



Australian Government
Department of Agriculture,
Water and the Environment

Review of the *Product Stewardship Act 2011*



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Contents

Summary	v
Recommendations.....	vi
1 Introduction and scope	1
Review background	1
Scope of the review.....	1
Review activities	2
Stakeholder input	2
2 Background	3
Australia’s National Waste Policy	3
Product stewardship	3
Legislative framework.....	4
International context.....	5
3 Overall effectiveness of the Act	6
Operation of the Act.....	6
Objectives of the Act.....	10
4 Product stewardship initiatives	12
5 National Television and Computer Recycling Scheme	14
Overall effectiveness of the National Television and Computer Recycling Scheme	15
Collection services and reasonable access	18
Recycling target.....	19
Material recovery target.....	20
Reporting	21
Assurance.....	22
Appendix A: List of organisational submissions to the review	24
Appendix B: List of current product stewardship schemes	28
References	33

Tables

Table B1 Number of product stewardship schemes	28
Table B2 Current product stewardship schemes	28

Figures

Figure 1 Roles and responsibilities of NTCRS stakeholders	15
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Boxes

Box 1 Circular economy	4
Box 2 Case study: Used Oil Bottle Collection and Recycling Scheme.....	8

Summary

The profile and importance of product stewardship has grown steadily since the *Product Stewardship Act 2011* commenced. The Act was established to address a growing waste problem and to support the management of increasingly complex products, particularly those containing hazardous substances. The Act covers voluntary, co-regulatory and mandatory product stewardship arrangements.

This is the first review of the Act since its commencement. It comes at a time of increased activity and discussion on the importance of moving towards a more circular approach to maintain the value of our resources for as long as possible.

Since 2011 a number of significant policy decisions have heightened our national focus on managing waste and applying product stewardship and circular economy principles. These include the 2018 National Waste Policy (Australian Government, state and territory governments and the Australian Local Government Association, 2018), the 2019 National Waste Policy Action Plan (Australian Government, state and territory governments and the Australian Local Government Association, 2019) and the Council of Australian Governments' waste export ban. These recent changes have highlighted Australia's need to take responsibility for its own waste, and to re-use resources to create jobs, spark innovation and deliver strong environmental outcomes.

This review involved an independent evaluation of the National Television and Computer Recycling Scheme (NTCRS) (Australian Continuous Improvement Group, 2017), significant stakeholder consultation, research and analysis of best practice, and a survey of comparable international legislation. The key findings of the review are:

- Product stewardship is a key policy tool for the Australian Government to improve waste management and recycling and move to a circular economy.
- The Act provides an appropriate regulatory framework for enabling product stewardship outcomes in Australia through its voluntary, co-regulatory and mandatory provisions.
- Free-riding is a key challenge for many product stewardship approaches and should be addressed through appropriate measures to enable better outcomes.
- The objects of the Act remain appropriate but should be updated to more explicitly promote product design interventions.
- The Minister's product list, issued under the Act, is broadly supported by stakeholders and should be retained. The process of identifying, assessing and listing products should be more transparent and encourage industry participation.
- Australian Government accreditation for voluntary industry-led product stewardship schemes is considered useful but its value proposition for industry could be strengthened, including through enhanced communication and promotion of accredited schemes.
- The NTCRS is generally considered a successful scheme and has strong support among stakeholders. The scheme's design and operation could be improved to ensure a level

playing field for co-regulatory arrangements. Introducing a clearinghouse could deliver administrative efficiencies and reduce burden on industry.

Recommendations

The review made 26 recommendations when considering the purpose of the Act and its role in further improving Australia's management of end-of-life products and transition to a circular economy.

Overall effectiveness of the Act

- 1) Continue applying product stewardship as an essential policy tool for transitioning to a circular economy.
- 2) Retain the flexible framework for voluntary, co-regulatory and mandatory product stewardship.
- 3) Consider updating language used in government resources to encourage the application of product stewardship to a broader range of materials and products.
- 4) Continue supporting the development of voluntary schemes.
- 5) Consider the appropriateness of new co-regulatory approaches where significant free-rider issues exist.
- 6) Improve community support for, awareness of and engagement in product stewardship schemes.
- 7) Explore the merit of creating a central clearinghouse to create efficiencies across multiple schemes, encourage the creation of new schemes and assist with compliance and enforcement.
- 8) Broaden the objectives of the Act to include product design improvements related to durability, reparability, re-usability and recyclability.

Product stewardship initiatives

- 9) Continue publishing the Product List and tabling it in Parliament.
- 10) More clearly link the Product List with the process for developing new schemes or expanding existing schemes.
- 11) Increase the brand recognition of Australian product stewardship accreditation among industry and the community more broadly.
- 12) Run regular application rounds for accreditation and further streamline the application process.
- 13) Review the cost recovery arrangement for voluntary accreditation.

National Television and Computer Recycling Scheme

- 14) Consider options for improving the outcomes, administration and compliance of the NTCRS, including through cost recovery and creation of a clearinghouse.
- 15) Assess the feasibility of expanding the NTCRS to include electronic and electrical equipment products.

- 16) Consider options to broaden the focus of the NTCRS to address the full product life cycle in line with the objectives of the Product Stewardship Act.
- 17) Develop and publish a compliance policy for the NTCRS.
- 18) Review annual scheme timeline and develop guidance material.
- 19) Identify options to improve community awareness and participation to increase recovery rates, including improving access for regional and remote communities.
- 20) Modify the Product Stewardship (Televisions and Computers) Regulations 2011 to ensure they refer to the most recent Census of Population and Housing.
- 21) Review the percentage target and the methodology for calculating waste arising before the next statutory review.
- 22) Ensure conversion and scaling factors are up to date.
- 23) Consider updating or developing new guidelines for allowable material recovery tracking and reporting under the scheme.
- 24) Develop a policy position for the NTCRS on re-use before the next review.
- 25) Clarify reporting requirements for downstream recycling.
- 26) Consider options to strengthen and broaden the NTCRS' assurance regime to cover the full end-of-life cycle.

1 Introduction and scope

Review background

The *Product Stewardship Act 2011* commenced in July 2011 with the objective to reduce the impact that products, and substances contained within products, have on the environment and on human health throughout the life cycle of those products. The Act covers voluntary, co-regulatory and mandatory product stewardship arrangements and is administered by the Department of Agriculture, Water and the Environment. The operations of the Act are required to be reviewed as soon as possible after the fifth anniversary of the Act's commencement.

In conducting this review, the department sought input from stakeholders and engaged external service providers on specific matters, including an independent evaluation of the National Television and Computer Recycling Scheme (NTCRS).

Scope of the review

The review considered the degree to which the Act supports product stewardship benefits for Australia. The scope of the review included the operation of the NTCRS.

The terms of reference for the review were agreed by the Minister for the Environment and were to consider the degree to which the Act is enabling and can enable the benefits that product stewardship can deliver to Australian towns, cities, the environment and economy.

Terms of reference

The review addressed:

- 1) the extent to which the objects of the Act are being met and whether they remain appropriate
- 2) the effectiveness of the accreditation of voluntary product stewardship schemes and the Minister's annual Product List in supporting product stewardship outcomes
- 3) the operation and scope of the National Television and Computer Recycling Scheme
- 4) the interaction of the Act with other Commonwealth, state and territory and local government legislation, policy and programs
- 5) international and domestic experience in the use of product stewardship to deliver enhanced environmental, social and economic outcomes through product design, dissemination of new technologies and research and development.

During the review, stakeholders raised several issues that were outside of the scope of the review, including:

- consolidating all product stewardship related legislation under a single piece of legislation
- streamlining product stewardship requirements to minimise the need for industry to participate in multiple schemes for related products
- supporting product stewardship schemes through government procurement policies
- supporting the development of recycling infrastructure in Australia.

While not specifically addressed in this review, these issues were considered in the development of the 2018 National Waste Policy and 2019 National Waste Policy Action Plan.

