and (iii) pollution and waste, should be addressed with the highest priority. E-waste and packaging both have considerable negative environmental impacts on all three areas.

In 2022 alone, Australians generated more than 583,000 tonnes of e-waste, putting us equal fourth as highest per-capita producers of e-waste in the world.[27] If mishandled, e-waste releases toxic pollutants contaminating the land, air and water, while the batteries embedded within those devices represent an additional fire and explosion risk, capable of undermining other recycling efforts. Federal plans to regulate a greater portion of e-waste[28] have been temporarily shelved in favour of a far less ambitious scheme addressing photovoltaic (PV) solar panels alone.[29]

In 2022, Australia recycled roughly 50.2% of its e-waste (excluding batteries), well below the UN's recommended target for industrialised Nations of 85% by 2030.[30] Only a portion of the cost of this recycling is covered by federally accredited or co-regulated stewardship schemes.

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[24] Australia Institute (2024) Textiles Waste in Australia: Reducing consumption and investing in circularity
[25] https://revolverecycling.net/wordpress/wp-content/uploads/2024/02/Choice-Report.pdf
[26] Ballinger et al (2020) *Greenhouse Gas and Air Quality Impacts of Incineration and Landfill*. Eunomia UK. Report to *Client Earth.*
[27] roughly 22.4kg per person. Title shared with France and Iceland, both of which report higher rates of recycling than Australia. see: Baldé, et al. (2024) *Global E-waste Monitor report*.
[28] As outlined in the DCCEEW (2023) *Wired for Change: Small Electrical Products and Solar PV Systems Discussion paper.*
[29] Hansard (2024) *Senate Inquiry into the effectiveness of the Albanese Labor Government's waste reduction and recycling policies in delivering a circular economy*. Public hearing 8 & 29 May 2024. While increasing, PV waste represented less than 1% of the total global e-waste generated in 2022. See: Baldé, et al. (2024) *Global E-waste Monitor* 2024. Pages 11, 15.
[30] See; Baldé, et al. (2024) *Global E-waste Monitor report*, page 12.

The table below outlines the proportion of the > 580,000 tonnes[31] of e-waste Australia produced in the FYE 2023 reported to have been recycled through these schemes:

Table 1.1 ***E-waste covered by accredited or regulated stewardship 2022-2023***

Scheme	Model	Weight collected (tonnes)	% of total e-waste
Mobile Muster[32]	Voluntary	140[33]	0.02%
B-cycle[34]	Voluntary	2,375[35]	0.41%
NTCRS[36]	Co-regulatory	93,360[37]	16.09%
Total	-	95,875	**16.53%**

In addition to the low collection rates, these schemes are limited in that they focus on recycling, without emphasis on other steps in the waste management hierarchy, circularity ladder, such as discouraging unnecessary consumption, implementing design improvements or increasing avenues for repair and refurbishment. Disappointingly, none of these schemes were set waste reduction targets in those specified fields when accredited by the federal government.

The UN Global monitor report noted the three largest category of e-waste globally, in descending order by weight[38], were:

1. Small electronic equipment such as video cameras, toys, microwave ovens and e-cigarettes
2. Large equipment including *washing machines, clothes dryers, dishwashers, electric stoves, large printers, copying equipment.*
3. Temperature exchange equipment, being refrigerators, freezers, air conditions, heaters and heat pumps.

The Federal government previously recognised the need for stewardship over the first category,[39] although action has been disappointingly delayed. Recycling metals from large electrical equipment leads to significant waste from problematic shredder floc. Regulated stewardship should ensure producers pay their fair share towards the cost of treating potentially hazardous material, and focus on redesigning products to meet CE outcomes.

Temperature exchange equipment also requires regulated stewardship. In addition to the problems from small and large electronic equipment above, which are also inherent in this category of waste,

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[31] Baldé, et al. (2024) Global E-waste Monitor report, Annex 2, had Australia's 2022 calendar year e-waste at 583,000 tonnes. We were unable to confirm an accurate total for the 2022-2023 financial year.

