

Australia's Response to Plastic Packaging: Towards a Circular Economy for Plastics

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Abstract

Reducing the amount of plastic packaging being produced and disposed of is an urgent and significant challenge for regulators and for society more broadly. In recent years, the circular economy has emerged as a key paradigm for conceptualising solutions to plastic and other kinds of waste. While waste management is focused on dealing with materials once they are wasted, the circular economy paradigm calls for changes to the whole supply chain including how plastics are made and used. Australia, along with other nations, has incorporated the concept into waste laws and policies. This article addresses the challenge of using the reconceptualisation of waste offered by the circular economy paradigm in regulatory responses to plastic packaging. By developing principles that draw on the literature relating to the circular economy and regulatory studies, this article illustrates how to design regulatory interventions that support the creation of a circular economy for plastic packaging. Using these principles, the article evaluates Australia's regulatory framework for plastic packaging. Despite the political and media attention on reducing plastic packaging pollution, this article finds fundamental flaws and gaps in the regulation of plastic packaging and identifies options for improving the current approach consistent with the proposed regulatory design principles.

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I Introduction

Plastic use and pollution is a pressing environmental and public health challenge linked to climate change and catastrophic biodiversity loss.¹ Plastic packaging is a particularly prominent form of plastic use, generating high levels of plastic pollution. In fact, it is estimated that 42% of plastic produced globally is used for packaging.² Unlike plastic used in other sectors, which can be used and re-used for longer periods, plastic packaging is often designed for single-use applications. Moreover, due to its strength, lightweight characteristics and the diverse use of additives and other components in its manufacturing (eg, glues and dyes),³ plastic packaging is especially difficult and costly to dispose of and manage. Finally, plastic packaging cannot be recycled indefinitely, unlike other materials such as steel, as it degrades in material integrity after each recycling process.

Despite effective industry resistance over several decades,⁴ regulatory responses to address plastic pollution have increased domestically and internationally.⁵ Notably, the United Nations is developing a treaty addressing plastic pollution.⁶ The circular economy has emerged — simultaneously with the focus on plastic pollution — as a way of conceptualising and identifying solutions to waste. The circular economy is an approach that moves away from the current linear model of material use whereby materials are produced, used and discarded. It envisages an economy where materials are continually re-used either in their current state or as a material in additional production processes.⁷ Hence, the concept of the circular economy prioritises reducing the amount of material used and designing products for re-use, reparability, upgradability and recyclability.⁸ In Australia, the

¹ Fatemeh Amereh, Mohammad Babaei, Akbar Eslami, Simin Fazelipour and Mohammad Rafiee, 'The Emerging Risk of Exposure to Nano(Micro)Plastics on Endocrine Disturbance and Reproductive Toxicity: From a Hypothetical Scenario to a Global Public Health Challenge' (2020) 261 *Environmental Pollution* 114158.

² Hannah Ritchie, 'FAQs on Plastics', *Our World in Data* (Web Page, 2 September 2018) <<https://ourworldindata.org/faq-on-plastics>>.

³ Ksenia J Groh, Thomas Backhaus, Bethanie Carney-Almroth, Birgit Geueke, Pedro A Inostroza, Anna Lennquist, Heather A Leslie, Maricel Maffini, Daniel Slunge, Leonardo Trasande, A Michael Warhurst and Jane Muncke, 'Overview of Known Plastic Packaging-Associated Chemicals and Their Hazards' (2019) 651 (Part 2) *Science of the Total Environment* 3253.

⁴ Jennifer Clapp, 'The Rising Tide against Plastic Waste: Unpacking Industry Attempts to Influence the Debate' in Stephanie Foote and Elizabeth Mazzolini (eds), *Histories of the Dustheap: Waste, Material Cultures, Social Justice* (MIT Press, 2012) 199.

⁵ Peter Dauvergne, 'The Power of Environmental Norms: Marine Plastic Pollution and the Politics of Microbeads' (2018) 27(4) *Environmental Politics* 579.

⁶ *End Plastic Pollution: Towards an International Legally Binding Instrument*, UNEP Res 5/14, UN Doc UNEP/EA.5/Res.14 (2 March 2022).

⁷ See Martin Geissdoerfer, Paulo Savaget, Nancy MP Bocken and Erik Jan Hultink, 'The Circular Economy: A New Sustainability Paradigm?' (2017) 143 *Journal of Cleaner Production* 757, 759, 766.

⁸ See, eg, Eléonore Maitre-Ekern, 'The Choice of Regulatory Instruments for a Circular Economy' in Klaus Mathis and Bruce Huber (eds), *Environmental Law and Economics* (Springer, 2017) vol 4, 305; 'What Is a Circular Economy?', *Ellen MacArthur Foundation* (Web Page, 2019) <<https://www.ellenmacarthurfoundation.org/circular-economy/concept>>; Anastasia Bousgas, 'Embedding Circular Principles into Plastic Packaging Regulation in Australia: Challenges and

circular economy was first mentioned in the 2018 Senate inquiry into the waste industry,⁹ and in the subsequent *National Waste Policy*,¹⁰ and the *National Waste Policy Action Plan*.¹¹

Corresponding with the increase in political and regulatory attention directed at plastics and the circular economy, legal scholarship on these topics has also increased over the last five years. Most of this scholarship has concentrated on international and transnational responses to plastics, with a focus on designing a treaty for plastic pollution.¹² Other themes in the literature include the introduction of domestic bans on particular kinds of plastic,¹³ the ways in which property and consumer law promote linear uses of materials,¹⁴ and the broader role of law in facilitating the transition to a circular economy across all waste streams.¹⁵ Finally, scholarship on extended producer responsibility schemes encompassing plastics,

Solutions' (LLM Thesis, University of Southern Queensland, 2022); Julian Kirchherr, Denise Reike and Marko Hekkert, 'Conceptualizing the Circular Economy: An Analysis of 114 Definitions' (2017) 127 *Resources, Conservation and Recycling* 221.

⁹ Senate Environment and Communications References Committee, Parliament of Australia, *Never Waste a Crisis: The Waste and Recycling Industry in Australia* (Final Report, June 2018).

¹⁰ Department of Agriculture, Water and Environment (Cth), *National Waste Policy: Less Waste, More Resources — 2018* (2018) ('*National Waste Policy*').

¹¹ Department of Agriculture, Water and Environment (Cth), *National Waste Policy: Action Plan — 2019* (2019) ('*National Waste Policy Action Plan*').

¹² See, eg, Karen Raubenheimer, Alistair McIlgorm and Nilüfer Oral, 'Towards an Improved International Framework to Govern the Life Cycle of Plastics' (2018) 27(3) *Review of European, Comparative and International Environmental Law* 210; Peter Dauvergne, 'Why Is the Global Governance of Plastic Failing the Oceans?' (2018) 51 *Global Environmental Change* 22; Ina Tessnow-von Wysocki and Philippe Le Billon, 'Plastics at Sea: Treaty Design for a Global Solution to Marine Plastic Pollution' (2019) 100 *Environmental Science and Policy* 94; Elizabeth A Kirk, 'The Montreal Protocol or the Paris Agreement as a Model for a Plastics Treaty?' (2020) 114 *AJIL Unbound* 212; Elizabeth A Kirk and Naporn Popattanachai, 'Marine Plastics: Fragmentation, Effectiveness and Legitimacy in International Lawmaking' (2018) 27(3) *Review of European, Comparative and International Environmental Law* 222; Hope Johnson, Zoe Nay, Rowena Maguire, Leonie Barner, Alice Payne and Manuela Taboada, 'Conceptualizing the Transnational Regulation of Plastics: Moving Towards a Preventative and Just Agenda for Plastics' (2021) 11(2) *Transnational Environmental Law* 325.

¹³ See, eg, Doris Knoblauch, Linda Mederake and Ulf Stein, 'Developing Countries in the Lead: What Drives the Diffusion of Plastic Bag Policies?' (2018) 10(6) *Sustainability* 1994; Jennie R Romer and Leslie Mintz Tamminen, 'Plastic Bag Reduction Ordinances: New York City's Proposed Change on All Carryout Bags as a Model for US Cities Plastic Pollution' (2013) 27(2) *Tulane Environmental Law Journal* 237; Nicholas Rivers, Sarah Shenstone-Harris and Nathan Young, 'Using Nudges to Reduce Waste? The Case of Toronto's Plastic Bag Levy' (2017) 188 *Journal of Environmental Management* 153.

¹⁴ See, eg, Sean Thomas, 'Personal Property Law for a Zero-Waste Circular Economy: Using Retention of Title Clauses to Reduce Plastics Waste' (2019) 15(2) *Law, Environment and Development Journal* 176; V Mak and E Terryn, 'Circular Economy and Consumer Protection: The Consumer as a Citizen and the Limits of Empowerment through Consumer Law' (2020) 43(1) *Journal of Consumer Policy* 227.

¹⁵ See, eg, Rosa Maria Ballardini, Janne Kaisto and Jukka Similä, 'Developing Novel Property Concepts in Private Law to Foster the Circular Economy' (2021) 279 *Journal of Cleaner Production* 123747; Thomas J de Römph and Jacqueline M Cramer, 'How to Improve the EU Legal Framework in View of the Circular Economy' (2020) 38(3) *Journal of Energy and Natural Resources Law* 245; Eléonore Maitre-Ekern, 'Re-Thinking Producer Responsibility for a Sustainable Circular Economy from Extended Producer Responsibility to Pre-Market Producer Responsibility' (2021) 286 *Journal of Cleaner Production* 125454.

primarily focused on the European Union, and the ability of such schemes to support a circular economy has increased.¹⁶

Despite these legal, political and scholarly developments, Australian scholarship on the regulation of plastic packaging, and the use of law to foster support for a circular economy for plastic packaging, is largely lacking.¹⁷ The absence of legal scholarship on the subject is especially noteworthy in light of the significance of plastic pollution and the proliferation of regulatory responses in Australia to waste. Given the scale and complexity of plastic pollution, and the need for innovative regulatory responses, much more work in this area is required.

This article seeks to contribute to the scholarship on designing and reviewing regulation to combat waste more effectively, and to contribute to the limited Australian scholarship on the regulation of plastic. In Part II, we propose principles to guide regulatory design towards a circular economy in the context of plastic packaging. Our principles draw on circular economy and regulatory theory literature, as well as literature related to plastic packaging. In Part III, we provide a broad overview and critique of Australia's approach at the federal level to regulating plastic packaging.¹⁸ Using the principles identified in Part II, in Part IV we critique the current regulatory framework with a specific focus on the *Australian Packaging Covenant*. In Part IV, we identify some changes that could be made to improve Australia's response to plastic packaging. There has not been an in-depth legal academic analysis of the Covenant in over a decade.¹⁹ As the Covenant comes to the end of its fourth iteration and the federal government considers reforms for packaging regulation,²⁰ it is an ideal time to reflect on, and revise, this instrument and — more broadly — Australia's regulation of plastic packaging.

¹⁶ See, eg, Katrien Streenmans, 'Extended Producer Responsibility: An Assessment of Recent Amendments to the European Union Waste Framework Directive' (2019) 15(2) *Law, Environment and Development Journal* 110; Susanna Andreasi Bassi, Alessio Boldrin, Giorgia Faraca, Thomas F Astrup, 'Extended Producer Responsibility: How to Unlock the Environmental and Economic Potential of Plastic Packaging Waste?' (2020) 162 *Resources, Conservation and Recycling* 105030.