Review activities

The review consisted of:

- an evaluation of the NTCRS by Australian Continuous Improvement Group (ACIG)
- initial stakeholder consultation, including a stakeholder workshop at the Global Product Stewardship Council's International Stewardship Forum in April 2018 (The Global Product Stewardship Council, 2018)
- a consultation paper (Department of Environment and Energy, 2018) inviting input to the review from relevant industry stakeholders, state and territory governments and the general public
- public forums in all state and territory capitals
- research and analysis of best practice product stewardship approaches
- a survey of comparable international legislation.

Stakeholder input

The department's consultation paper received more than 270 submissions from a broad range of stakeholder groups. A list of submissions is at [Appendix A](#).

2 Background

Australia's National Waste Policy

The National Waste Policy, agreed by Australia's Environment Ministers in December 2018, provides a national framework for waste and resource recovery in Australia. It outlines roles and responsibilities for collective action by businesses, governments, communities and individuals. Australia's National Waste Policy:

- responds to the challenges facing waste management and resource recovery in Australia
- reflects the global shift towards a circular economy (Box 1)
- acknowledges the need to improve our capacity to better design (See Page 11 of the [2018 National Waste Policy](#)), re-use, repair and recycle the goods we use
- provides a framework for businesses to embrace innovation and develop technologies that create new opportunities.

The 2018 National Waste Policy highlights the importance of product stewardship and the shift to a circular economy, shifting away from 'take, make, use and dispose' to a more circular approach that ensures the value of resources is maintained for as long as possible. It presents a common vision on priorities for responding to challenges facing waste management and resource recovery in Australia and reflects changing international markets.

The 2018 National Waste Policy was augmented in November 2019 by the National Waste Policy Action Plan, agreed by all Australian Environment Ministers. The Action Plan establishes 7 ambitious targets, underpinned by 80 specific actions to implement the National Waste Policy. These include 5 actions directly related to product stewardship and an additional 20 that will be supported by product stewardship initiatives.

Product stewardship

Product stewardship, also known as extended producer responsibility, promotes shared responsibility for the impacts of products on the environment and human health over their full life cycle, from raw materials sourcing through to manufacture, distribution, consumption and disposal.

Product stewardship requires producers to take individual or collective responsibility for their products by providing financial resources or taking over end-of-life management of products. Product stewardship outcomes can be driven by industry or regulated by governments.

Australia has a number of legislated and voluntary product stewardship schemes, including for computers, televisions, mobile phones, batteries, packaging, pharmaceuticals, pesticides, mattresses and tyres. Voluntary, industry-led product stewardship approaches are quite common. Many companies and industry associations have partnered to form voluntary arrangements to meet specific environmental and community responsibilities. Some of these arrangements have been operating for over 20 years (for example, MobileMuster and drumMUSTER) and others have been more recently established (for example, Paintback).

The Australian Government, state, territory and local governments are collaborating through the Meeting of Environment Ministers (MEM) on national priority product issues. In April 2018 Australia's Environment Ministers agreed to develop new product stewardship schemes to ensure that end-of-life batteries and photovoltaic solar panels are safely managed (Department of Environment and Energy, 2019).

Box 1 Circular economy

A circular economy maximises the retention of the value of materials, reducing the unsustainable depletion of natural resources and impacts on the environment.

Applying circular economy principles to waste management in Australia requires changes to product design, production, use and re-use, recycling and disposal. It is a whole-of-system approach that requires accounting of the full cost and life cycle of materials. These principles support the reduction of reliance on virgin materials and maximise the economic value of resources.

Source: *2018 National Waste Policy*

Legislative framework

Waste management and resource recovery responsibilities are spread across local, state and territory governments and the Australian Government.

- local governments are most directly involved in managing waste and recycling through its collection, processing and disposal
- state and territory governments have primary responsibility for regulating domestic waste management, such as imposing conditions for operating a landfill facility and imposing landfill levies
- the Australian Government's role is to provide national leadership and coordination and ensure that Australia's international obligations on waste are met.

At the Australian Government level, four key pieces of legislation govern the storage, transportation and management of waste, and end-of-life management of products.

- The *Product Stewardship Act 2011* is the key piece of Commonwealth legislation to reduce the impact that products, and substances contained within products, have on the environment and on human health throughout the life cycle of those products (for products other than oil).
- The *Product Stewardship (Oil) Act 2000* was created to develop a product stewardship arrangement for used oils. It ensures the environmentally sustainable management, re-refining and re-use of used oil, and supports economic recycling options for used oil.
- The *Hazardous Waste (Regulation of Exports and Imports) Act 1989* regulates the export, import and transit of hazardous waste in Australia to ensure that hazardous waste is disposed of safely. This includes end-of-life products managed through product stewardship schemes.
- The National Environment Protection (Used Packaging Materials) Measure 2011 aims to reduce environmental degradation arising from the disposal of used packaging and to conserve virgin materials through encouraging re-use and recycling of used packaging

materials by supporting and complementing the voluntary strategies in the Australian Packaging Covenant.

International context

Product stewardship approaches have been adopted in most developed countries. They originally focused on packaging and electronic and electrical waste (e-waste), but the scope of product stewardship in developed countries has significantly increased in recent years. A survey of international approaches identified that some countries have developed co-regulatory models with high levels of flexibility and control by industry, and minimal administrative involvement by governments. For example, in British Columbia, industry develops extended producer responsibility plans, which are approved by government and implemented by industry. This means that government regulations are less prescriptive because performance measures, requirements and targets are established in the plans and not the regulations.

Internationally, the number of regulations and take-back schemes for e-waste has rapidly increased over the past decade. In Australia, the NTCRS imposes obligations on manufacturers and importers to meet targets and minimum standards for recycling of televisions, computers and associated products. In many other jurisdictions, the trend is to extend the scope of regulations to include a much wider range of electrical and electronic products, such as small appliances, medical products and solar panels.

Most countries that impose product stewardship regimes to packaging impose a cost on producers to fund recycling, with limited or no obligations for packaging design. In Australia, by contrast, the approach under the Australian Packaging Covenant focuses on improvements to the design of packaging. With some exceptions, collection and recycling of consumer packaging in Australia is funded by residents through council rates, rather than by industry.

Many countries have also introduced product stewardship regulations for other problematic wastes, such as paints, batteries, lighting and mattresses. In Australia, these products are being addressed through industry-led voluntary initiatives.

Globally there is currently a strong policy focus on addressing the impacts of single-use plastics. Many jurisdictions in Europe, North America and Asia are introducing bans on products such as plastic bags, straws and food service ware. Most Australian jurisdictions have banned lightweight plastic shopping bags and are considering options to reduce the impact of other single-use plastics. Additionally, the Australian Packaging Covenant Organisation's co-regulatory approach promotes sustainable packaging activities, including sustainable packaging design, and initiatives to reduce packaging waste to landfill, increase recycling and support circular economy projects for packaging.

Multilateral institutions, such as the United Nations Environment Assembly, are increasingly focusing on domestic product stewardship arrangements of member countries and are exploring options for further action at an international level. The OECD guidance report on extended producer responsibility (OECD, 2016) identifies the importance of industry leadership to the success of product stewardship schemes, highlighting their technical and managerial know-how.

3 Overall effectiveness of the Act

Operation of the Act

Framework

The Act was established following a commitment in the 2009 National Waste Policy (National Environment Protection Council, 2009) to enable Australia to more effectively manage the environmental, health and safety impacts of products. The 2019 National Waste Policy Action Plan continues to highlight the importance of product stewardship in ensuring appropriate responsibility for the impacts of products across their entire life cycle.