[32] operating since 1998, received federal accreditation in 2014. This scheme covers mobile phones, accessories and is expanding into other small devices.

[33] Mobile Muster (2023) *Annual report 2023.* Page 11. Collected 96.3 tonnes of mobile phones, and 43.48 tonnes of miscellaneous modems/routers, small streaming devices, landline phones, small smart speakers, hubs, wearables and activity trackers. For this table, we have rounded up to 140 tonnes.

[34] Launched in 2022, covers most handheld batteries, and power tool batteries. Does not cover batteries embedded in products, EV's, home storage or lead acid batteries. In 2022-2023,collected ~12% target batteries.

[35] B-cycle (2023) Positive Charge 2022-2023 report. Page 7.

[36] *National Television and Computer Recycling Scheme* established in 2011 - covering computers, televisions, printers and related products

[37] DCEEW website accessed on 29 May 2024 : Only four of the co-regulators had reports published on the DCEEW website, namely: Australia and New Zealand Recycling Platform Ltd, Ecycle, Sustainable Product Stewards Pty Ltd & Activ Group.

[38] Baldé, et al (2024) *Global E-waste Monitor report*, page 10

[39] See: DCCEEW (2023) *Wired for Change: Small Electrical Products and Solar PV Systems Discussion paper*

problematic gases with high global warming potential (GWP) like hydrofluorocarbons (HFCs) pose a significant environmental risk and contribute to climate disruption. The Australian refrigeration and air conditioning industry directly and indirectly produced 58.5 Mt CO2e greenhouse gases (GHG) in 2022, making up 12% of our total national GHG emissions.[40]

While there is currently a stewardship program operating in Industry, namely *Reclaim Refrigerant Australia*, it focuses on reclaiming gas from refrigerant and air conditioning equipment at the end of life, for destruction. Approximately 2,570 tonnes of refrigerant gas from such equipment reached end of life in 2022, with *Reclaim Refrigerant Australia* recovering 463 tonnes, or around 18%. HFCs for example, range from 12 times to as much as 14,800 times the GWP of Co2.[41] These refrigerant gases risk release throughout the lifecycle of the products they inhabit, not only at end of life. The current scheme does not address these risks, nor has it prioritised potential re-use of capture gases. It's estimated around 3,250 tonnes of HFC refrigerant are emitted directly to the air each year from this industry.[42] A regulated stewardship, expanding the focus to design out waste and extend the lifecycle of products, has significant potential for improved environmental outcomes in this area.

In relation to packaging, the current voluntary and co-regulatory schemes are failing to make sufficient progress to reduce plastic waste. The significant failures have been recognised by recognised by the DCCEEW,[43] Independent review,[44] and the Australian Packaging Covenant Organisation (APCO) itself.[45] In 2020-2021, 6.74 million tonnes of packaging made its way onto the Australian market.[46] In 2020, it was estimated Australia produced a million tonnes of waste annually from single use plastics alone.[47]

Australia's plastic recycling rates are dismally low, sitting at around 14%[48] Experimenting with voluntary schemes has delayed action in this area. The failed REDcycle scheme allowed supermarkets to continue to use problematic products whilst simultaneously gaining positive media attention for supposed environmentally friendly behaviour.[49] Despite having suspended operations since November 2022, logos advertising Redcycle and the availability of in store recycling still appear on a wide variety of supermarket products.[50]

In July 2024, The Boomerang Alliance released the *Best Practice Mandatory Product Stewardship Scheme for Packaging,* highlighting the need for a nationally mandated productship scheme over