¹⁷ In saying this, the authors note the recent work of Hossain et al which outlines Australian waste policies including the *Australian Packaging Covenant* across the waste streams collectively: Rumana Hossain, Md Tasbirul Islam, Anirban Ghose and Veena Sahajwalla, 'Full Circle: Challenges and Prospects for Plastic Waste Management in Australia to Achieve Circular Economy' (2022) 368 *Journal of Cleaner Production* 133127.

¹⁸ Australian Packaging Covenant Organisation ('APCO'), *Australian Packaging Covenant* (1 January 2017) <<https://apco.org.au/the-australian-packaging-covenant>> ('*Australian Packaging Covenant*').

¹⁹ Noting again the contribution made to highlighting some of the shortcomings of the *Australian Packaging Covenant* (n 18) in the recent work of Hossain et al (n 17).

²⁰ 'Australian Packaging Covenant Organisation', *Department of Climate Change, Energy, the Environment and Water* (Web Page, 2022) <<https://www.dcceew.gov.au/environment/protection/waste/plastics-and-packaging/packaging-covenant>>.

II Preliminary Principles for Regulating Plastic Packaging towards a Circular Economy

A *Combining Regulatory Theory and Circular Economy Literature*

‘Waste management’ has long been the central concept informing the regulation of plastic pollution. A growing body of waste policy scholarship has, however, identified how waste management contains a fundamental conceptual weakness that undermines its ability to effectively reduce waste.²¹ The weakness is that waste management only focuses on waste once it exists and so emphasises end-of-life responses, such as increasing waste collection, rather than focusing on interventions to prevent waste from coming into existence in the first place.²² To an extent,²³ the circular economy addresses this weakness by bringing as much attention to how products are produced and designed (ie, start-of-life processes) as it does to managing material once it exists (ie, consumption and end-of-life processes). It emphasises adjusting the whole life cycle of materials to avoid the production of waste through improved design and reduced consumption of materials.²⁴

The circular economy is a very broad concept, like sustainable development, and so is capable of being interpreted in stronger or weaker ways, and can be used as a normative basis for a range of interventions.²⁵ Despite the concept’s breadth, circular economy literature commonly identifies the following principles as underpinning the vision for a circular economy: (i) whole-of-life-cycle collaboration among state and non-state actors across supply chains;²⁶ (ii) redesigning products

²¹ Rudolf Messner, Carol Richards and Hope Johnson, ‘The “Prevention Paradox”: Food Waste Prevention and the Quandary of Systemic Surplus Production’ (2020) 37(3) *Agriculture and Human Values* 805; Hervé Corvellec, ‘A Performative Definition of Waste Prevention’ (2016) 52 *Waste Management* 3; Bousgas (n 8); Marie Mourad, ‘Recycling, Recovering and Preventing “Food Waste”: Competing Solutions for Food Systems Sustainability in the United States and France’ (2016) 126 *Journal of Cleaner Production* 461.

²² Carrie Bradshaw, ‘Waste Law and the Value of Food’ (2018) 30(2) *Journal of Environmental Law* 311.

²³ The concept has also been critiqued for supporting perpetual growth, rather than problematising increasing levels of production and consumption; for failing to meaningfully incorporate the interests and voices of marginalised groups; and for extending corporate control over foods: see, eg, Hervé Corvellec, Alison F Stowell and Nils Johansson, ‘Critiques of the Circular Economy’ (2022) 26(2) *Journal of Industrial Ecology* 421.

²⁴ Geissdoerfer et al (n 7).

²⁵ Patrick Schröder, Magnus Bengtsson, Maurie Cohen, Paul Dewick, Joerg Hofstetter and Joseph Sarkis, ‘Degrowth within: Aligning Circular Economy and Strong Sustainability Narratives’ (2019) 146 *Resources, Conservation and Recycling* 190; Martin Calisto Friant, Walter JV Vermeulen and Roberta Salomone, ‘A Typology of Circular Economy Discourses: Navigating the Diverse Visions of a Contested Paradigm’ (2020) 161 *Resources, Conservation and Recycling* 104917.

²⁶ See generally, Mariale Moreno, Carolina De los Rios, Zoe Rowe and Fiona Charnley, ‘A Conceptual Framework for Circular Design’ (2016) 8(9) *Sustainability* 937; Omar Romero-Hernández and Sergio Romero, ‘Maximizing the Value of Waste: From Waste Management to the Circular Economy’ (2018) 60(5) *Thunderbird International Business Review* 757 (referencing the purpose of holistic considerations when discussing design and waste management).

for re-use and recyclability;²⁷ (iii) scaling up business models that involve re-use, retained ownership or the use of waste as an input;²⁸ (iv) changing consumer purchasing decisions;²⁹ (v) returning materials for re-use;³⁰ and (vi) improving waste management processes.

The breadth of the circular economy and its relatively recent emergence mean that detailed understanding of how to regulate for a circular economy is lacking.³¹ In this article, we address this gap by drawing on regulatory theory — especially responsive regulation, and extensions of this theory — to understand how to regulate in ways that enable a circular economy in the context of plastic packaging.

While the circular economy focuses on materials, and regulatory theory focuses on regulation, we found some key overlaps between the two conceptual domains. Both areas of work are based in more complex, systems-based perspectives that seek to move beyond a narrow set of issues and solutions. Likewise, circular economy and regulatory studies acknowledge, albeit with different terminology, the role of various actors in regulating. These roles include setting the norms underlying regulatory interventions; collecting and disseminating information around compliance; and identifying and correcting non-compliance.³² In addition, both regulatory studies and circular economy scholarship emphasise the need for a range of techniques and interventions that work in conjunction, as opposed to discrete measures that work in isolation.³³

Regulatory studies, however, provides a much more in-depth understanding of how various regulatory interventions should work together, which is especially useful in the context of the circular economy's focus on influencing the whole supply

²⁷ See, eg, Walter R Stahel, 'The Circular Economy' (2016) 531(7595) *Nature* 435; Murray, Skene and Haynes (n 1); Ellen MacArthur Foundation, *Towards the Circular Economy: Vol 1* (Report, 2013). If we also consider the prominent theories that underpin the concept of the circular economy — such as cradle to cradle, biomimicry and regenerative design — it is evident that product design, and the choices surrounding product design, is a significant component of the circular economy: see, eg, 'Schools of Thought That Inspired the Circular Economy', *Ellen MacArthur Foundation* (Web Page) <<https://ellenmacarthurfoundation.org/schools-of-thought-that-inspired-the-circular-economy>>; 'What Is a Circular Economy?' (n 8); Marcel C den Hollander, Conny A Bakker and Erik Jan Hultink, 'Product Design in a Circular Economy: Development of a Typology of Key Concepts and Terms' (2017) 21(3) *Journal of Industrial Ecology* 517.

²⁸ Patrick Planing, 'Business Model Innovation in a Circular Economy: Reasons for Non-Acceptance of Circular Business Models' (2015) *Open Journal of Business Model Innovation* 1, 4.

²⁹ See Maitre-Ekern, 'The Choice of Regulatory Instruments for a Circular Economy' (n 8); Planing (n 28) 1; Stephen M Jones, *Advancing a Circular Economy: A Future without Waste?* (Springer, 2021) 5–6.

³⁰ World Economic Forum, *Towards the Circular Economy* (Report, 2013) 39–41 on global reverse networks.

³¹ Consistent with regulatory theory, we understand regulation as the interactions between actors as they seek to influence the components within systems: see, eg, Julia Black, 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a "Post-Regulatory" World' (2001) 54(1) *Current Legal Problems* 103.

³² Neil Gunningham and Darren Sinclair, 'Conclusion' in Neil Gunningham and Peter Grabosky (eds), *Smart Regulation: Designing Environmental Policy* (Oxford University Press, 1999) 189; Neil Gunningham and Cameron Holley, 'Next-Generation Environmental Regulation: Law, Regulation, and Governance' (2016) 12(1) *Annual Review of Law and Social Science* 273.

³³ Neil Gunningham and Darren Sinclair, 'Regulatory Pluralism: Designing Policy Mixes for Environmental Protection' (1999) 21(1) *Law and Policy* 49.

chain, rather than specific points. Ayres and Braithwaite's theory of responsive regulation — among other concepts from regulatory studies — underscores the need for effective, overall regulatory design comprising regulatory and enforcement mechanisms that interact and have built-in ways of responding and adapting to the specific context.³⁴ The theory seeks to re-embed regulation into social contexts by holding that regulation should be responsive to the relevant social dynamics and context.³⁵ This conceptualisation of regulation emphasises the importance of regulatory design that incorporates an option to scale up actions to more prescriptive measures, backed with heavier sanctioned enforcement mechanisms, until a time when the underlying aim is achieved.³⁶ Statutory enforcement should be the last measure taken, while more voluntary approaches and compliance strategies (such as education) should be pursued first. Yet a real threat of statutory intervention facilitating compliance should be available where initial voluntary approaches fail to meet the public interest being pursued.

Since the development of responsive regulation, scholars have added to its original conception. Among other things they have emphasised the need for an appropriate mix of regulatory instruments and highlighted the role of third parties and interactions between stakeholders in developing rules and holding those entities being regulated (and the regulators) to account.³⁷ Baldwin and Black's extension of responsive regulation emphasises that regulators need to be responsive to a range of factors beyond how much compliance is being achieved.³⁸ Optimal regulatory design would include, for instance, evaluating how much non-compliant activity is not being addressed by the current regime, and building in wide-ranging ways to significantly modify the mix of rules and enforcement mechanisms in response to assessments of how well the regime is working.

In recent years, Parker and Haines have extended regulatory theory with their concept of 'ecological regulation' and Parker's related concept of 'ecological compliance'.³⁹ Ecological regulation acknowledges the way in which responsive regulation re-embedded social dynamics and values into conceptions of regulatory design and implementation. It goes further in conceiving of regulation as something that should be ultimately responsive to ecological actors and should function in an ecological way. This conception of regulation requires a much greater prioritisation

³⁴ Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (Oxford University Press, 1992).

³⁵ Charlotte Wood, Mary Ivec, Jenny Job and Valerie Braithwaite, 'Applications of Responsive Regulatory Theory in Australia and Overseas' (RegNet Occasional Paper No 15, June 2010).

³⁶ Ayres and Braithwaite (n 34).

³⁷ Gunningham and Sinclair, 'Conclusion' (n 32); Christine Parker, *The Open Corporation: Effective Self-Regulation and Democracy* (Cambridge University Press, 2002) ('*The Open Corporation*'); Peter Grabosky, 'Beyond Responsive Regulation: The Expanding Role of Non-State Actors in the Regulatory Process' (2013) 7(1) *Regulation and Governance* 114.

³⁸ Robert Baldwin and Julia Black, 'Really Responsive Regulation' (2008) 71(1) *The Modern Law Review* 59.

³⁹ Christine Parker, 'From Responsive Regulation to Ecological Compliance: Meta-Regulation and the Existential Challenge of Corporate Compliance' in Benjamin van Rooij and D Daniel Sokol (eds), *The Cambridge Handbook of Compliance* (Cambridge University Press, 2021) 37; Christine Parker and Fiona Haines, 'An Ecological Approach to Regulatory Studies?' (2018) 45(1) *Journal of Law and Society* 136.

of social and environmental interests, including limits on the extraction of natural resources. It also emphasises the need for more interconnected, diversified regulatory responses that address issues simultaneously as opposed to siloed, reactive regulatory structures that tend to reinforce existing power imbalances.