The *Product Stewardship Act 2011* remains an appropriate regulatory framework for enabling product stewardship outcomes in Australia through its voluntary, co-regulatory and mandatory provisions. Since the introduction of the Act in 2011, one co-regulatory scheme has been established under the Product Stewardship (Televisions and Computers) Regulations 2011 (NTCRS Regulations) and two voluntary schemes have been accredited. The mandatory provisions under the Act have not been used to date, but national mandatory schemes covering oil recycling and managing ozone depleting substances are covered by separate pieces of Commonwealth legislation (See [Product Stewardship for Oil Scheme](#) and [Ozone Depleting Substances and Synthetic Greenhouse Gases](#)).

Stakeholder submissions expressed strong support for the Product Stewardship Act as a useful and comprehensive framework for promoting national product stewardship activities. Submissions also commented on its actual and potential contribution to environmental, social and economic outcomes in Australia.

International best practice identifies product stewardship as an increasingly important policy tool. The product stewardship framework developed by the Act aligns with the Organisation for Economic Co-operation and Development's (OECD) guidance report on extended producer responsibility, and with the approach to product stewardship schemes developed and regulated in other OECD countries.

In addition to supporting the current operations of the Act, many submissions expressed a positive view towards increased use of co-regulatory and mandatory elements of the Act. Specifically, many submissions called for the NTCRS to be expanded to cover an increased scope of electronic and electrical products and for schemes to be developed for other products such as batteries.

The review concludes that the underpinning framework of the Act with its voluntary, co-regulatory and mandatory provisions continues to support product stewardship nationally. The existing framework is sufficiently flexible to facilitate benefits of product stewardship, including to drive increased resource recovery, product design improvements, and environmental and human health outcomes.

Recommendation 1: Continue applying product stewardship as an essential policy tool for transitioning to a circular economy.

Recommendation 2: Retain the flexible framework for voluntary, co-regulatory and mandatory product stewardship.

Many stakeholders called for broader and more innovative thinking about how product stewardship can better support circular economy principles. Although views on what this might encompass differed, there was a broad consensus that this should be informed by international best practice and adapted to the Australian environment.

This could include reframing current product stewardship language away from specific products and product classes and towards types of material (for example, particular types of plastics) across all producers and products. This would shift the focus of product stewardship to help address the adverse impacts of the material's chemical and physical characteristics and emphasise the economic opportunities from recovering and reprocessing the material into new products. Such a reframing would support priority substances being managed at a national level to achieve economies of scale for recovery and reprocessing. This would result in reduced adverse environmental and social impacts.

Recommendation 3: Consider updating language used in government resources to encourage the application of product stewardship to a broader range of materials and products.

Voluntary schemes

The schemes regulated and accredited under the Act to date have reduced the impacts of covered products on the environment and human health. The Evaluation of the National Television and Computer Recycling Scheme concluded that the scheme has reduced waste to landfill, including hazardous materials found in e-waste and increased the recovery of reusable materials in a safe, scientific and environmentally sound manner. The schemes accredited under the Act—MobileMuster and FluoroCycle (FluoroCycle's accreditation expired in June 2019)—have had similar impacts through recycling mobile phones and mercury-containing lamps.

Stakeholder submissions and discussions with voluntary scheme administrators revealed that many voluntary schemes struggle with set-up costs and/or free-rider issues.

Although outside the scope of the Act, Australian and state and territory governments have previously provided financial support for the development of voluntary schemes. This has included funding for activities such as research, scheme design and industry engagement. The review concludes that support for voluntary scheme development, such as the \$20 million Product Stewardship Investment Fund announced by the Australian Government during the 2019 election, can play an important role in facilitating the establishment of voluntary schemes. It is important to ensure such schemes can become self-sustaining in the longer term.

Some stakeholders called for a mechanism to be included in the Act to force non-participating manufacturers or importers to join voluntary schemes. Some also suggested that the Minister could support voluntary schemes by sending letters to non-participating parties to express an expectation to join the scheme.

Box 2 Case study: Used Oil Bottle Collection and Recycling Scheme

The Australian Institute of Petroleum (AIP) Used Oil Bottle Collection and Recycling Scheme was funded and operated by the AIP on behalf of its member companies to process plastic motor oil bottles up to 20 litres in capacity.

The scheme successfully provided services for 12 years before closing at the end of 2016 due to increasing free-rider issues.

More and more AIP members exited the scheme, which left the remaining scheme participants at an increasing competitive disadvantage and caused the scheme to become unviable and collapse.

The co-regulatory provisions of the Product Stewardship Act aim to provide industry with flexibility as to how minimum outcomes and requirements set by government are achieved. Compared with other co-regulatory approaches internationally, the Regulations for the NTCRS are relatively prescriptive. This approach is appropriate for the NTCRS, but other approaches to co-regulation should be identified and developed to provide a suite of fit-for-purpose policy solutions.

The review concludes that the toolkit provided by the Act is effective, but a credible threat of regulation is required to backstop voluntary industry action. Where free-rider issues persist, options should be explored for regulatory intervention through the Act.

Recommendation 4: Continue supporting the development of voluntary schemes.

Recommendation 5: Consider the appropriateness of new co-regulatory approaches where significant free-rider issues exist.

Awareness of the Act

The majority of submissions raised the lack of community awareness of product stewardship, product stewardship schemes and services available to households and businesses as an impediment to ensuring product stewardship is an effective means to ensure producer accountability.

International examples from California and British Columbia demonstrate very active consumer engagement programs for regulated schemes, including the promotion of arrangements and accessibility information for consumers. In most product stewardship programs, producer responsibility organisations (PROs) are responsible for public education to deliver their intended outcomes. Some PROs collaborate in joint education initiatives. For example, France requires all PROs to set aside a portion of program funds for an integrated recycling education program coordinated by the government. The Australian Government has funded education programs such as Planet Ark's Recycling Near You initiative and the National Circular Economy Hub (which will launch in 2020) to disseminate information and support collaboration necessary to transition to a circular economy.

Co-regulatory arrangements under the NTCRS are required to communicate their services to the public. In addition, the department provides information about product stewardship schemes on its website. The most comprehensive source of information about recycling services available to households and businesses in Australia is Planet Ark's Recycling Near You website (Planet Ark,

2019). This website allows consumers to enter their location and receive information about the nearest recycling collection sites for a range of products.

The review concludes that existing communication efforts should be further supported and strengthened, to build understanding, impact and longevity of schemes enabled by the Act.

Recommendation 6: Improve community support for, awareness of and engagement in product stewardship schemes.

Administration of the Act

Stakeholders' input and international precedent demonstrates that, although strategic policy leadership from governments is essential, responsibility for driving the growth and performance of product stewardship need not be the exclusive domain of government agencies. There are many examples of industry-led clearinghouses being used in Europe, Asia and North America to deliver product stewardship.

The industry-led approach may encompass the broad range of stakeholders that will deliver the outcomes along the supply chain for products and materials covered by product stewardship. These stakeholders include manufacturers, logistics, retailers, research sector, environmental organisations, social enterprise, local government and consumer groups. Successful product stewardship depends on a complex network of business-to-business and business-to-consumer relationships. An industry-led clearinghouse may be better positioned to design and deliver scalable solutions that best meet the needs of businesses and consumers.

The clearinghouse's role could encompass such elements as:

- administering voluntary and regulated schemes
- ensuring scheme pricing models are sustainable
- developing multi-product/material logistics capacity
- driving best practice and innovation
- data capture and reporting
- marketing and branding
- market development
- accrediting voluntary schemes
- assurance and auditing.

Should a product stewardship clearinghouse be established, its performance could be regulated through the relevant portfolio agency.

Recommendation 7: Explore the merit of creating a central clearinghouse to create efficiencies across multiple schemes, encourage the creation of new schemes and assist with compliance and enforcement.

Objectives of the Act

The primary objective of the Act is to reduce the impact that products have on the environment and on human health. The Act intends this to be achieved by encouraging or requiring manufacturers, importers, distributors and other persons to:

- avoid generating waste from products
- reduce or eliminate the amount of waste from products to be disposed of
- reduce or eliminate hazardous substances in products and in waste from products
- manage waste from products as a resource
- ensure that products and waste from products are re-used, recycled, recovered, treated and disposed of in a safe, scientific and environmentally sound way.