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[40] DCCEEW (2024) Cold Hard Facts. available online
[41] DCCEEW website: GWP values of HFC refrigerants. Accessed 30/10/2024
[42] Page 15; DCCEEW (2024) Cold Hard Facts.
[43] DCCEEW (2024) *Reform of packaging regulation Consultation paper*
[44] Mpconsulting (2021) *Review of the co-regulatory arrangement under the National Environment Protection (Used Packaging Materials) Measure 2011*
[45] APCO (2023) Review of the 2025 National Packaging targets
[46] DCCEEW Website - https://www.dcceew.gov.au/environment/protection/waste/packagingCiruclar Economy for Packaging - accessed 31 October 2024
[47] Dept Agriculture, Water and the Environment (2021) National Plastics Plan 2021; quoting from World Wildlife Fund (2020) *Plastic Revolution to Reality; A roadmap to halve Australia's single use plastic litter.* It should be noted Blue Environment (2024) *2021-22 Plastic Flows and Fates Study* reported a much lower estimate of Single-use plastic packaging and products consumption, sitting closer to 175,000 tonnes (p90) however their list does not appear to include all single-use packaging - further exploration is required.
[48] Page 109. Blue Environment (2024) *2021-22 Plastic Flows and Fates Study reported 14% mechanically recycled in 2021-2022.*
[49]https://www.theguardian.com/australia-news/2024/jan/30/redcycles-collapse-and-the-hard-truths-on-recycling-soft-plastics-in-australia
[50] Coles Supermarket has indicated it will remove reference to Redcycle from packaging by 1 July 2025. website accessed 31 October 2024.

packaging where producers and importers take full responsibility for products placed onto the market, across their entire life cycle. The Boomerang Alliance developed ten guiding principles for stewardship and EPR over packaging. These guiding principles have transferable application to all considerations of the circular economy. These guiding principles are:

1. **Prioritisation of avoidance and reduction**
2. **Best Practice Sustainable Design** (Ecologically Sustainable design):
3. **Mandated standards** - including for the elimination of toxins, with monitoring and regular reviews
4. **Extended Producer responsibility**
5. **Mandatory National Targets and Obligations**
6. **Development of Secondary Markets**
7. **A national scheme managed under Commonwealth legislation**
8. **A standardised monitoring, compliance, and enforcement regime**
9. **Commitment to continuous improvement**
10. **Consumer Education and Awareness.**[51]

Information request 3 - Hurdles and barriers to a circular economy

Businesses are reluctant to incur costs that will put them at a competitive disadvantage. Despite recognising product stewardship as a central mechanism for achieving Australia's recycling and resource recovery objectives and contributing to the development of a CE; [52] The federal government has been slow to act and delayed action by accrediting inefficient voluntary schemes without sufficient targets.

Across the OECD, most stewardship schemes are mandatory rather than voluntary,[53] and with good reason; Voluntary schemes less effective than regulated schemes struggle to fully embody the *polluter pays* principle[54] in the following ways:

1. Being voluntary, conscientious businesses wishing to participate risk competitive disadvantage, while less reputable businesses avoid additional cost by not participating.
2. Voluntary schemes are directed by industry, who propose, implement and monitor their own solutions, often favouring cheaper less effective solutions.[55] These schemes rarely focus on steps in the top half of the *Waste Management Hierarchy,* as reducing consumption and promoting re-use often conflicts with vested interests.[56]
3. Schemes target finite aspects of their environmental impact, ignoring impacts of production, transport, use and disposal out of scheme. The surplus of environmental impacts passed to the community and future generations, while businesses advertise their green credentials.

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[51] Boomerang Alliance (2024) *Best Practice Mandatory Product Stewardship Scheme for Packaging*
[52] Commonwealth Government (2020) Australian Government response to the: Review of the Product Stewardship Act 2011; page 2.
[53] https://www.oecd.org/environment/waste/Extended-producer-responsibility-Policy-Highlights-2016-web.pdf
[54] producers of environmentally damaging goods bear the cost for measures decided by public authorities to ensure the environment remains in an acceptable state: Paragraph 4 of the OECD's (1972) *Guiding Principles concerning International Economic Aspects of Environmental Policie*s. Enshrined in Principle 16 of the UN (1992) *Rio Declaration*
[55] ACOR (2024) Recyclers in Product Stewardship Challenges, priorities, and recommendations from the recycling sector
[56] B-cycle for example, has focussed on marketing/education, collection and recycling.