Notably, these understandings of regulation can help address critiques of the circular economy that may otherwise emerge if the circular economy were the only conceptual basis for a regulatory response to waste. The circular economy is often criticised for being overly focused on changing economic systems, with the social and ecological contexts frequently overlooked.⁴⁰ As a result, it tends to be framed in economic and techno-solutionism terms, whereby changes to the economy and new technologies are seen as the way to address waste-related pollution in isolation.⁴¹ Regulatory theory not only provides a more complex understanding of the regulation necessary for operationalising a circular economy into regulatory structures, it also addresses the conceptual limitations of the circular economy by re-embedding social and ecological contexts and values. The next section develops some principles to build an analytical framework for plastic waste regulation drawing on the circular economy and the concepts discussed from regulatory studies.

B *Circular Economy Regulatory Design Principles*

The following identifies five preliminary regulatory design principles as a basis for creating and analysing regulation in support of a circular economy approach to plastic packaging. These principles draw on circular economy and regulatory studies in combination with the specifics of plastic packaging supply chains. We use the term ‘manufacturer’ in this section to encompass all upstream operations that apply to the production and design of plastic packaging.

Principle 1 – Encourage Meaningful Participation and Collaboration among Regulatory Actors

Both circular economy and regulatory studies emphasise how various actors can and should have roles in setting the norms underlying interventions; collecting and disseminating information around compliance; and identifying and correcting non-compliance.⁴² It then follows that regulation for the circular economy must meaningfully incorporate and encourage participation and collaboration among a wide array of actors from the plastics supply chain. Within the regulatory framework for plastic packaging then, clear forums and avenues for communication among all stakeholders within the life cycle of plastic packaging products are required. The specialised knowledge of different actors should inform the development and

⁴⁰ Schröder et al (n 25); Friant, Vermeulen and Salomone (n 25); Francisco Valenzuela and Steffen Böhm, ‘Against Wasted Politics: A Critique of the Circular Economy’ (2017) 17(1) *Ephemera* 23; Corvellec, Stowell and Johansson (n 23).

⁴¹ Paul James, ‘Re-Embedding the Circular Economy in Circles of Social Life: Beyond the Self-Repairing (and Still-Rapacious) Economy’ (2022) 27(10–11) *Local Environment* 1208.

⁴² Gunningham and Sinclair, ‘Conclusion’ (n 32); Gunningham and Holley (n 32).

revision of regulatory instruments.⁴³ In the context of plastics, upstream manufacturers are the best placed within the life cycle to effect design changes that allow for a continual use of plastics consistent with a circular economy. Yet, their decisions require information and support from other supply chain actors and sectors. For instance, upstream manufacturers need information about local waste management capabilities, as well as incentives and support to adopt new materials or designs in cases where local waste capacity is unable to process certain materials. Turning to another actor, regulatory studies tend to emphasise the unique and important role that civil society can, and often does, play in developing and enforcing regulation.⁴⁴ Likewise, albeit to a lesser extent, the circular economy emphasises the role of civil society alongside government and business (indeed, the circular economy was first conceptualised by civil society organisations). As such, regulation of plastic packaging for a circular economy should have specific avenues for civil society involvement and support.

Principle 2 – Emphasise Product Redesign

In accordance with the circular economy, regulatory responses to plastic packaging need to focus on producing material loops: that is, enabling the ongoing recirculation of material for further production and consumption cycles. Hence, plastic packaging needs to be designed for re-use, reparability and recyclability as well as upgradability, where possible, and remain compatible with waste collection and processing availability in the given local context.⁴⁵ Design choices relating to the use of inks, adhesives or other additives, as well as the inclusions of uncommon polymers or the intermixing of polymers with other materials (paper, etc) can affect the technical and economic viability of recycling plastic packaging.⁴⁶ Additionally, different local-level infrastructure capabilities exist for managing plastic waste, which poses an issue for design decisions specifically, but also for closing loops more generally.

To effectively regulate the redesign of plastics, regulatory theory supports the adoption of a diverse range of interventions beyond, but including, mandatory or voluntary design standards, as opposed to a single instrument approach.⁴⁷ These interventions include bans on particular additives; extended producer responsibility schemes, where manufacturers have to re-use plastic packaging; and provisions to

⁴³ Richard Hughes, 'The EU Circular Economy Package: Life Cycle Thinking to Life Cycle Law?' (2017) 61 *Procedia CIRP* 10, 16.

⁴⁴ Robert V Percival and Zhao Huiyu, 'The Role of Civil Society in Environmental Governance in the United States and China' (2014) 24(1) *Duke Environmental Law and Policy Forum* 141; John Braithwaite and Peter Drahos, *Global Business Regulation* (Cambridge University Press, 2000) 36; Ayres and Braithwaite (n 34) 54–89; Magnus Boström, 'Regulatory Credibility and Authority through Inclusiveness: Standardization Organizations in Cases of Eco-Labeling' (2006) 13(3) *Organization* 345.

⁴⁵ Ellen MacArthur Foundation, *Towards the Circular Economy: Volume 1* (n 27).

⁴⁶ HA Leslie, PEG Leonards, SH Brandsma, J de Boer and N Jonkers, 'Propelling Plastics into the Circular Economy: Weeding out the Toxics First' (2016) 94 *Environment International* 230.

⁴⁷ Gunningham and Sinclair, 'Regulatory Pluralism: Designing Policy Mixes for Environmental Protection' (n 33).

require the publication and sharing of information about the specifics of plastic packaging lines compared to domestic waste infrastructure.

Principle 3 – Develop Capacity to Scale up Responses over Time where Plastic Packaging Production and Waste Remain Stable

Consistent with responsive regulatory theory, the ideal regulatory approach is to start with more informal, persuasive interventions based on voluntary or semi-voluntary frameworks. Where such an approach is unsuccessful, the regime should become more onerous over time, moving towards higher levels of state intervention (ie, towards command and control). The same can be said for enforcement actions. While enforcement mechanisms should at first be based on persuasion and collaboration, they should be scaled up to incorporate civil and even criminal penalties where non-compliance continues. Hence, in addition to the presence of clearly established rules, aims or standards, effective regulation should also contain a sufficient mix of enforcement actions ranging from persuasion and informal approaches through to more coercive responses.⁴⁸ In achieving circular product design, it is generally thought that ‘voluntary and non-committal approaches will ultimately be insufficient’ to achieve the kinds of whole-supply-chain changes required.⁴⁹

The regulatory model for plastic packaging, then, requires effective compliance mechanisms that are able to motivate business actors to comply, while also providing avenues for increasing interventions over time in response to non-compliance or a lack of progress towards the objective of improved circular plastic packaging. Where manufacturers agree, or are compelled, to undertake product redesign, mechanisms will need to be in place to track and monitor progress and influence compliance. Consistent with responsive regulation, where a manufacturer does not undertake the required type or extent of product redesign, enforcement actions should be scaled up over time with the ultimate enforcement action being, for instance, strong financial penalties. Similarly, scaling up of regulation should swiftly follow instances of non-compliance.

Principle 4 – Clearly Prioritise Reductions and Efficiencies in Material Consumption

To be consistent with a circular economy approach and taking into account the need for plastic packaging in medical and related scenarios, a regulatory regime for plastic packaging should have as the main priority reducing the amount of plastic packaging being produced and consumed along supply chains.⁵⁰ Regulation should be designed, therefore, to encourage reduced consumption of virgin material in both production and consumption practices of manufacturers of plastic packaging. This may involve, for instance, regulatory actors finding ways of using less material per

⁴⁸ Christine Parker and Organisation for Economic Co-operation and Development, *Reducing the Risk of Policy Failure: Challenges for Regulatory Compliance* (Report, 2000) 7.

⁴⁹ Aldert Hanemaaijer, Maikel Kishna, Hester Brink, Julia Koch, Anne Gerdien Prins and Trudy Rood, *Netherlands Integral Circular Economy Report 2021: English Summary* (January 2021).

⁵⁰ See, eg, Stahel (n 27).

item, incorporating recycled material, and/or preventing unnecessary use or overuse. Such an approach to regulating plastics is especially consistent with the move towards prioritising ecological interests in regulation, as detailed in Part II(A).

Although generally economics dictate that most manufacturers will already use the minimum required material, in practice this is often offset by additional use of material for aesthetics, convenience, custom or marketing benefits.⁵¹ Over-packaging can also result from a company's investment in certain production processes, leading to a reluctance to make changes in line with best practice developments. Targets for reduced material consumption that are perhaps a mix of voluntary and mandatory could form part of the interventions.

Nevertheless, the act of reducing material consumption to use less plastic per item is not merely about manufacturers swapping one type of plastic with another or using a different type of material such as biomass alternatives. Substituting a particular kind of plastic for another material does not necessarily guarantee more sustainable outcomes. Material reductions should be supported by comprehensive assessments of the environmental impact of substitutes and the ways in which they will be disposed of. Relevant considerations can include the types of chemicals used in the new material and its realistic re-use opportunities. Prioritising material reductions is, therefore, a difficult process requiring a comprehensive assessment of substitutes and a balancing of the impacts of reducing plastic packaging against other public interest goals such as public health. Regardless, this more complex analysis of material flows is consistent with the move in regulatory studies to embed ecological contexts into conceptions of ideal regulatory structures.

Principle 5 – Support Mechanisms That Mobilise Resources for Infrastructure Change and Design Innovations

A regulatory regime for plastic packaging should support investment in research and development that advances new materials, processes and end-of-life processing. Multiple technical difficulties confront plastic redesign for re-use and recyclability,⁵² as well as the development of materials to replace plastics. Regulatory interventions need to mobilise financial resources towards technical and social advancements in plastic design, re-use, recyclability and reduction. Moreover, regulatory interventions should incentivise industries to invest in shifting their current processes and technologies and waste processing infrastructure.

Consistent with ecological regulation, it is important that each technical intervention is assessed against its ultimate contribution to a circular economy — that is, a whole-of-life-cycle approach. For instance, an advancement in plastic redesign to improve recyclability and re-use is inconsistent with a circular economy if the approach ultimately requires the extraction of more resources, or if it

⁵¹ Jefferson Hopewell, Robert Dvorak and Edward Kosior, 'Plastics Recycling: Challenges and Opportunities' (2009) 364(1526) *Philosophical Transactions of the Royal Society B: Biological Sciences* 2115, 2117.

⁵² See, eg, Anna-Sophia Bauer, Manfred Tacker, Ilke Uysal-Unalan, Rui MS Cruz, Theo Varzakas and Victoria Krauter, 'Recyclability and Redesign Challenges in Multilayer Flexible Food Packaging: A Review' (2021) 10(11) *Foods* 2702.

unintentionally encourages an increase in hazardous plastic or plastic that is more difficult to recycle — as has occurred previously.⁵³ This suggests that regulators should be aware of and be willing to continuously review the standards and targets they set to ensure that the redesign of plastic packaging is tracking in favour of circular economy outcomes.

III Australia's Regulation of Plastic Packaging

A Current Regulatory Framework

The regulatory regime for plastic packaging in Australia has five main components: (i) federal waste policy documents; (ii) the federal legislative ban on unsorted plastic exports;⁵⁴ (iii) the *Australian Packaging Covenant* and related regulatory framework which includes involvement with the voluntary, transnational ANZPAC Plastic Pact ('ANZPAC');⁵⁵ (iv) state and territory legislative plastic packaging bans; and (v) state and territory policies on waste and the circular economy.⁵⁶ Most of these instruments and policies have been introduced since 2018 in response to China's ban on plastic waste imports.⁵⁷ As a result of this ban, and the related media, it was revealed that Australia lacked capacity to recycle significant amounts of plastic packaging and was exporting large amounts of plastic waste to China that it would now need to stockpile.