Other objectives of the Act are to:

- contribute to Australia meeting its international obligations concerning the impacts on the environment and human health of products and substances contained in products
- contribute to reducing greenhouse gas emissions, energy use and water consumption in connection with products and their wastes.

Submissions broadly suggested that a more explicit inclusion of circular economy principles, the waste hierarchy and social and economic benefits of product stewardship should be included in the Act. Submissions from several community groups and other stakeholders also raised particular concerns about planned obsolescence of products.

The 2018 National Waste Policy promotes the use of circular economy principles for waste, recycling and resource recovery and highlights the importance of product design in ensuring waste is minimised, products are made to last and we can more easily recover materials.

The Act does not currently have any specific action on improving product design for durability, reparability, re-usability and recyclability. Internationally, most product stewardship efforts are recognised as focusing on end-of-life management of products, with less impact on other parts of the life cycle such as the design of products to avoid waste.

The OECD guidance on extended producer responsibility argues that the effectiveness of product stewardship schemes in driving design improvements is unproven and that current schemes typically do not provide sufficient incentives to manufacturers to consider design changes. The European Union recently made amendments to the Waste Framework Directive (European Parliament and of the Council of the European Union, 2008) to be more explicit about promoting a more circular economy. It requires member states to incentivise products that are resource efficient, durable, repairable and recyclable.

In Australia, the Australian Packaging Covenant (APC) is an example of a product stewardship scheme with a strong focus on the design stage of product packaging. The APC imposes obligations on organisations in the packaging supply chain to review and improve the design of their packaging and to report on outcomes.

The review concludes that, to ensure the Act maximises environmental and human health benefits throughout product life cycles, its objectives should be expanded to promote better design of products to make them durable and easy to repair, re-use and recycle.

Recommendation 8: Broaden the objectives of the Act to include product design improvements related to durability, reparability, re-usability and recyclability.

4 Product stewardship initiatives

The Act requires the Minister for the Environment to publish a Product List that they are proposing to consider for coverage under the Act over the next financial year. In developing the Product List, the Minister may consider the product stewardship criteria of the Act, cost impacts on Australian, state, territory or local governments, the consumer's willingness to pay and resulting business opportunities that would contribute to the economy.

The Product List does not pre-empt the outcomes of a regulation impact assessment or consultation on proposed regulations. The Product List is required to be published on the department's website and tabled in both Houses of Parliament. It provides early notification and certainty to the community and business about what products are being considered for accreditation or regulation over the next financial year.

Stakeholders were generally supportive of the Product List and see it as a strong tool for emerging schemes to gain industry commitment through acknowledging the need for action. The review concludes that the Product List under the Act is broadly supported by stakeholders and should be retained.

Recommendation 9: Continue publishing the Product List and tabling it in Parliament.

Many stakeholders proposed that a consistent and transparent process should be applied to placing products on the Product List as well as to removing them, and that this process should be informed by engagement with industry. Stakeholders also noted that the Product List should act as more than a flagging device or 'call to arms' to industry. Rather, it should be part of a structured and transparent pathway for products to be listed and for product stewardship action to occur within a set period of time.

Stakeholders also highlighted the perceived lack of action on listed products to date. Some of the products have been listed since 2013. The perceived lack of action is seen as diminishing the threat of government regulation. Government funding for product stewardship, such as the \$20 million National Product Stewardship Investment Fund, should at least in part be directed toward listed products to assist industry sectors develop proposals.

Recommendation 10: More clearly link the Product List with the process for developing new schemes or expanding existing schemes.

The Product Stewardship Act specifies that voluntary product stewardship arrangements designed to further the objectives of the Act can be accredited by the Australian Government. They are then authorised to use the product stewardship logo.

Applications for accreditation can only be made during an open application round. The Minister must be satisfied that the applicant has satisfied the matters set out in the Product Stewardship (Voluntary Arrangements) Instrument 2012 before accrediting a voluntary arrangement. The application fee of between \$20,600 (excl. GST) and \$26,600 (excl. GST) must also be paid.

The purpose of voluntary accreditation is to provide an avenue for encouraging and recognising product stewardship without the need to regulate. Accreditation also provides the community with confidence that accredited arrangements have the capability to achieve real and effective environmental, economic and social outcomes, in a transparent and accountable manner.

Two application rounds for accreditation have been held—the first in 2013 and the second in 2018. These resulted in the accreditation of two voluntary schemes, MobileMuster and FluoroCycle. MobileMuster is the only voluntary scheme currently holding accreditation.

Australian Government accreditation is generally supported by stakeholders as useful because it provides voluntary schemes with visible government endorsement, and gives the community greater assurance about the quality of the service compared with unaccredited arrangements. However, stakeholders also indicated that industry does not see enough value in accreditation in its current form, and that awareness of accreditation and the logo is very low among industry and the general public.

Further critique was received from stakeholders about the complexity of the application process and the limited number of application rounds run. Despite the application guidelines and forms being updated and streamlined as part of the last round in 2018, only one scheme reaccredited.

The review concludes that the value of accreditation to schemes and industries should be improved. Communication and marketing strategies should be implemented to improve consumer and industry recognition of the logo as a mark of quality. Regular opportunities are needed for voluntary schemes to apply and the application process should be simplified as much as possible, particularly for schemes seeking reaccreditation. In addition, an interest register should be established to allow schemes to register their intention to seek accreditation.

Recommendation 11: Increase the brand recognition of Australian Government product stewardship accreditation among industry and the community more broadly.

Recommendation 12: Run regular application rounds for accreditation and further streamline the application process.

A number of submissions to the review also raised the application fee as a significant barrier to involvement, especially for less mature schemes. This indicates that the process for accreditation and cost recovery arrangement should be reviewed to help enable access.

Recommendation 13: Review the cost recovery arrangement for voluntary accreditation.

5 National Television and Computer Recycling Scheme

The Product Stewardship (Televisions and Computers) Regulations 2011 are made under the Act and create the NTCRS, which is the only co-regulatory arrangement under the Act.

The NTCRS is generally considered a successful scheme and is strongly supported by stakeholders. As the NTCRS recycling target increases to 80% by 2026–27 and community interest and expectations about recycling grows, the NTCRS must continue to evolve. The scheme's design and operation could be improved to raise community awareness and participation to divert more e-waste from landfill and raise standards by expanding and strengthening assurance across the full product life cycle.

Collection and recycling of televisions and computers under the NTCRS is managed through approved co-regulatory arrangements, which are administered by industry. Companies importing or manufacturing over a specified threshold of television or computer products are liable under the scheme and must join and fund an approved co-regulatory arrangement to provide collection and recycling services on their behalf. The roles of government and non-government stakeholders are described in Figure 11.

Each approved co-regulatory arrangement is required to achieve a portion of the total scheme recycling target, based on the import or manufacture share of its members. The co-regulatory arrangement administrators contract recyclers and other service providers through a competitive market.

Four industry-run co-regulatory arrangements are currently approved to administer the scheme—Australia and New Zealand Recycling Platform, E-Cycle Solutions, Electronics Product Stewardship Australasia and MRI PSO.