In short, under a voluntary scheme only some of the polluters contribute some of the cost towards some of their environmental impacts. Attached at Appendix one is a case study summary of the flaws in the B-cycle voluntary scheme. These flaws are not unique to B-cycle, but rather a result of a fundamentally flawed model.

The barrier from greenwash is twofold. Firstly, it gives some consumers a false sense of security that they are purchasing products that are more sustainable than they actually are; in turn reducing their concern for the need for a more CE. Other consumers, once realising some claims are misleading, lose confidence in all claims regarding sustainability. In 2023, an online investigation by ACCC found more than half the businesses examined were making questionable claims about their environmental credentials.[57] Without active prosecution for deliberately misleading transgressions, greenwashing will continue, and the public will lose faith in CE claims. In this regard, we welcome the California prosecution of ExxonMobile,[58] and the ACCC's prosecution of Clorox.[59]

Information request 4 - Governments' role in the circular economy

Industries by and large, have failed to take sufficient steps to transition to the CE. Without strong government involvement Australia will not meet its international commitments. Regulation is required for mandatory stewardship over all batteries and electrical and electronic equipment, and clear trigger frameworks should be put in place on all items on the Ministerial Priority list

Penalties should be set for regulated and voluntary stewardship schemes for failure to meet targets, or mitigate the full environmental damage of their produce. These penalties should be used to fund other positive environmental activities across the first 9 of the ten rungs on the circularity ladder, purchase biodiversity credits[60] or Green Treasury Bonds, and provide subsidies for waste management and recycling operations currently covered by the states and ratepayers.

Grants and financial incentives to promote CE activities should continue, with additional funding for the states to promote the CE and schools and community educations.

Government has a stronger role, not only in overseeing stewardship schemes, but in setting tougher targets for those schemes focussing on the top half of the waste management hierarchy. In this regard, we note the Productivity Commission previously recommended the NTCRS targets be amended to include e-waste repaired and reused,[61] which has not occurred.

The Productivity Commission has also previously recommended repairability and durability labelling across a range of products.[62] We support that recommendation, together with the introduction of end of life labels outlining the recyclability of products.

Setting recycled content requirements in appropriate products may assist develop markets for recovered material content.[63] Similarly, ensuring government procurement practices include requirements to purchase from CE compliant entities where possible, and report on progress towards CE across all supply chains would also encourage more businesses to examine their current practices.

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[57] ACCC (2023) Greenwashing by businesses in Australia:
[58] State of California v ExxonMobile - Complaint for Abatement, Equitable Relief, and Civil penalties
[59] https://www.accc.gov.au/media-release/glad-bags-manufacturer-in-court-for-50-ocean-plastic-claims
[60] Under the, currently voluntary, Nature Repair Market scheme
[61] page 38. Productivity Commission (2021) Right to Repair Inquiry Report
[62] ibid.
[63] ACOR (2022) Gearing up for a circular economy: Actions to unleash a booming Australian Recycling Sector.

TEC supports the recommendation of the Circular Economy Ministerial Advisory Group to promote voluntary Circular economy and sustainability-related risk disclosures from large businesses, with a view to make these reporting requirements mandatory to coincide with the already mandatory climate-related financial disclosure requirements.[64]

Conclusion

In addition to the intrinsic value of nature, the natural environment plays a vital role in the spiritual, cultural, inspirational, aesthetic, historic and social aspects of our lives.[65] When uncaptured emissions, pollution and waste enters the biosphere it risks biogeochemical cycles, plants, animals and ecosystems, diminishing potential resources and jeopardising future economic activity. Prioritising products and industries for the transition to, and measurements of, the CE need to focus on all three of the planetary crisies we face. Producers, with input from the repair, recycling and waste management sector, are well placed to identify and work towards improvements in products to meet CE outcomes, however, without mandatory regulation, Industry will not voluntarily take sufficient action.