In this article we focus on federal regulation but mention state and territory arrangements where appropriate. It is also worth noting that most plastic is imported into Australia.⁵⁸ Hence, there is an inherent limit on the ability of Australian governments to regulate plastic packaging. Regardless, the federal government can

⁵³ For example, the replacement of polyethylene terephthalate (or PET) for low-density polyethylene ('LDPE') might save on material used, but LDPE is ultimately more difficult to recycle.

⁵⁴ See *Recycling and Waste Reduction Act 2020* (Cth) s 18 ('*Recycling and Waste Reduction Act*').

⁵⁵ The ANZPAC Plastics Pact ('ANZPAC'), launched in May 2021, is the voluntary regional pact of Australia, New Zealand and Pacific Island nations under the wider network of plastic pacts initiated by the Ellen MacArthur Foundation. The global Plastics Pact Network attempts to connect businesses, NGOs and governments behind a series of 2025 targets to eliminate plastic waste: see generally 'The Plastics Pact Network', *Ellen MacArthur Foundation* (Web Page) <<https://ellenmacarthurfoundation.org/the-plastics-pact-network>>. In Australia, ANZPAC is administered by APCO (discussed below in Part III(C)): see ANZPAC, 'Leading Businesses, NGOs and Governments from across the Plastic Supply Chain and the Region Unite behind 2025 Targets to Eliminate Plastic Packaging Waste' (Media Release, 17 May 2021) ('ANZPAC Media Release').

⁵⁶ A transnational scheme has recently been incorporated by APCO as a national project for the plastics industry in Australia. ANZPAC was developed by the Ellen MacArthur Foundation in collaboration with APCO and the Waste and Resources Action Programme ('WRAP') UK as a voluntary scheme for companies to work on improving plastics outcomes on the international stage. This voluntary scheme has four established targets: (i) elimination of unnecessary plastic through redesign; (ii) 100% of plastic to be reusable, recyclable or compostable by 2025 (like the packaging targets); (iii) increased plastic collection for recycling; and (iv) on average 25% of plastic packaging to comprise recycled plastics.

⁵⁷ Juli Tomaras, 'Waste Management and Recycling: Budget Review 2020–21' (Report, Parliamentary Library, Parliament of Australia).

⁵⁸ Department of Agriculture, Water and the Environment (Cth), *2018–19 Australian Plastics Recycling Survey: National Report* (Final Report, 12 March 2020) 4.

still significantly influence how companies in Australia source their packaging, the amount of packaging they use, and the composition of the plastics imported.

The federal government's first — and to date main — response to plastic packaging was the creation in 1999 of the *National Packaging Covenant* (today known as the *Australian Packaging Covenant*). Indeed, this was the federal government's first regulatory response to waste (of any kind), beyond regulating the export of waste, and was initiated by industry in response to concerns that Australia would increase its regulation of waste following legal developments in Europe.⁵⁹ It has remained the primary response to plastic waste at the federal level for 20 years, despite its widely documented issues and the limited national improvements achieved in regard to plastic waste in Australia.⁶⁰ These issues were brought to the public's attention in December 2022 with the failure of a nationwide soft plastics recycling scheme,⁶¹ and again in May 2023 when the federal government decided to 'temporarily' lift its national ban on the exports of some types of plastic waste to alleviate mounting stockpiles.⁶²

Alongside the *Australian Packaging Covenant* (discussed further in Part II(B)) are various policies on plastic packaging that have been introduced since 2018, corresponding with China's ban.⁶³ The introduction of these policies also coincides with the increased introduction at the state and territory level of bans on specific kinds of single-use plastics. In total, at the federal level, there are now four policies related to plastic packaging that have been created since 2018. Table 1 outlines each document and its key provisions as they relate to plastic packaging.

⁵⁹ See Nicole Sommer, 'It's Not My Bag Baby: Responsibility for Packaging and the National Packaging Covenant' (2006) 10(2) *Australasian Journal of Natural Resources Law and Policy* 219, 242–5.

⁶⁰ See National Packaging Covenant Industry Association, Submission to Productivity Commission, *Waste Generation and Resource Efficiency Inquiry* (February 2006) 6; S Kelly, H Lewis, A Atherton and J Downes, *Packaging Sustainability Framework for APC Signatories: Final Report* (UTS Institute for Sustainable Futures, 2017) 1.

⁶¹ A recent example is the folding of the REDcycle program: see, eg, Najma Sambul, Chris Vedelago and Caroline Schelle, 'Thousands of Tonnes of Plastic Bags from Coles, Woolworths Scheme Found in Warehouses', *The Age* (online, 9 December 2022) <<https://www.theage.com.au>>.

⁶² Jake Evans, 'Environment Minister Tanya Plibersek Grants Exemption for Some Household Plastic Waste To Be Exported', *ABC News* (online, 18 May 2023) <<https://www.abc.net.au>>.

⁶³ The Centre for International Economics, *Costs and Benefits of Banning Exports of Waste* (Final Report, 24 February 2020).

Table 1: Federal policies dealing with plastic packaging

Title	Features in regard to plastic
National Waste Policy ⁶⁴	<ul style="list-style-type: none"> • Outlines the direction for waste management in Australia until 2030. • First national policy document incorporating the circular economy as a key concept for informing Australian government responses to waste. • Strategy 10 is ‘[r]educe the impacts of plastic and packaging on the environment and oceans, reduce plastic pollution, and maximise benefit to the economy and society’). • Contains a narrow definition of a circular economy focused on closing material loops.
National Packaging Targets 2025 ⁶⁵	<ul style="list-style-type: none"> • Agreed to by all state and territory environment ministers in 2018. • Establishes four targets to be achieved by 31 December 2025: <ol style="list-style-type: none"> (i) 100% of packaging to be re-usable, recyclable or compostable; (ii) phasing out of problematic and unnecessary single-use plastic packaging through redesign, innovation and alternatives; (iii) 70% of plastic packaging to be recycled or composted; and (iv) 20% average incorporation of recycled content into the production of plastic packaging. <p>Note: Targets (i) and (ii) are also shared by ANZPAC.⁶⁶</p>
National Waste Policy Action Plan ⁶⁷	<ul style="list-style-type: none"> • Implements the <i>National Waste Policy</i> through seven national targets. • Target 3 is 80% average resource recovery rate from all waste streams (ie, 80% of waste is re-used or recycled), including plastics. • Target 5 is removal of all problematic and unnecessary plastic by 2025. • Creates a list of problematic and unnecessary packaging. • Focuses on beach clean-ups, consumer disposal education and waste disposal levies.
National Plastics Plan ⁶⁸	<ul style="list-style-type: none"> • Outlines five key areas for focus on improved environmental outcomes. • Primarily focuses on recycling and improving consumer information. • Prioritises actions such as uptake of the Australian Recycling Label, investment in consumer education on disposal, and creation of an interactive consumer app to identify recyclability. • Does not clearly link to the circular economy, despite the prominence given to the circular economy in the <i>National Waste Policy</i>.

⁶⁴ *National Waste Policy* (n 10).

⁶⁵ ‘Australia’s 2025 National Packaging Targets’, *APCO* (Web Page) <<https://apco.org.au/national-packaging-targets>>.

⁶⁶ ANZPAC members declare their intention to achieve four targets by 2025. These include the elimination of unnecessary and problematic plastic packaging through redesign, innovation and alternative (reuse) delivery models, and 100% of plastic packaging to be reusable, recyclable or compostable packaging by 2025: see ANZPAC Media Release (n 55).

⁶⁷ *National Waste Policy Action Plan* (n 11).

⁶⁸ Department of Agriculture, Water and the Environment (Cth), *National Plastics Plan 2021* (2021) (‘*National Plastics Plan*’).

Overall, the goals featured in these four policies are not embedded into a legislative framework and, as such, remain aspirational and voluntary. The National Packaging Targets come the closest to being incorporated within a regulatory framework for plastics. This is because the *Australian Packaging Covenant* mentions the National Packaging Targets in connection to its industry targets and has attempted to interpret them for the purpose of including them in the *Sustainable Packaging Guidelines* (discussed below in Part III(C)). The similarities between the National Packaging Targets, and the targets set under ANZPAC, also highlight the vital role the Covenant's regulatory arrangement plays for the achievement of circular plastic packaging in Australia and the wider Australia, New Zealand and Pacific Islands region. Nevertheless, we detail in the next section some significant limitations on the link between the National Packaging Targets and the Covenant that also bring into question the potential success of ANZPAC.

The four policies lack coherence, particularly with regard to the inconsistent reference to concepts that underpin their goals. For example, despite the prominence given to the circular economy in the *National Waste Policy*, the circular economy is not a clear objective underpinning the subsequent *National Plastics Plan*. Furthermore, the policies continue to concentrate primarily on areas that have historically been the focus of waste management policies — namely, increasing recycling, working with local governments to improve waste management, and educating consumers about correct disposal practices. For reasons already discussed, managing waste after it comes into existence is only one set of interventions required to work towards a circular economy. The continued focus on these areas means there is a failure to consider factors relevant to circularity for plastics — namely, prevention of waste from coming into existence in the first place, and better design of products for increased re-use and improved recycling outcomes.

The strong focus on recycling across these policies is especially problematic in the context of plastics because, although recycling is an aspect of the circular economy, it features lower on the scale of preferential treatment of post-consumer material. Furthermore, recycling of linear plastics (ie, plastics not designed for circularity) is not an ideal approach for dealing with waste. This is partly because the process of recycling linear plastics is resource intensive, and plastics cannot be recycled indefinitely to form a material loop (ie, constant re-use). There are numerous other technical, social and infrastructure limitations on recycling plastics. These include the significant variation in recycling capabilities across Australian local governments, and a lack of solutions for mixed plastics (ie, different kinds of plastic used in the same package) and soft plastics. Yet the policies do not acknowledge these limits. Finally, it remains cheaper to purchase new rather than recycled plastics.⁶⁹ This means that, without significant market intervention, it will be difficult to meaningfully extend recycling, keeping in mind the physical and

⁶⁹ Colin Staub, 'Low Virgin Plastics Pricing Pinches Recycling Market Further', *Plastics Recycling Update* (Web Page, 6 May 2020) <<https://resource-recycling.com>>; Bryan D Vogt, Kristoffer K Stokes and Sanat K Kumar, 'Why Is Recycling of Postconsumer Plastics So Challenging?' (2021) 3(9) *ACS Applied Polymer Materials* 4325.

technical limitations of recycling plastics that continue to exist even after years spent pursuing recycling programs for this material.

Despite the emphasis on voluntary, aspirational regulatory responses in the various policies introduced, the Australian Government did introduce a ban on exporting unsorted plastic waste,⁷⁰ which shows that a stricter approach to plastic waste is possible. However, the ban did not apply to specific kinds of exports, such as waste-to-energy exports.⁷¹ Also, as mentioned above, the ban has been temporarily lifted for certain kinds of plastics — such as milk cartons, vegetable oil containers and soft drink bottles — to ease increasing national stockpiles.⁷²

Given the limitations of the policies in regard to plastics and the export ban, the *Australian Packaging Covenant* and related regulatory regime provides the most developed response to plastic packaging to date.

B Regulatory Design of the Australian Packaging Covenant

It is important to detail the design of the *Australian Packaging Covenant*, and the broader regime it forms part of, because it is the only regulatory response, besides the export bans, to encompass more than aspirational targets. It also represents a novel regime that is highly complex and has not been detailed or discussed in academic literature for over a decade,⁷³ during which time the regime has altered. Indeed, the complexity of the regime itself becomes part of this article's critique of that regime, making it additionally important to provide detail about how the regime works.