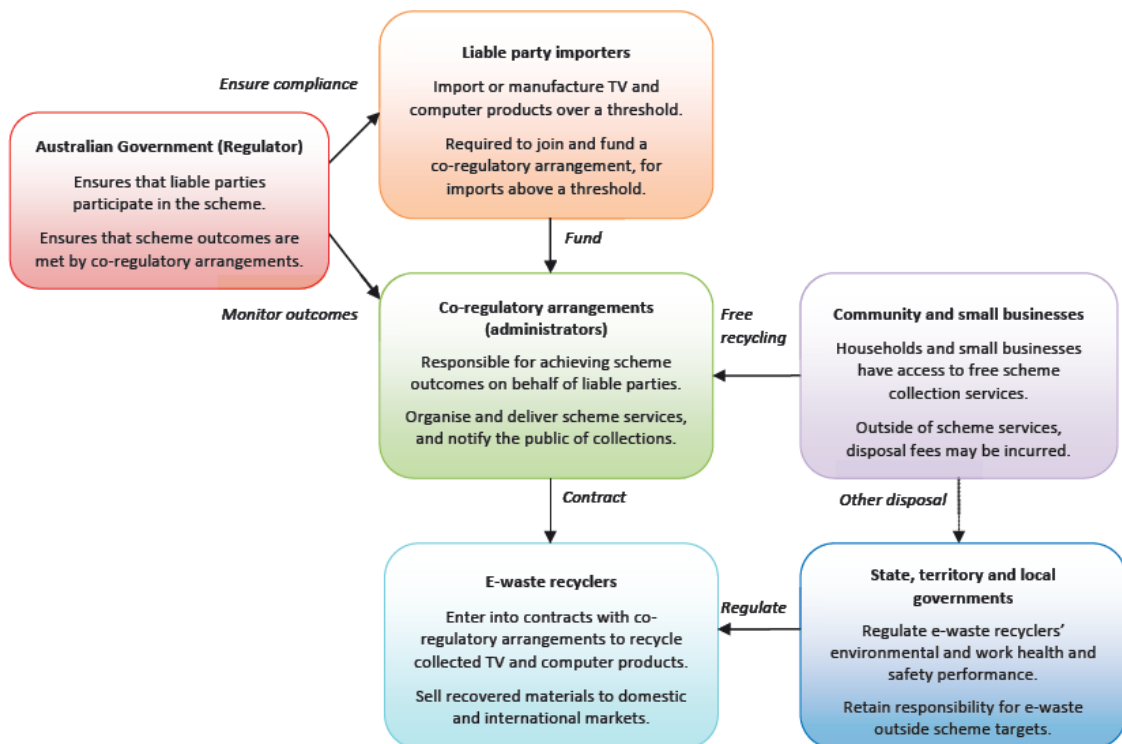
The evaluation of the NTCRS^{Error! Bookmark not defined.} made a number of findings.

- Since its introduction in 2011, the NTCRS has resulted in significant environmental, social and economic outcomes.
- The scheme has successfully diverted more than 230,000 tonnes (now more than 290,000 tonnes) of television and computer products from landfill and has recovered materials from the recycling of these products, improving environmental outcomes and enabling the re-use of valuable resources contained in computers and televisions.
- The NTCRS has supported business growth and created employment opportunities within the recycling sector, including for social enterprises.
- The scheme has generally achieved the 3 key outcomes specified in the Regulations
 - providing reasonable access to collection services in metropolitan, regional and remote areas
 - meeting the recycling target
 - meeting the material recovery target.

The recycling target have overall been met or exceeded even after the recycling target was raised from 37% to 50% in 2015–16. The scheme has a target of 66% for 2019–20.

- The NTCRS has provided a free service to households and small businesses to drop off their old and unwanted televisions and computers. From 2012 to 2015 the scheme made more than 3,493 collection services available to the public.
- The scheme has been delivered with high compliance results and good customer satisfaction rates. The department achieved liable party compliance rates of 97–99%. Other areas of enforcement within the NTCRS have been less effective, including audits of co-regulatory arrangements and the effective oversight of downstream processing.
- Between 2012 and 2015 the scheme costs were \$133.7 million compared with total Australian Government expenditure of \$3.2 million over the same period. Overall, the NTCRS has proven to be cost-effective for the Australian Government and industry.

Figure 1 Roles and responsibilities of NTCRS stakeholders



Overall effectiveness of the National Television and Computer Recycling Scheme

Multiple co-regulatory arrangements

Having multiple co-regulatory arrangements to administer the NTCRS provides a number of benefits, including choice for liable parties and service providers and placing downward pressure on costs for liable parties through competition. The NTCRS is unlikely to have grown as quickly as it has since its inception under a single co-regulatory arrangement.

However, some stakeholders asserted that pricing elements of the competitive model have resulted in some recyclers adopting sub-standard processes, leading to poor environmental and

health and safety outcomes. Other shortcomings include a lack of marketing of the scheme, which is impacting community awareness and participation, and issues around reasonable access, especially in remote and regional communities.

Departmental regulatory resources

Many industry stakeholders raised the lack of departmental resourcing for administering the NTCRS as a key issue. The potential difficulties in scheme administration due to declining resourcing in the department from 2011 to 2017 was also raised in the independent evaluation of the NTCRS.

Stakeholders also raised concerns with the NTCRS data management system PS Online, which is used by co-regulatory arrangements and the department for key functions such as calculating liable party contributions and reporting of co-regulatory scheme performance and compliance. The independent evaluation of the NTCRS found that the system is not sufficiently reliable and accurate and needs to be improved or replaced.

Shortcomings in the Regulations in relation to assurance and reporting, and the lack and inconsistent application of the department's compliance activity were raised as contributing factors.

Clearinghouses

Many product stewardship arrangements internationally use clearinghouses to undertake aspects of schemes, such as governance, administration, coordination and marketing functions, particularly where schemes involve exchanges of money between point of sale and recovery (for example, via container deposit schemes). Such entities are usually able to build and sustain the necessary capabilities to oversee product stewardship schemes more effectively than government environmental agencies, particularly where the scope and scale of coverage of products is broad enough to support scheme efficiencies.

In the past 3 years four new container deposit schemes have been established in NSW, the ACT, Queensland and Western Australia through legislation. Clearinghouses are used to run these schemes.

An NTCRS clearinghouse could assume several activities currently undertaken by the department, including routine compliance and administrative functions, and could also deliver several of the improvements around community awareness and guidance for participating companies identified in this review. Some NTCRS co-regulatory administrators have suggested that a clearinghouse could coordinate data management, auditing services and the allocation model for regional and remote collection services required under the NTCRS Regulations.

The review concludes that potential models for a clearinghouse should be explored, including an assessment of the establishment costs, the potential efficiencies and reduced regulatory burden to industry that could be delivered.

Recommendation 14: Consider options for improving the outcomes, administration and compliance of the NTCRS, including through potential for creation of a clearinghouse.

Scheme scope

The concept of product stewardship encompasses the whole-of-life impact of products, particularly when considered in the context of transitioning toward a more circular economy.

The NTCRS was designed in 2011 as an ‘end-of-pipe’ recycling and disposal scheme for e-waste. While recognising the contributions made by NTCRS to date, some stakeholders highlighted that the scheme does not address the objects of the Act targeting whole-of-life impact.

Research by the OECD in 2016 found a lack of impact on product design through product stewardship approaches in Europe. It found that, although product stewardship had helped to stimulate improved product design in some industry sectors, the overall impact had been less than originally expected.^{Error! Bookmark not defined.} Proposals to address this issue included introduction of modulated fees to reward producers or importers of products by taking into account the durability, reparability, re-usability, recyclability and the presence of hazardous substances of products.

This is a complex area and requires careful consideration of what can be reasonably achieved through the NTCRS. Australia’s e-waste is significantly different from when the NTCRS was originally designed; for example, mobile and wearable technologies have displaced traditional computer and television technologies.

An approach to incentivising design efforts that deliver benefits higher up the waste hierarchy is being considered through the National Waste Policy Action Plan 2019. This is expected to ensure products are designed with whole-of-life being considered, including how they are used, re-used and recycled to avoid unnecessary waste.

Recommendation 15: Assess the feasibility of expanding the NTCRS to include electronic and electrical equipment products.

Recommendation 16: Consider options to broaden the focus of the NTCRS to address the full product life cycle in line with the objectives of the Product Stewardship Act.