While mandatory product stewardship has huge potential, additional actions are required to address the surplus of negative environmental impacts unabated by current stewardship schemes. These could be carried out by expanded schemes, or external to those schemes, with additional regulatory measures.

TEC thanks you for the opportunity to engage with the Productivity Commission on this important issue.

Kind regards,

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We respectfully acknowledge the traditional owners of the land on which we work

[64] Circular Economy Ministerial Advisory Group (2024) Circular Economy Interim Report.

[65] which is of such import that in 2022, the United Nations General Assembly recognised the right to a clean, healthy and sustainable environment as a human right. UNGA (2022) The human right to a clean, healthy and sustainable environment (2022) UN Doc A/76/L.75.

Appendix 1 - The B-cycle voluntary scheme

The **B-Cycle** battery recycling scheme offers a prime example of the problems inherent in voluntary stewardship schemes. These issues can be summarised as follows:

Delays: EPR schemes were considered by the NSW state government handheld batteries more than 20 years ago.[66] Moves to progress federal schemes after the introduction of the Product Stewardship Act 2011, never came to fruition. Handheld batteries were listed on the Ministers "Priority list" for stewardship for almost a decade before finally this scheme launched in 2022.[67]

Limited Scope: B-cycle was granted authority to cover embedded, home storage and EV battery markets,[68] other than power tools, they have not made significant headway in these other markets.

Lack of targets: B-cycle was accredited without any specific target for recycling, merely a road objective to "increase" battery recycling. No targets were set to reduce waste through re-design, reduce reliance on hazardous materials, or extend life of products through repair or reuse. Other entities refurbish certain battery types for resale.[69]

Free riders: B-cycle reports lost revenue from non-participating "free riders" sits at around $8.5m per annum.[70]

Lack of sufficient targets: The only target for B-cycle was to "increase" battery recycling. No targets were set to encourage design improvements, reduce hazardous content, improve recyclability or repairability, facilitate repair/refurbishment/ second life use of batteries, or support fledgling markets for recovered materials.

Insufficient levy rate: It's been reported the B-cycle levy covers only 60% of the cost of battery collection and recycling of the batteries currently collected.[71] Recent studies indicate consumers are willing to pay between 9.7 and 12% for more for sustainable products,[72] indicating the levy could have been set much higher with little consumer resistance.

No financial incentives for consumers : No incentives have been set for consumers to return batteries.

Insufficient advertising of scheme on packaging or point of sale: Our recent report[73], there is insufficient advertising of the scheme to discourage incorrect disposal in stores, on packaging, or on the batteries themselves. Packaging has not been updated to disclose the existence of the levy to consumers. While removable batteries from vapes are now accepted, this is only advertised on their website, not in stores.

Performance: B-cycle has raised more than $36m in levies and grants since inception in 2022, yet fails to capture around 85% of target batteries.[74]

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[66] https://www.environment.nsw.gov.au/resources/waste/epr/reportepr.pdf
[67] See: DCCEEW Website. Accessed 31 October 2024
[68] BSC (2020) Application to the ACCC for Determination & the ACCC (2020) Authorisation page 1
[69] for example: Second LIfe batteries in QLD;
[70] B-cycle (2024) Achievements (Including online sales)
[71] EcoBatt (2024) Battery Stewardship Council Announces Early Review of B-cycle Scheme.
[72] PWC and Bain & Company respectively: PWC (2024) webpage: Bain & Company webpage.
[73] https://www.tec.org.au/battery_recycling_crisis
[74] B-cycle (2024) Progress Report.