The Covenant itself is one arm of a co-regulatory product stewardship arrangement for packaging. It is a voluntary agreement between members of the packaging industry and all levels of government to improve both the design of plastic packaging, and the waste management activities undertaken by the packaging industry.⁷⁴ The fourth iteration of the Covenant arrangement was scheduled to operate from 2017 to 2022; however, this document, as well as the *Strategic Plan* discussed below in Part III(C)(1), is yet to be updated and as such remains operational. The other arm is the *National Environmental Protection (Used Packaging Materials) Measure 2011 (Cth)* ('NEPM').⁷⁵ The NEPM encourages states and territories to enact legislation that creates legally binding obligations which apply in certain limited contexts. These obligations relate to data recording and reporting and to managing a percentage of the end-of-use packaging waste (either a business's own packaging waste or waste caused by similar packaging products).⁷⁶ It also permits local governments to recover the costs of collection,

⁷⁰ *Recycling and Waste Reduction Act* (n 54) s 18.

⁷¹ Joe Brock and Kanupriya Kapoor, 'After Much Praised Waste Export Ban, Australia under Fire for Shipping Plastic Trash as "Fuel"', *Reuters* (online, 28 February 2022) <<https://www.reuters.com>>.

⁷² Evans (n 62).

⁷³ See Sommer (n 59); Hossain et al (n 17).

⁷⁴ *Australian Packaging Covenant* (n 18) 3 (section 1).

⁷⁵ *National Environment Protection (Used Packaging Materials) Measure 2011 (Cth)* ('NEPM').

⁷⁶ *Waste Reduction and Recycling Regulation 2011 (Qld)* s 411.

sorting and recycling of packaging waste.⁷⁷ Hence, the *NEPM* can (depending on how it has been enacted in each state or territory) operate similarly to a version of extended producer responsibility, whereby industry actors are somewhat financially responsible for end-of-life collection and processing costs of their waste-making packaging.

The Covenant and the *NEPM* are designed to work together, and both are reviewed every five years. The co-regulatory regime (ie, both the Covenant and *NEPM*) applies to any business actor defined as a ‘brand owner’. A ‘brand owner’ is defined as any corporation that consumes ‘packaging or packed products’ and generates an annual turnover of over \$5 million a year.⁷⁸ The scope of actors is therefore extensive, including retailers through to packaging importers, manufacturers and distributors.

Once defined as a ‘brand owner’, a company can avoid direct regulation by the state or territory under the *NEPM* if it elects to sign up to the Covenant and become a member of the Australian Packaging Covenant Organisation (‘APCO’) (referred to as a ‘brand owner member’). A brand owner that fails to undertake its obligations under this option must comply with the *NEPM*, and states and territories can take enforcement action against it.⁷⁹

Within this broader regulatory scheme, therefore, the *NEPM* acts both as an incentive to encourage interaction with the Covenant and as the primary penalty against brand owner members found to be non-compliant with the Covenant’s aims. The *NEPM* uses fines for non-compliance as its key enforcement mechanism.

The inclusion of the *NEPM* in the overall design of Australia’s approach to regulating plastics is important, as it allows for a scaling up of regulatory options where there is non-compliance within the voluntary Covenant approach (favourable to Principle 3). However, the ability of the *NEPM* to uphold its purpose as an incentive for compliance or penalty for non-compliance is questionable for several reasons. Firstly, only six of Australia’s eight jurisdictions have enacted legislation giving effect to the *NEPM*: the Australian Capital Territory, New South Wales, Queensland, Victoria, South Australia and Western Australia. Tasmania has adopted the *NEPM* as a state policy enforceable under legislation, and the Northern Territory has failed to enact legislation that reflects the *NEPM* at all.⁸⁰ In addition to the inconsistent uptake of the *NEPM*, further confusion arises for brand owners regulated under the *NEPM*, with variations to central definitions, brand owner

⁷⁷ *NEPM* (n 75) s 9(6).

⁷⁸ *Ibid* s 3(1).

⁷⁹ *NEPM* (n 75); *Australian Packaging Covenant* (n 18) 26–7 (sch 5); *Environment Protection Act 1997* (ACT); *Protection of the Environment Operations (General) Regulation 2022* (NSW); *Environmental Protection Regulation 2019* (Qld); *State Penalties Enforcement Regulation 2014* (Qld) sch 1; *Environment Protection (National Pollutant Inventory) Policy 2008* (SA); *State Policies and Projects Act 1993* (Tas) s 12A; *Environment Protection Act 2017* (Vic); *Environment Protection (NEPM-NPI) Regulations 1998* (WA). See mpconsulting, *Review of the Co-Regulatory Arrangement under the National Environment Protection (Used Packaging Materials) Measure 2011* (Final Report, 2021) 18.

⁸⁰ mpconsulting (n 79) 17.

obligations (including to provide action plans under the *NEPM*), the application of exemptions, and penalties set out within the various *NEPM*-enacted instruments.⁸¹

Finally, the effectiveness of the *NEPM* relies on consistent and robust monitoring and reporting of non-compliant members by APCO, and on states and territories detecting and enforcing penalties against non-compliant brand owners. Although APCO publishes the names of non-compliant members on its website, it is not clear what actions or inactions are considered ‘non-compliance’ (an issue detailed below in Part III(C)(2)). Further, for the entire operating period of the Covenant arrangement (2017–22), no complaints, investigations or prosecutions were undertaken by any relevant state or territory authority under the *NEPM*.⁸² This suggests that either all *NEPM*-regulated companies are meeting their requirements, or that the state and territory governments are not effectively enforcing the *NEPM*. In 2021, an independent legislative review of the *NEPM* concluded that key elements of the legislation had ‘not been implemented or had not been operationalised effectively’.

These findings highlight the inability of this mechanism to operate effectively as a ‘scaling-up’ regulatory option in support of the Covenant’s operation.⁸³ In 2022, environment ministers announced reforms to the regulation of packaging, including the *NEPM*; however, this reform is not expected to be completed until 2025, during which time the *NEPM* and Covenant remain operational.⁸⁴

C Operation of the Australian Packaging Covenant

APCO, a not-for-profit company and representative of industry, administers the *Australian Packaging Covenant*. It remains the official product stewardship scheme for packaging in Australia, having received accreditation by the Australian Government in 2022.⁸⁵ APCO is responsible for developing strategies, undertaking research activities, reporting to government, and setting levies to fund the scheme’s associated costs.⁸⁶ APCO is also responsible for administering Australia’s obligations under the voluntary, civil society-led program, ANZPAC. All of these duties are overseen by the APCO Board which is made up of an independent chair, brand owners and industry association representatives.⁸⁷ The composition of the APCO Board lends itself to strong industry participation. This may in various ways benefit the scheme, yet it also means the board lacks a balance of independent actors such as members of civil society or academics with relevant expertise. As mentioned

⁸¹ Ibid 22.

⁸² See, eg, National Environment Protection Council annual reports for 2015–16, 2016–17, 2017–18 and 2018–19. In 2021 it was decided that the National Environment Protection Council would commence a review of the *NEPM*.

⁸³ mpconsulting (n 79).

⁸⁴ ‘Australian Packaging Covenant Organisation’ (n 20).

⁸⁵ ‘Australian Packaging Covenant Organisation (APCO) Arrangement’, *Department of Climate Change, Energy, the Environment and Water* (Web Page, 2023) <<https://www.dceew.gov.au/environment/protection/waste/product-stewardship/products-schemes/apco>>; *Recycling and Waste Reduction Act 2022* (Cth) ch 3.

⁸⁶ APCO is a public company limited by guarantee and registered by the Australian Securities Investments Commission: see *Australian Packaging Covenant* (n 18) 9 (section 4).

⁸⁷ Ibid.

above in Parts II(A) and II(B), optimal regulatory design involves civil society and other actors in the development and enforcement of regulatory rules.

The Covenant itself essentially encompasses two broad spheres of regulatory activity. One centres on whole-of-industry target setting. The other relates to the obligations on individual brand owners.

1 *Industry Targets*

The Covenant requires APCO, on behalf of industry, to develop a strategic plan that sets out whole-of-industry goals. The strategic plan must encompass measurable targets (ie, key performance indicators ('KPIs')) and strategies focused on improving the environmental impact of packaging with a focus on product design and use.⁸⁸ The strategic plan is ultimately approved by environment ministers for a period that coincides with the duration of the Covenant (five years). APCO must also prepare a statement of how the measurable targets are to be implemented (ie, a statement of intent). The strategic plan is devised from 'adequate consultation' undertaken by APCO with all its members and must give weight to domestic and international packaging developments.⁸⁹ It is, therefore, fundamentally open to industry and government to create targets that enable circular economy product design characteristics (relevant to Principles 1 and 2), but there is no obligation to do so.

The *Australian Packaging Covenant: Strategic Plan 2017–2022*, updated in 2019 ('*Strategic Plan*'), encompasses the National Packaging Targets, the policy detailed in Table 1.⁹⁰ Through incorporation of the targets, the *Strategic Plan* appears to have developed a more circular focus for packaging design. For example, it reiterates the specific goals of the National Packaging Targets such as the aim for 70% of plastic packaging to be recycled or composted by 2022, a 20% average incorporation of recycled content into the production of plastic packaging, and the phase-out of 'problematic and unnecessary single-use plastic packaging through redesign, innovation or alternative delivery methods'.⁹¹

While these targets seem significant, they are not carried over into any of the KPIs set under the *Strategic Plan*.⁹² In other words, the *Strategic Plan* mentions these broader goals, but takes them no further. Importantly, there are also no targets in the *Strategic Plan* that focus on physical redesign, despite its importance for addressing plastic pollution and the reported limited capacity of Australia's waste facilities to recycle plastics. In fact, the only KPIs that mention the National Packaging Targets are KPI 2 (which relates to identifying baselines for the National Packaging Targets) and KPI 4 (which aims to have 70% of industry reporting through the Annual Reporting Tool on the implementation of the National Packaging

⁸⁸ Ibid 7.

⁸⁹ Ibid.

⁹⁰ APCO, *Australian Packaging Covenant: Strategic Plan 2017–2022* (Version 2, January 2019) 5 ('*Strategic Plan*').

⁹¹ Ibid 2.

⁹² Ibid 6.

Targets by 2020).⁹³ The next iteration of the Covenant was scheduled for renegotiation after 2022; however, a new iteration is not likely to occur before 2025.⁹⁴ During this time, it would appear that the Covenant, *NEPM* and *Strategic Plan* with its relevant KPIs, remain in effect.

There are no repercussions associated with not achieving the KPIs of the *Strategic Plan* or the National Packaging Targets against APCO as business representative.⁹⁵ Overall, the regime, including the provisions of the National Packaging Targets reiterated in the *Strategic Plan*, set significant ambitions for addressing plastic packaging, but there are limited avenues for APCO as governing body to achieve this aim (such as the power to incentivise or disincentivise certain packaging designs) and questionable mechanisms to adequately monitor progress.

One final issue that exists in this area is the degree of industry power over the process of devising the *Strategic Plan* and related documents. For example, APCO has developed a list of ‘problematic and unnecessary plastic’ that industry will be encouraged to phase out.⁹⁶ This list was developed through ‘extensive consultation between industry and government’,⁹⁷ but without broader or open consultation. The risk is that the list affords preference to what industry is willing to do, as opposed to what needs to occur to remove problematic and unnecessary plastic.