Enforcement

Organisations which manage Australian Government approved co-regulatory arrangements raised that compliance activities undertaken by the department are an essential element in ensuring an even playing field for co-regulatory arrangements and for preventing unethical practices under the NTCRS.

The review concludes that a compliance policy should be developed to provide clarity to industry on the department’s approach to compliance under the NTCRS and ensure consistent action on non-compliance in line with the Act and Regulations.

Recommendation 17: Develop and publish a compliance policy for the NTCRS.

Scheme operational timeline

Organisations which manage Australian Government approved co-regulatory arrangements raised issues around tight time frames and delays of key deliverables under the NTCRS. In particular, the dates for target setting and submitting reports were not considered to be enough

time for co-regulatory arrangements to ensure compliance with scheme obligations without causing additional compliance burden. Some proposed that the program could operate on a calendar year basis using previous financial year data.

The annual scheme timeline and related processes and time frames should be reviewed and guidance material should be developed to ensure clarity for industry.

Recommendation 18: Review annual scheme timeline and develop guidance material.

Collection services and reasonable access

The Product Stewardship (Televisions and Computers) Regulations 2011 specify that co-regulatory arrangements must provide reasonable access to collection services in metropolitan, inner and outer regional and remote areas.

Collection services can be permanent collection sites, events or programs that offer pick up or collection by mail. Reasonable access requirements specify the number and location of services that must be provided in each financial year.

The Regulations also prescribe that co-regulatory arrangements must communicate information to the public about the arrangement, including the activities of the arrangement and how its services can be accessed.

Many submissions raised issues around the effectiveness and efficiency of collection services in outer regional and remote areas. Lower quantities and large distances make collection in these areas more expensive. Stakeholders have raised questions about the impact that the minimum reasonable access obligations have on participation, particularly in regional and remote areas. It is important to understand and address barriers to participation for households and small business in the NTCRS.

Reasonable access

The NTCRS Regulations require all co-regulatory arrangements to individually meet minimum reasonable access levels across the whole country. Reasonable access is defined as a set number of collection services for each metropolitan area, inner regional area, outer regional area and remote area. The NTCRS Regulations also stipulate that households and small business cannot be charged for the collection service.

The co-regulatory arrangements have considerable flexibility in meeting their reasonable access obligations. A collection service can take several forms, including a permanent collection site at a local waste transfer station or retail outlet, or a one-off event. Communities of similar sizes may receive very different service levels depending on the approaches taken by the co-regulatory arrangements in their areas.

The NTCRS does not incentivise co-regulatory arrangements to maximise the amount of e-waste collected from remote and regional areas. All 4 co-regulatory arrangements are required to meet the reasonable access requirements across all remote and regional areas. These areas generate smaller and more dispersed amounts of e-waste and consequently the costs of collection and transportation to recyclers are much higher than in metropolitan areas.

More than 60% of collections reported under the scheme in remote areas have collected zero volume over the period 2013–14 to 2017–18 (National Television and Computer Recycling Scheme Database, n.d.). Co-regulatory arrangements questioned the usefulness of requiring all arrangements to provide services in all outer-regional and remote towns, suggesting it caused confusion, increased operating costs and did not achieve effective environmental outcomes.

Some co-regulatory arrangements called for the introduction of an allocation approach, which would allocate remote areas to each arrangement or to allow co-regulatory arrangements to bid for remote areas with costs equally shared. Others have raised concerns about the potential impact an allocation approach could have on markets.

Should a clearinghouse be established, it would be well placed to develop and coordinate a scheme-wide marketing strategy and to administer improved reasonable access arrangements that strike an appropriate balance between participation, equity and efficiency.

Recommendation 19: Identify options to improve community awareness and participation to increase recovery rates, including improving access for regional and remote communities.

The reasonable access provisions vary collection service levels based on population data in the Australian Bureau of Statistics' 2006 Census of Population and Housing. The Regulations should be amended to refer to the most up-to-date Census of Population and Housing.

Recommendation 20: Modify the Product Stewardship (Televisions and Computers) Regulations 2011 to ensure they refer to the most recent Census of Population and Housing.

Recycling target

The recycling targets under the NTCRS specify the amount of television and computer products co-regulatory arrangements have to collect each financial year. The recycling target is based on:

- The cumulative market or import share of a co-regulatory arrangement's membership
- percentage target for the particular year (for example, 66% for 2019–20)
- waste arising (converted weight of total imported products averaged over the past 3 years and multiplied by a scaling factor).

The percentage target increases over time and is scheduled to increase from 66% in 2019–20 to reach the top level of 80% in 2026–27. The percentage target trajectory for the scheme target was amended in 2015 to better meet strong public demand for recycling services and ensure stability and ongoing capacity in the e-waste recycling industry.

Comments by co-regulatory arrangements on the percentage target varied, with some suggesting that 80% is unachievable and others proposing that 80% could be reached earlier.

Compared internationally, the NTCRS recycling target is similar to those of other countries. For example, the European Union sets a minimum collection rate of 65% of the average weight of electronic products placed on the market in the 3 preceding years or 85% of waste electrical and electronic equipment (WEEE) generated from 2019 (The European Parliament and of the

Council of the European Union, 2012). However, it is difficult to directly compare targets due to differences in data quality and the methodology used.

To date the recycling targets have generally been met by co-regulatory arrangements, which indicates no urgent need to review or adjust the target trajectory. However, the achievability of the target should be reviewed as it moves closer to 80%.

Recommendation 21: Review the percentage target and the methodology for calculating waste arising before the next statutory review.

The NTCRS Regulations contain a number of formulae and definitions to determine the recycling target for each co-regulatory arrangement. In effect the NTCRS' methodology creates proxy metrics for the actual amount of e-waste generated each year in Australia.

'Conversion factors' are used to convert the volume of television and computer products put onto the market to a weight in kilograms. This enables a single unit for measurement and reporting under the scheme.

'Scaling factors' are used to reflect the reality that some imported products are subsequently exported and not all imported products replace existing products, and in both cases do not generate e-waste in Australia in that year.

Co-regulatory arrangements suggested in their submissions that the accuracy of the recycling target could be improved through regular updates of conversion and scaling factors. Some also suggested that the methodology could be simplified.

Updates to conversion and scaling factors have been undertaken before, with the most recent update in 2018–19, and there is an ongoing need for adjustments to conversion and scaling factors. A reasonable amount of work is involved in reviewing and updating the conversion and scaling factors. This should be balanced against the potential improvements on the scheme and the frequency of which these updates are necessary.

The evidence to support a more comprehensive overhaul of the recycling target methodology was limited but could be considered in the next review.

Recommendation 22: Ensure conversion and scaling factors are up to date.

Material recovery target

The NTCRS Regulations set a material recovery target of 90% of the products collected, based on weight. This is the percentage of the weight of a collected product that must be sent, after recycling, for processing into usable material in a given financial year. This means up to 10% of material in the products collected may be disposed to landfill or used for energy recovery.

The department published the *Material Recovery Measurement and Reporting Methodology for the NTCRS* (Equilibrium OMG Pty Ltd, 2014) in 2014 to clarify the measuring and reporting of material recovery for co-regulatory arrangements and their service providers.

Co-regulatory arrangements highlighted in their submissions the need for greater clarity around how to apply the methodology. They identified there is currently inconsistency in its application to calculate material recovery by different co-regulatory arrangements and their service providers.

The review concludes that, to ensure a level playing field for co-regulatory arrangements, clear definitions and guidance on allowable practices and methods for calculating material recovery are important. Updating or replacing the 2014 material recovery methodology should be considered in order to avoid different co-regulatory arrangements applying different methodologies in calculating material recovery rates.

Recommendation 23: Consider updating or developing new guidelines for allowable material recovery tracking and reporting under the scheme.

The 2018 National Waste Policy is based on circular economy principles and the waste hierarchy, under which re-use is a preferred treatment to recycling. Re-using e-waste has a number of benefits:

- an additional, new product is potentially not imported into Australia to become a waste problem in the future
- virgin materials are conserved
- the value adding through re-use occurs domestically
- it avoids the less desirable 'down-cycling' of some materials, which occurs when waste material is converted into something of a lesser value than the original material.

The NTCRS is designed to increase the recycling of e-waste. Re-use of e-waste is not counted toward the scheme's recycling targets, and this can create a perverse incentive to dismantle products rather than have them refurbished and re-sold.

Some e-waste recyclers are already demonstrating there is a viable market for refurbished computer equipment.

Both industry and government stakeholders generally agreed that re-use should be encouraged. Some potential risks need to be addressed, such as double counting and exporting complete products ostensibly for re-use as a way to avoid the cost of domestic recycling.

Further work is required to develop options for embedding re-use in the NTCRS.

Recommendation 24: Develop a policy position for the NTCRS on re-use before the next review.

Reporting

Co-regulatory arrangements are required to report to the Minister on their operations for each financial year. This includes reporting on performance against each outcome: reasonable access to collection services, recycling target and material recovery target. These details need to be accompanied by an audit report for the financial year.

Currently co-regulatory arrangements are required to provide performance data to the department on a quarterly basis and an annual report for publication.

Co-regulatory arrangements raised concerns in their submissions around inconsistencies in the reporting across the NTCRS and the lack of transparency on downstream recycling. Some co-regulatory arrangements also raised the issue of confidentiality in providing details on downstream data and service providers.

The reporting requirements in the Regulations do not explicitly require co-regulatory arrangements to report on the downstream activities that occur after initial recycling occurs. This should be clarified, reviewed and, if appropriate, aligned with the guidelines for allowable material tracking and reporting.

Recommendation 25: Clarify reporting requirements for downstream recycling.

Assurance

In 2015 the Regulations were amended to require recycling under the NTCRS to be carried out in accordance with and at facilities certified to AS/NZS 5377:2013 (Standards Australia, 2013)—the Australian Standard for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.

This change was made to provide assurance that recycling by Australian-based facilities was being undertaken to best-practice environmental and health and safety processes.

Standards Australia is leading a review of AS/NZS 5377, which is expected to be completed in 2020. The department will continue working with Standards Australia on the review to ensure it provides a relevant and effective framework for managing e-waste in Australia.

The review identified a number of opportunities to improve the NTCRS assurance regime, including:

- improving downstream traceability of recycled material
- extending the application of AS/NZS 5377 to upstream processes to cover e-waste collections, storage and transport
- applying a relevant e-waste standard to recycling of NTCRS products undertaken by overseas recycling facilities
- improving the performance of AS/NZS 5377 auditing and certification of e-waste recycling facilities.

Submissions to the review highlighted a number of shortcomings of AS/NZS 5377 and its application, including that the AS/NZS 5377 certification audits do not adequately cover the downstream material traceability requirements of the Standard. Some co-regulatory arrangements suggested that a requirement to obtain and retain records of activities such as waste transfer documents, shipping documents and certificates of destruction should be introduced under the NTCRS. This could help avoid potential double dipping by recyclers where recyclers report the processing of television and computer products to multiple co-regulatory arrangements.

Downstream tracking is complex—e-waste equipment is dismantled and the constituent materials feed into a variety of supply chains that exist domestically and overseas. Further work is required to develop and evaluate options for an assurance program for end-of-life tracking, including an assessment of costs and benefits.

Assurance of upstream processing

Under the Regulations, AS/NZS 5377 only applies to initial recycling and not the upstream collection and transport of e-waste before being received by a certified recycler.

The lack of assurance around collection and transport creates risk that e-waste is not managed in a way that protects the environment and the health and safety of workers and the general public. There is also a risk that e-waste is presented in a condition that prevents recyclers from maximising the value of the materials. For example, some transporters have reportedly been found to crush e-waste in order to maximise weight (by increasing the density of a full load, which is generally limited by the carrying volume of the vehicle not gross vehicle mass) and reduce cost.

The review concludes that consideration be given to extending AS/NZS 5377 to all upstream processing including collection, storage and transport.

Third-party auditing

Another issue raised by co-regulatory arrangements was the quality of audits in general and the differences in audits undertaken by different auditors. The department is aware of examples where a recycler was certified by one auditor but not by another.

Co-regulatory arrangements recommended that all auditors be JAZ-ANZ accredited and trained to a level appropriate to auditing compliance with AS/NZS 5377.

Auditing of compliance to AS/NZS 5377 is technically complex and costly. Further work is required to identify how the effectiveness of independent audits and other third-party assurance can be improved.

Recommendation 26: Consider options to strengthen and broaden the NTCRS' assurance regime to cover the full end-of-life cycle.

Appendix A: List of organisational submissions to the review

Type of organisation	Name
State governments	NSW Environment Protection Authority
	VIC Department of Environment, Land, Water and Planning
	ACT Government
	WA Department of Water and Environmental Regulation
Local governments	Golden Plains Shire Council
	Alexandrina Council
	Bega Valley Shire Council
	The City of Port Adelaide Enfield
	Fleurieu Regional Waste Authority
	Frankston City Council
	City of Yarra
	Gannawarra Shire Council
	Baw Baw Shire
	City of Ballarat
	Whitehorse City Council
	Maroondah City Council
	Bayside City Council
	Cardinia Shire Council
	Campaspe Shire Council
	Midwaste Regional Waste Forum
	City of Greater Dandenong
	City of Wodonga
	Municipal Association of Victoria
	City of Tea Tree Gully
	Southern Sydney Regional Organisation of Councils
	Albury City Council
	City of Joondalup
	Moreland City Council
	Brisbane City Council
	Brimbank City Council
	Western Australian Local Government Association
	Hobsons Bay City Council
	Macedon Ranges City Council
	City of Port Phillip
City of Melbourne	
LGA Queensland	

Review of the *Product Stewardship Act 2011*

Type of organisation	Name
	Wyndham City Council
	Hunter Joint Organisation of Councils
	Riverina Eastern Regional Organisation of Councils
	Surf Coast Shire Council
	Western Sydney Regional Organisation of Councils
	Northern Sydney Regional Organisation of Councils
	Murrindindi Shire Council
	Local Government New South Wales
	Darebin City Council
	Banyule City Council
	City of Adelaide
	LGA South Australia
	Adelaide Hills Council
	Bellingen Shire Council
	ALGA
Product stewardship stakeholders	MobileMuster (AMTA)
	Paintback
	Soft landing
	Vinyl Council of Australia
	Tyre Stewardship Australia (TSA)
	Lighting Council Australia
	Battery Stewardship Council
	Tyrecycle
	NewsMediaWorks
	Australian Paint Manufacturer's Federation Inc.
	Australian Tyre Recyclers Association
	Total Green Recycling
	Dulux Australia
	Australian Industry Group
	Reverse E-waste
	Consumer Electronics Suppliers Association
	Australian Council of Recycling
	Product Stewardship Cluster
	Australian Packaging Covenant Organisation
	Global Product Stewardship Council
Co-regulatory arrangements	Australian & New Zealand Recycling Platform Limited
	Electronics Product Stewardship Australasia
	MRI PSO Pty Ltd
Environmental non-government organisations	Plastic Bag Free Inner West Plastic
	Bag Free Victoria
	Australian Earth Laws Alliance