2 Obligations of Brand Owners Who Are APCO Members

In relation to the second sphere of regulatory activity, the Covenant outlines two key obligations on individual brand owner members for implementing the Covenant’s aims. First, brand owners agree to ‘consider’ the *Sustainable Packaging Guidelines* (‘*SPG*’) against their packaging.⁹⁸ Second, they agree to draft action plans detailing how they will contribute to the Covenant’s aims.⁹⁹

(a) *Sustainable Packaging Guidelines*

The *SPG* is a resource promoted by APCO as a ‘central part’ of the co-regulatory framework.¹⁰⁰ The document contains 10 broad principles that could be interpreted as emphasising product redesign.¹⁰¹ Each of the 10 principles is included as a means to ‘assist [brand owners in] the design and manufacture of packaging’ to balance the ‘conflicting demands of the market, consumer protection and the environment’.¹⁰² Under section 10 of the Covenant, brand owners are required to implement design and procurement processes that drive the sustainable design of packaging consistent

⁹³ Ibid.

⁹⁴ ‘Australian Packaging Covenant Organisation’ (n 20).

⁹⁵ Caitlin Cassidy, “‘Drowning’ in Waste: Australia Recycled Just 16% of Plastic Packaging Last Year”, *The Guardian* (online, 19 November 2021) <<https://www.theguardian.com>>.

⁹⁶ APCO, *Single-Use, Problematic and Unnecessary Plastic Packaging* (Report, October 2020).

⁹⁷ Ibid 4.

⁹⁸ *Australian Packaging Covenant* (n 18) 15–16 (section 10).

⁹⁹ Ibid.

¹⁰⁰ ‘Sustainable Packaging Guidelines’, APCO (Web Page)

<<https://apco.org.au/sustainable-packaging-guidelines>>.

¹⁰¹ See APCO, *Sustainable Packaging Guidelines* (Version 3, October 2020) (‘*SPG*’).

¹⁰² Ibid 3.

with the *SPG*, apply the *SPG* to all new packaging, commit to reviewing all existing consumer packaging within a ‘reasonable timeframe’ in accordance with the *SPG*, and report on the actions they have taken to implement the *SPG*.¹⁰³ Interestingly, despite the *SPG* being promoted as a central part of the co-regulatory arrangement, section 10 of the Covenant states that in instances where brand owner signatories consider and ‘demonstrate’ they can achieve equivalent outcomes to the *SPG* they are permitted to use alternative guidelines. It is not clear how a brand owner demonstrates such equivalent outcomes, nor whether any brand owners operate under alternative guidelines. Regardless, where a brand owner uses alternatives, it is required to report annually on its progress under its guidelines of choice.¹⁰⁴ This adds an additional layer of complexity to APCO’s monitoring and compliance burden.

A failure by brand owners to ‘implement the Guidelines’ is seen as an instance of non-compliance under the Covenant.¹⁰⁵ The *SPG* and section 10 of the Covenant are highly important in the context of moving towards a circular economy, as they are the only aspect of the co-regulatory framework to directly influence plastic packaging product design overall.¹⁰⁶ Yet, both section 10 and the *SPG* contain operational flaws that undermine their potential to influence circular economy design changes for packaging. For example, under section 10, brand owners are required to review their existing packaging within a ‘reasonable timeframe’ against the *SPG*. However, this requirement is vague as it offers no definition of what is considered a ‘reasonable timeframe’. Furthermore, after closer examination of the *SPG* it is evident that brand owners are not required to consider all 10 principles to fulfil their obligations under section 10. In fact, only large businesses (defined as companies with an annual turnover of more than \$750 million) are required to consider all 10 principles, while small- and medium-sized organisations (all other businesses with an annual turnover between \$5 million and \$750 million) are only required to consider Principle 1 (‘Design for recovery’). Principle 1 features the waste hierarchy and asks businesses to consider how well their packaging line coincides with the National Packaging Targets.¹⁰⁷

Another issue with the principles of the *SPG* is that they are very broad and lack any material-specific aims or targets. For example, Principle 2 (‘Optimise material efficiency’) asks businesses to consider whether their packaging could use ‘thinner or lighter material’ to optimise material efficiency. In operation, businesses could fulfil this principle by incorporating more soft plastics into their line of packaging, since soft plastic is a thinner and lighter material. However, this material is less recyclable in Australia (especially after the collapse of REDcycle) than glass or even polyethylene terephthalate (known as PET) which has a higher economic value as a recycled material than other forms of plastic.¹⁰⁸ Finally, the Covenant

¹⁰³ *Australian Packaging Covenant* (n 18) 15–16 (section 10).

¹⁰⁴ *Ibid* 16.

¹⁰⁵ *SPG* (n 101) 26.

¹⁰⁶ This is despite the shared responsibility of manufacturers and the focus of the Covenant being product design. For obligations related to the *SPG* (n 101) under the Covenant, see *Australian Packaging Covenant* (n 18) 15–16 (section 10).

¹⁰⁷ *SPG* (n 101) 8–16.

¹⁰⁸ S&P Global, ‘Recycled Plastics Market Will Feel the Heat from Consumer Demand in 2020’, *S&P Global Platts* (Blog Post, 23 January 2020) <<https://www.spglobal.com>>.

further weakens the validity of the *SPG* by allowing brand owners to consider alternative guidelines in instances where they feel they can achieve equivalent outcomes.¹⁰⁹ This gives brand owners considerable discretion to decide which design principles they will use and also poses an issue for monitoring, particularly if there are multiple guidelines being used by various brand owners.

Taken together, it would appear that despite being the aspect of the co-regulatory framework that is the most focused on product redesign, the *SPG* operates merely as a voluntary guide to support brand owners to improve their packaging design. It is not a means to encourage or compel brand owners to incorporate more circular packaging options.

(b) *Action Plans*

The requirement for individually created action plans is the primary method for influencing individual brand owner members to comply with the Covenant broadly. The action plan specifies what a brand owner intends to do to support the Covenant's aims and obligations.¹¹⁰

There is no established minimum standard set out in the Covenant regarding the types of actions required to be included by brand owners in their action plans. Nor does the Covenant specify time frames for the implementation of action plans. This lack of direction effectively establishes a significant degree of discretion in what members can do to evidence compliance and across what time frame. For example, a brand owner might choose to reduce the number of inks it uses when producing its product packaging for the purpose of improving water use in production (such as the case with Campbell Arnott's TimTams),¹¹¹ while another company might choose to add a logo to its packaging products indicating how to dispose of the product. Both of these actions would sufficiently evidence a contribution to the Covenant's overall aim. Yet, neither option deals with the design of plastic packaging to reduce plastic pollution and enable re-use (Principle 2). For instance, neither option reduces plastic used or makes a product easier to recycle. The lack of prescribed details for action plans ultimately makes it difficult to measure the collective progress of industry in relation to any one goal, and similarly makes it difficult for APCO to strive for collective industry action towards any one goal overall.

A document titled 'Annual Report and Action Plan', produced by a brand owner and assessed by APCO, is publicly released online annually by each brand owner. These documents carry an overall score awarded by APCO to each brand owner on a scale ranging from 'Getting Started' to 'Beyond Best Practice'. The template for these documents also includes space for additional information that the

¹⁰⁹ See *Australian Packaging Covenant* (n 18) 16 (section 10).

¹¹⁰ *Ibid* s 6. Also see, eg, APCO, *APCO New Member Action Plan* (Version 1, June 2023), which asks new members to include in their action plans 'the packaging sustainability commitments [they intend to undertake] to align with the goals of the Covenant'.

¹¹¹ APCO, *Annual Report 2018–19* (Report, 2019) 28 ('*APCO Annual Report 2018–19*').

brand owner included in its APCO annual report relating to initiatives, processes or practices that were implemented to improve its packaging sustainability.¹¹²

While this may assist compliance by creating avenues for third-party actors to assess how individual companies are progressing in regard to plastic packaging, it seems that civil society engagement with these action plans is low. A contributing factor to the lack of public engagement with the plans is that they tend to be vague, so it is hard to know whether they have been complied with, or can easily be complied with. For instance, it is common for action plans to identify steps such as ‘actively participate in initiatives to promote packaging sustainability outside of our organisation’.¹¹³ Furthermore, the action plans do not allow for civil society, or other actors, to track the performance of brand owners in the different categories of improvements to packaging they report making over time. The action plans are also not designed to highlight weak spots in the brand owner’s performance as they are structured around what the brand owner is doing — not what it is *not* doing to address packaging waste.¹¹⁴

Accordingly, the ability of civil society actors to hold regulators and regulated entities to account under the regime is limited, and this is a significant deficiency from the perspective of regulatory studies. It also contrasts with other regulatory regimes targeting supply chains in Australia, such as the modern slavery regime, where civil society has an active role in assessing the public plans put forward by corporations and in reporting on the corporation’s progress.¹¹⁵ Overall, the action plans create the appearance of compliance with formal rules. But underpinning them is a significant amount of discretion and a lack of independent checks regarding their substance and compliance.

D Monitoring and Compliance

APCO monitors progress towards achieving the Covenant’s aim.¹¹⁶ All monitoring activities are undertaken in accordance with the ‘evaluation framework’ agreed between APCO and the Government Officials Group.¹¹⁷ APCO is required to undertake annual reporting assessments, and to meet with the Government Officials Group bi-annually to discuss industry progress with respect to the strategic plan. The Covenant states that the APCO annual reports are to be made available to all signatories as well as to the public,¹¹⁸ which establishes a degree of transparency and accountability. APCO is also required to conduct an independent evaluation of the Covenant’s performance at the end of the five-year term with reference to the strategic plan and using data collected from signatories.

¹¹² See, eg, *2023 Annual Report and Action Plan: H Leffler & Son Pty Ltd* (APCO Report, 2023) 3.

¹¹³ See, eg, *2022 Annual Report and Action Plan: Retail Food Group Limited* (APCO Report, 2022) 3.

¹¹⁴ See, eg, *2023 Annual Report and Action Plan: H Leffler & Son Pty Ltd* (n 112).

¹¹⁵ Fiona McGaughey, Hinrich Voss, Holly Cullen and Matthew C Davis, ‘Corporate Responses to Tackling Modern Slavery: A Comparative Analysis of Australia, France and the United Kingdom’ (2022) 7(2) *Business and Human Rights Journal* 249.

¹¹⁶ *Australian Packaging Covenant* (n 18) 12 (section 7).

¹¹⁷ *Ibid.*

¹¹⁸ *Australian Packaging Covenant* (n 18) 7 (section 3). See also APCO, *Annual Report 2019–20* (Report, January 2021).

All progress reports compiled by APCO are submitted to the Government Officials Group who review the information and determine the progress and success of APCO's actions in achieving the Covenant's aims. The Group then prepares its own report, which is presented to the environment ministers to inform them of the progress of the Covenant.

Despite the Government Officials Group holding significant power with regard to assessing and informing environment ministers on the progress of the Covenant, there is no information publicly available on who are its members.¹¹⁹ Furthermore, there is no evidence available regarding the 'evaluation framework' agreed upon between APCO and the Government Officials Group which is used to monitor the progress of the APCO targets. This makes it difficult to ascertain how an assessment of the Covenant's progress is determined overall.

APCO also monitors each individual brand owner member's obligation to create an action plan and to consider the *SPG*. Under the Covenant, brand owners are required to 'maintain and make available records of implementation of Action Plans' as well as prepare clear documentation evidencing 'their process for reviewing their packaging and the initiatives they undertake to make their packaging more sustainable'.¹²⁰ This documentation is to be supplied to APCO should APCO choose to conduct an audit.¹²¹ While APCO has the right to audit, there is no clear information about how many audits APCO actually conducts, or the process it uses to determine how and which member is audited. This makes it difficult to assess the thoroughness of this compliance mechanism.

Brand owners also undertake their own monitoring and compliance activities and are required to submit an annual report to APCO that 'outlines performance against all of the Action Plan commitments and meets the reporting obligations as published by APCO'.¹²²

Since 2017, the preferred method of annual reporting is through the online APCO Annual Reporting Tool ('ART').¹²³ (APCO also has a target under the *Strategic Plan* to increase its involvement with the ART.) Although the public cannot view the ART, information related to the framework used within this online tool is accessible online. Essentially, brand owners detail their progress against the Packaging Sustainability Framework.¹²⁴ Hence, another set of principles is introduced into an already complex regulatory regime. The Framework is supposed to '[s]upport the implementation of the Covenant by linking [member] action plans

¹¹⁹ *APCO Annual Report 2018–19* (n 111) 15.

¹²⁰ *Australian Packaging Covenant* (n 18) 16 (section 10).

¹²¹ See *ibid* 16 (section 10). APCO has suggested that it has dramatically increased the number of member audits it undertakes, to encourage the uptake of the *SPG* (n 101) by its brand owner members. However, the number of actual audits and the results uncovered by these audits are not accessible, which brings with it a lack of transparency: see 'APCO Conduct Brand Audit for 2025 Recycling Target', *Waste Management Review* (online, 27 June 2018) <<https://wastemanagementreview.com.au>>.

¹²² *Australian Packaging Covenant* (n 18) 16 (section 10).

¹²³ The data collected through this tool is used by APCO in its annual reporting to the Government Officials Group: *APCO Annual Report 2018–19* (n 111) 19.

¹²⁴ Kelly et al (n 60) 26.

and reports to the goals and KPIs in APCO's Strategic Plan and take account of international standards and protocols'.¹²⁵

The Packaging Sustainability Framework, illustrated in Figure 1 below, consists of 13 criteria separated into three categories: 'leadership', 'packaging processes and outcomes' and 'operations'.¹²⁶ The 13 criteria are further divided into seven core criteria (light rectangles) and six recommended criteria (dark ovals). Each criterion has five levels of performance ranging from 'Getting started' to 'Beyond best practice'.¹²⁷ Further complexity arises as there are different versions of the Framework that apply depending on the brand owner's type of business and the amount of income made by them (not shown in Figure 1). For example, brand owners with a total annual turnover of less than \$50 million, and who are not packaging manufacturers or suppliers, need only report on a shortened version of the Framework, and a slightly altered version of the full Framework applies to packaging manufacturer or suppliers with a turnover greater than \$50 million.¹²⁸

Notably, the Packaging Sustainability Framework does not necessarily align with individual action plans, as under the Covenant there is no requirement that brand owners link their action plans to it. There is also no specific confirmation of how well individual action plans are being implemented unless a brand owner is audited. However, a number of the Framework's criteria are compatible with the *SPG*, as represented in Figure 1 by the overlapping loops. This suggests that industry is collecting some data regarding its progress towards the implementation of the *SPG* and, arguably, the National Packaging Targets as interpreted in the *SPG*.¹²⁹ Yet, the creation of another set of criteria — on top of the *SPG*, the individual action plans, and the *Strategic Plan*, with some of these components not overlapping — complicates an already complex system of standards and reporting that may hinder broader engagement with how well the Covenant is working.

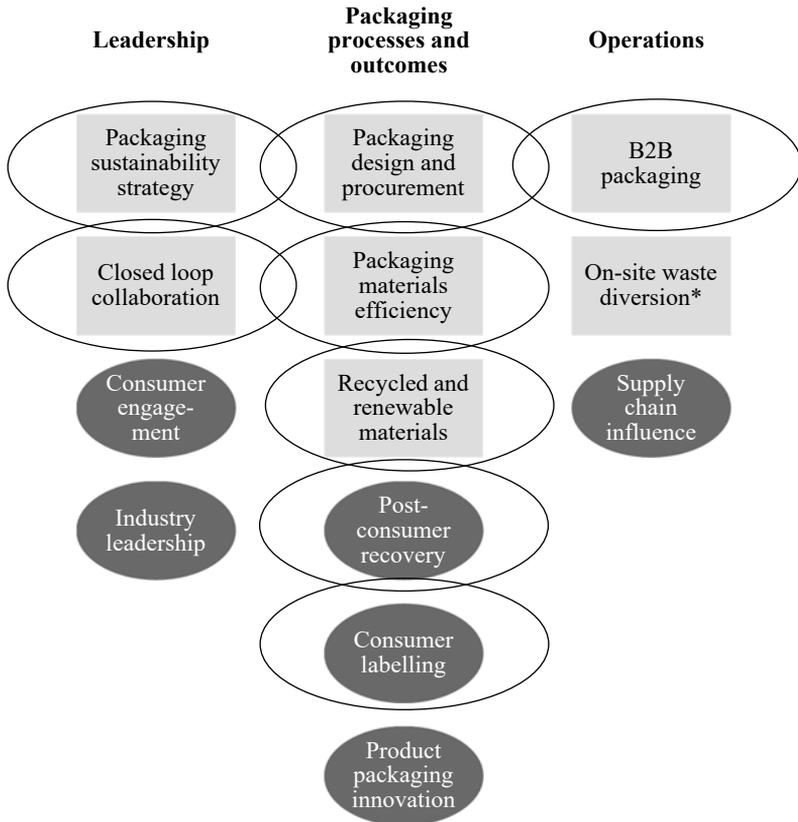
¹²⁵ Ibid.

¹²⁶ The reporting tool was introduced in 2017 to make it simpler for signatories to complete reporting tasks: *ibid* 1.

¹²⁷ *Ibid* 34.

¹²⁸ *Ibid*.

¹²⁹ The Packaging Sustainability Framework criteria are compatible with eight of the 10 *SPG* principles: see *SPG* (n 101) 8–16; Kelly et al (n 60) v.

Figure 1: Overlap of the Packaging Sustainability Framework and the *SPG*¹³⁰

* Note: Within the ‘operations’ category, ‘on-site waste diversion’ is a core criterion for packaging manufacturers or suppliers. For others, it is a recommended criterion.

E Enforcement and Penalties

Where brand owner signatories fail to comply with their requirements as stipulated under section 10 of the Covenant, they are liable as outlined in the compliance procedures located in sch 5.¹³¹ Not all obligations listed under section 10 appear to align with what will be considered non-compliant behaviour of brand owners. For example, one brand owner obligation is the need to ‘publish the Action Plan and annual reports on its website in a prominent and readily identifiable way’; however, failing to do so is not considered non-compliance. Ultimately, what is required from brand owners under the Covenant is to implement their submitted action plan and the *SPG* (with no date given), report annually, pay required fees, and maintain

¹³⁰ Figure adapted from Kelly et al (n 60).

¹³¹ *Australian Packaging Covenant* (n 18) 26–7 (sch 5).

documentation outlining the implementation of action plans and the *SPG*. Audits are the mechanism used to monitor for non-compliance with these requirements.

After an audit, if a brand owner is found to be non-compliant, APCO can give notice to the brand owner asking it to ‘show cause’ why it should not be deemed non-compliant with the Covenant’s obligations.¹³² Signatories are subsequently afforded 30 days to respond to this original notice before a second notice is issued in which the signatory is warned of a possible removal from APCO. Failure to remedy its non-compliance (ie, to provide a report) may result in referral to the relevant state or territory by APCO for regulation under the relevant *NEPM*-equivalent legislation.¹³³ Yet, as discussed, the *NEPM* contains limited enforcement provisions and removal from APCO is not published widely, indicating that repercussions for the individual brand owner are minor. Similarly, as mentioned above, there are no penalties for failure to meet targets for APCO under the Covenant; nor is APCO liable to penalties for failure to meet its targets under the *Strategic Plan*.

IV Applying the Circular Economy Regulatory Design Principles to Review the Federal Framework

Overall, Australia’s regulatory approach has some strengths, which can be identified through application of the circular economy regulatory design principles described in Part II(B). Of the instruments examined, the *Australian Packaging Covenant* — administered at a federal level and with a scope encompassing packaging design — has the greatest potential to support material loops in pursuit of a circular economy for plastic packaging (Principle 2). Certainly, the regime allows for a more collaborative regulatory approach, which may improve the effectiveness of the design decisions and the level of compliance (Principle 1). The Covenant also incorporates diverse actors across packaging supply chains rather than focusing on waste management per se, or only focusing on a few actors (Principle 1).

Broadly, a collaborative approach to setting and enforcing regulation is strongly supported by regulatory theory and circular economy conceptualisations as detailed in Part II(A). Potentially, there is also some capacity within the regime to scale up enforcement through the relationship between the Covenant and the *NEPM* (Principle 3). However, there are significant deficiencies both in the design of the regulatory regime itself, and in how well it can work towards a circular economy. This Part details these issues using the principles described above in Part II.

¹³² Ibid.

¹³³ Ibid 26.

Principle 1 – Encourage Meaningful Participation and Collaboration among Regulatory Actors

It is clear that the co-regulatory approach of the Covenant and APCO itself fosters collaboration among industry stakeholders.¹³⁴ Meaningful collaboration with industry is a key design feature of the regime.¹³⁵ There is, however, no formal role given to civil society, academia or other independent stakeholders without a commercial role in plastic packaging — actors who could presumably help develop the strategic plan and monitor compliance with action plans.¹³⁶ The essential role played by civil society and other third parties in regulatory compliance and enforcement is a key theme in regulatory theory, as discussed above in Part II(A). The lack of a role given to external stakeholders and the significant role given to industry undermine the ability of the regime to serve public interest goals relating to plastic packaging.¹³⁷ There are some indications that APCO has taken steps to correct this by extending membership to other actors interested in the success of the Covenant. For example, membership for ‘sustainability professionals’ gives independent experts access to consultations with APCO, APCO-run events including roundtables, and online tools central to APCO and Covenant operation, including the ART.¹³⁸ However, these members do not have the ability to influence the KPIs for industry in the strategic plan, meaning it is still left to industry to determine their own standards.

Even government oversight of the Covenant and related regime appears limited, with only a single report obtained every five years. As mentioned above in Part II(A), regulatory theory holds that governments should monitor and evaluate voluntary and self-regulatory schemes and develop new responses where voluntary approaches are insufficient or ineffective. Without effective government oversight, the regime cannot be responsive to changing conditions such as the level of compliance or the amount of plastic waste being produced.

In addition, some industry actors are excluded from the operation of the regime entirely. Brand owners whose annual turnover is less than \$5 million are

¹³⁴ ‘Collaboration with Governments’, *APCO* (Web Page) <<https://apco.org.au/collaborating-with-governments>>; ‘Collaboration with Industry’, *APCO* (Web Page) <<https://apco.org.au/collaborating-with-industry-sectors>>; ‘Collaboration with Strategic Partners’, *APCO* (Web Page) <<https://apco.org.au/collaborating-with-strategic-partners>>; ‘Collective Action Group’, *APCO* (Web Page) <<https://apco.org.au/the-collective-action-group>>.

¹³⁵ *Strategic Plan* (n 90) 8.

¹³⁶ There are two examples of limited civil society involvement in the overall federal regime. First, the *National Plastics Plan* (n 68) affords a small role to civil society. Specifically, it details the federal government’s aims to work with the Boomerang Alliance to eliminate single-use plastics on beaches. Second, APCO has developed with Planet Ark a tool known as the Packaging Recyclability Evaluation Portal or PREP. Essentially, it informs industries about the recyclability in Australia of certain types of materials.

¹³⁷ See, eg, Gunningham and Holley (n 32); Parker, *The Open Corporation* (n 37) 38–9; Julia Black, ‘Constructing and Contesting Legitimacy and Accountability in Polycentric Regulatory Regimes’ (2008) 2(2) *Regulation and Governance* 137.

¹³⁸ ‘Membership Options’, *APCO* (Web Page, 2023) <<https://apco.org.au/about-membership>>.

currently exempt from the Covenant.¹³⁹ Hence, a large segment of businesses creating plastic packaging waste need not consider their use of plastic packaging.¹⁴⁰

Finally, the regime itself is highly complex, based on varying rules and instruments each with its own specialised terminology, making it difficult for external stakeholders to understand (or be interested in) what actors are doing under the regime and how well the regime is performing. The complicated nature of the regime makes it difficult for the public to interrogate its nature and effectiveness. The regime's convoluted structure creates the appearance that plastic packaging is being regulated, but when this is examined more closely, large gaps appear in the design and accountability mechanisms that mean corporate actors can avoid having to do anything significant in relation to plastic packaging. Given the fact that plastic pollution has significantly worsened while the Covenant has been in effect, and the weaknesses in the regime detailed above in Part III, it is clear that the performance of the regime and its design needs much greater public scrutiny.¹⁴¹

Principle 2 – Emphasise Product Redesign

Across the entire regulatory regime for plastic packaging, only the Covenant is focused on product redesign in the form of its requirements under the *SPG*. Even then, the *SPG* is broad and vague, and compliance with the guidelines is mostly left to the discretion of brand owners. Additionally, due to the issues noted with the *NEPM*, there are no real repercussions if brand owners do not undertake product redesign (or incentives to undertake such redesign). In effect, the regime makes few demands in relation to product redesign.

The introduction and incorporation of the National Packaging Targets into the Covenant does bring more focus to plastic packaging redesign consistent with a circular economy. However, the National Packaging Targets on their own are aspirational and not clearly defined. Furthermore, implementation of the National Packaging Targets is not linked to the measurable KPIs of the Covenant. Potentially, there is some reporting relating to industry's progress toward meeting the National

¹³⁹ *Australian Packaging Covenant* (n 18) 5 (section 2).

¹⁴⁰ Currently, a large number of packaging waste contributors are not required to interact with the Covenant. Although the exact number of businesses exempted is not clear, about 98.4% of Australian businesses are small and about 65% have an annual turnover of less than \$200,000: Australian Small Business and Family Enterprise Ombudsman, *Small Business Counts: December 2020* (Report, 2020) 8, 15. For compatibility with a circular economy, regulatory schemes should attempt to include as many within the packaging industry as possible. In saying this, it is appreciated that the option to incorporate small earners into the Covenant in operation could affect the ability of the government and APCO to regulate such a large group of businesses. Ultimately, APCO will still need sufficient funds to carry out its operations with regard to the remaining larger waste-contributing companies. Yet it is also clear that, without guidance, few businesses voluntarily elect to pursue sustainable options within their business practices. For example, in a 2017 survey undertaken by the UTS Institute for Sustainable Futures while developing the Packaging Sustainability Framework, it was found that only 35% of small businesses in Australia had a formalised approach to sustainability as part of their business, with the remaining not including any sustainability considerations in their work: see Kelly et al (n 60) 7.

¹⁴¹ See, eg, 'ANZPAC Plastics Pact', *APCO* (Web Page, 2023) <<https://anzpacplasticspact.org.au>> which reports that only 18% of Australia's plastic packaging avoids landfill.

Packaging Targets under APCO's Annual Reporting Tool, but this does not create clear obligations on industry to work towards meeting these targets.

A useful starting point to address this criterion would be to change the individual action plans provided by brand owners so that they have to be linked to the principles of the *SPG* and provide specific information about what kinds of plastic was reduced and what design decisions were made to improve re-use. Brand owners should be obligated to make targeted, material-specific aims consistent with the capacity of Australia's recycling facilities.

Principle 3 – Develop Capacity to Scale up Responses over Time where Plastic Packaging Production and Waste Remain Stable

The Covenant arrangement distinctly shows a lack of responsiveness to how the issue of plastic packaging has evolved and increased in significance. For instance, an estimated 13% of plastic packaging in Australia is recycled or re-used,¹⁴² which would indicate a significant failure by the Covenant to influence plastic packaging over the last two decades.¹⁴³ Over the Covenant's lifespan, the regime has not been significantly reformed or scaled up to increase the requirements on companies or authorities to respond to non-compliance. Without the backing of an effective, mandatory legislative scheme to support the Covenant, the regulatory regime is severely deficient in its ability to motivate compliance.¹⁴⁴

A related major identified deficiency in the Covenant, and the power of APCO generally, is that the Covenant does not establish a range of penalties, or other consequences, for use by APCO against non-compliant members. Schedule 5 of the Covenant sets out the proceedings that can be implemented against non-compliant industry signatories. However, these proceedings largely involve letter writing, with a worst-case scenario ultimately leading to a non-compliant brand owner being referred to the states and territories for regulation under their equivalent of the *NEPM*, which tend to lack monitoring and enforcement. Relatedly, and as already discussed, companies can opt out of the Covenant entirely and adopt their own voluntary approach without any clear oversight by APCO or another regulator.

The introduction of bans on single-use plastics in various states and territories¹⁴⁵ is both an example of regulation for material reduction and an indicator that the federal regime for plastics has failed to reduce plastic and so states and territories have led the way in scaling up regulatory responses. Certainly, evidence suggests that these bans have resulted in a direct reduction in the specific plastic

¹⁴² Department of Agriculture, Water and the Environment (Cth), *National Plastics Plan Summary* (October 2021).

¹⁴³ *Ibid.*

¹⁴⁴ H Schandl, S King, A Walton, AH Kaksonen, S Tapsuwan S and TM Baynes, *Circular Economy Roadmap for Plastics, Glass, Paper and Tyres* (CSIRO, 2020).

¹⁴⁵ See, eg, *Plastic Reduction and Circular Economy Act 2021* (NSW); *Waste Reduction and Recycling Act 2011* (Qld) pt A; *Single-Use and Other Plastic Products (Waste Avoidance) Act 2020* (SA); *Environment Protection Amendment (Banning Single-Use Plastic Items) Regulations 2022* (Vic).

products specifically banned.¹⁴⁶ However, whether this results in material reduction is debatable, as it could be that simply different kinds of plastic or materials are being used that are more or equally resource-intensive to produce and dispose of.¹⁴⁷ Research concerned with the effects of plastic bans continues.¹⁴⁸

Principle 4 – Clearly Prioritise Reductions and Efficiencies in Material Consumption

Nothing within the federal regime adequately or directly prioritises material reduction (ie, simply not using plastic). Although the *SPG* contains individual principles for reduction and material efficiency, for example Principle 2 ('Optimise material efficiency') and Principle 5 ('Use recycled materials'), these are reserved for consideration only by large companies (those with an annual turnover of more than \$750 million). The government has pledged \$1.1 million to APCO to develop a consistent national approach to consumer education on reducing, reusing, and recycling packaging national.¹⁴⁹ Yet, clear limits on plastics production and consumption are absent. The introduction of specific targets for material reduction across each packaging material type in the APCO strategic plan and the *SPG* would also be a useful starting point. There are calls for the international treaty regarding plastics currently being negotiated to contain a global cap on plastic production. Such a cap could provide an impetus for more focus on how to regulate for plastic reduction (ie, producing and consuming less plastic).¹⁵⁰

Principle 5 – Support Mechanisms That Mobilise Resources for Infrastructure Change and Design Innovations

Some notable contributions to infrastructure change and design innovation exist within the overall regime.¹⁵¹ APCO uses some of the fees paid by its brand owner members to invest in projects relating to packaging, including on-the-ground clean-up programs, infrastructure improvements and pilot design programs.¹⁵² There are also broad policy goals under the *National Recycling Guidelines* which may help redirect resources. However, the outcomes of these projects seem limited and ad hoc, as they have not resulted in a change in product design standards or significantly improved waste management infrastructure.

¹⁴⁶ See, eg, '1.5 Billion Single Use Plastic Bags Eliminated since July', *National Retail Association* (Web Page, 3 December 2018) <<https://www.nra.net.au>>.

¹⁴⁷ Rebecca LC Taylor, 'Bag Leakage: The Effect of Disposable Carryout Bag Regulations on Unregulated Bags' (2019) 93 (January) *Journal of Environmental Economics and Management* 254.

¹⁴⁸ See, eg, Andrew Macintosh, Amelia Simpson, Teresa Neeman and Kirilly Dickson, 'Plastic Bag Bans: Lessons from the Australian Capital Territory' (2020) 154 *Resources, Conservation and Recycling* 104638.

¹⁴⁹ 'National Consumer Education Campaign', *APCO* (Web Page) <<https://apco.org.au>>.

¹⁵⁰ Melanie Bergmann, Bethanie Carney Almroth, Susanne M Brander, Tridibesh Dey, Danielle S Green, Sedat Gundogdu, Anja Krieger, Martin Wagner and Tony R Walker, 'A Global Plastic Treaty Must Cap Production' (2022) 376(6592) *Science* 469.

¹⁵¹ *National Plastics Plan* (n 68) 6.

¹⁵² *Strategic Plan* (n 90).

A revised Covenant could encompass a formalised product stewardship scheme or preferably an extended producer responsibility scheme, with APCO or a newly created body taking on the role of a producer responsibility organisation. This would involve extending the responsibility of the packaging industry for the costs of plastic waste management, with the market thus better internalising the costs of plastic use. Funds collected by APCO or a new administering body could ultimately go towards various product redesign initiatives. Eco-modulation of fees (where a reduction of fees is afforded to companies using favourable packaging designs such as re-use products) could also be incorporated, to reward members of the packaging industry who demonstrate their uptake of closed-loop recyclable products, the incorporation of recycled content into their products, and/or the incorporation of circular business models.

V Conclusion

Plastic pollution, and especially plastic packaging pollution, is one of the most pressing public health and environmental issues facing Australia and the world. This article provides a preliminary investigation into how best to design regulation in Australia to address plastic packaging waste. It develops, for the first time, principles for regulatory best practice in this space drawing on the concept of a circular economy combined with regulatory theory. Using these principles, this article assesses Australia's federal regulatory response to plastic packaging. It finds that, despite the elaborate and long-running regime for plastic packaging, which has the *Australian Packaging Covenant* at its centre, the federal response to plastic packaging is significantly flawed. The regime contains large ambiguities and loopholes that mean industry actors can, if they choose, mostly avoid having to address plastic packaging in any meaningful way. It also lacks effective transparency and accountability mechanisms — including, but not limited to, its exclusion of external stakeholders, especially civil society.

In recent years, states and territories have carried the burden of scaling up governmental responses to plastic packaging through single-use plastic bans. However, these bans have only been effective over the product they directly prohibit and have not impacted plastic packaging more widely. Future research in this area could adjust, elaborate and expand on the regulatory design principles proposed in Part II(B), and also investigate in more depth the potential issues with the different state and territory responses to plastic packaging and the related environmental claims regarding biodegradability common on particular plastic packaging.