Review of the *Product Stewardship Act 2011*

Type of organisation	Name
	Gecko Environment Council Association Australian Earth Laws Alliance Sea Shepherd Australia Planet Ark Environmental Foundation Zero Waste Victoria Boomerang Alliance Australian Industrial Ecology Network Port Phillip EcoCentre Werribee River Association
Social enterprises	Boomerang Bags Bega Valley Sapphire Coast Boomerang Bags Watsonia Bright Sparks Australia
Community organisations	BAlternative No Waste Ballarat Brisbane Tool Library Love Our Street 3162 Love Our Street 3030 Love Our Street 3184 Mend It, Australia Park In Toowong Community Group Friends of Mallacoota Inc. Geelong Sustainability Brisbane Residents United Inc. Beach Patrol Werribee Beach Patrol 3184
Industry organisations and associations	Resene Paints Australia Ltd Haymes Paint Australian Small Business and Family Enterprise Ombudsman CropLife Australia Telstra PPG Industries Australia Pty Ltd Australian Information Industry Association Sustainable Business Australia
Waste and recycling organisations	Returning Organics to Soils Fleurieu Regional Waste Authority Gippsland Waste and Resource Recovery Group MIDWASTE Green Collect J.J. Richards & Sons Pty Ltd Adelaide Hills Region Waste Management Authority
Other organisations	Winya Indigenous Furniture Pty Ltd

Type of organisation	Name
	Surfrider Foundation Australia
	Law Council of Australia
	MRA Consulting Group
	Valspar Paint Holdings Pty Ltd
	One Planet Consulting
	The Green Heart Grocer
	Equilibrium
	Genkstasy

Appendix B: List of current product stewardship schemes

Table B1 Number of product stewardship schemes

Type of product stewardship scheme or program	Number
Regulated	8
Voluntary accredited	1
Voluntary unaccredited	18
In development	13
Total	40

Table B2 Current product stewardship schemes

Product	Product stewardship scheme or company-based program name	Description	National or state reach	Type of scheme or program
All packaging	Australian Packaging Covenant	Australian Packaging Covenant Organisation runs the scheme, which is supported by the National Environment Protection (Used Packaging Materials) Measure 2011.	National	Regulated
Oil	Product Stewardship for Oil Scheme	Administered by the Australia Tax Office under the <i>Product Stewardship (Oil) Act 2000</i> .	National	Regulated
TVs, computers, computer peripherals and printers	National Television and Computer Recycling Scheme (NTCRS)	Administered by the Agriculture, Water and the Environment under the Product Stewardship (Televisions and Computers) Regulations 2011 through a number of co-regulatory arrangements such as Australia and New Zealand Recycling Platform (ANZRP), E-Cycle Solutions, Electronics Product Stewardship Australasia (EPSA) and MRI e-cycle.	National	Regulated
Beverage containers (eligible containers are ones that are commonly found in the litter stream, including most glass, PET, HDPE, aluminium, steel or liquid paperboard (cartons) between 150mL and 3L in size)	Container Deposit Scheme (ACT)	The ACT container deposit scheme commenced across the ACT on 30 June 2018.	ACT	Regulated
	Container Deposit Scheme - Return and Earn (NSW)	The NSW container deposit scheme, Return and Earn, commenced across NSW on 1 December 2017.	NSW	Regulated
	Container Deposit Scheme - Containers for Change (QLD)	Queensland's container refund scheme commenced on 1 November 2018.	QLD	Regulated
	Container Deposit Scheme (SA)	The South Australian scheme, running since 1977.	SA	Regulated
	Container Deposit Scheme (NT)	The Northern Territory launched its scheme in 2011.	NT	Regulated

Product	Product stewardship scheme or company-based program name	Description	National or state reach	Type of scheme or program
Mobile phones and mobile phone peripherals	MobileMuster	In operation since 1988, MobileMuster gained accreditation in 2014 under the <i>Product Stewardship Act 2011</i> . It is voluntarily funded by all the major handset manufacturers and network carriers to provide a free mobile phone recycling program in Australia.	National	Voluntary accredited
Agricultural and veterinary chemicals	ChemClear	A national product stewardship program delivered by Agsafe Ltd designed for users to dispose of leftover eligible agvet chemicals. Complements the drumMUSTER scheme. AgStewardship Australia Limited funds both programs through a 6c per litre or kg levy placed on participating manufactures' products and passed onto consumers at the point of sale.	National	Voluntary unaccredited
Agricultural and veterinary chemical containers	drumMUSTER	A national product stewardship program delivered by Agsafe Ltd specially designed for the disposal of eligible agvet chemical containers. Funded by AgStewardship Australia Limited through the levy passed onto customers at point of sale.	National	Voluntary unaccredited
Agricultural packaging: irrigation, grain silo bags and silage wrap	Farm Waste Recovery	Operating since 2015. Facilitates the collection and processing of plastic waste in regional Australia.	National	Voluntary unaccredited
Architectural and decorative paint	Paintback	Established in 2016, collects unwanted paint and paint packaging. The Paintback scheme is operated by Paintback Ltd (PBL). Paintback is a not-for-profit organisation governed by a board of directors, with an independent chair.	National	Voluntary unaccredited
Chemicals	Responsible Care	Responsible Care is a global stewardship program for chemicals that has been adopted in Australia and is overseen globally by International Council of Chemical Associations. Chemistry Australia has administered the Australian arm of the program since 1989.	National	Voluntary unaccredited
Mattresses	Soft Landing	Soft Landing is a social enterprise operating across NSW, ACT, Victoria and Western Australia. Collection through various retailers or state collection sites. Also offers employment opportunities for people who experience barriers entering the open labour market.	NSW, ACT, VIC and WA	Voluntary unaccredited
Mercury-containing lamps	FluoroCycle	A scheme that aims to increase the recycling of lamps that contain	National	Voluntary unaccredited

Product	Product stewardship scheme or company-based program name	Description	National or state reach	Type of scheme or program
		mercury. Previously accredited under the <i>Product Stewardship Act 2011</i> .		
Soft plastics	REDcycle	Melbourne-based consulting and recycling organisation RED Group developed and implemented the REDcycle Program. It has partnered with Coles, Woolworths and other brands to recover post-consumer soft plastic.	National	Voluntary unaccredited
	Plastic Police	This is a regional soft plastic recycling program. The company runs campaigns to educate participating organisations and collects soft plastics, which are then recycled into products available for sale to participating organisations.	NSW	Voluntary unaccredited
Tyres	Tyre Product Stewardship Scheme	Tyre Stewardship Australia entity formed to implement the national Tyre Product Stewardship Scheme to promote the development of viable markets for end-of-life tyres.	National	Voluntary unaccredited
Steel	Responsible Steel	Administered by Steel Stewardship Council Ltd., which is a not-for-profit organisation stemming from the Australian Steel Stewardship Forum. The program was developed by the forum and handed over.	National	Voluntary unaccredited
PVC products	PVC Recycling in Hospitals Program	The PVC Recycling in Hospitals program is an initiative of the Vinyl Council of Australia and is sponsored by Baxter Healthcare. It aims to collect high-quality, used PVC medical products for recycling into useful new products.	National	Voluntary unaccredited
	PVC Stewardship Program	Launched in 2002 and administered by the Vinyl Council of Australia. Over 40 companies are signatories to the program, representing the majority of the Australian PVC industry. These companies include manufacturers of PVC resin, additives and end-products, PVC compounders and product importers.	National	Voluntary unaccredited
Print cartridges	Cartridges 4 Planet Ark	Close the Loop partnering with Planet Ark working with Brother, Canon, Epson, HP, Konica Minolta and Kyocera under a voluntary arrangement. The program collects and returns cartridges for remanufacturing and recycling.	National	Voluntary unaccredited
Pharmaceuticals (unused or expired medicines)	Return Unwanted Medicines (The RUM Project)	Return Unwanted Medicines is a national not-for-profit company funded by the Australian Government through the Department of Health. The returned medicines are disposed of by high-temperature incineration,	National	Voluntary unaccredited

Product	Product stewardship scheme or company-based program name	Description	National or state reach	Type of scheme or program
		which is in accordance with regulatory and EPA requirements.		
Eyeglass	Recycle for Sight Program (Australian arm of the global Eyeglass Recycling Program)	Administered by the Lions Clubs group. Collection through collection boxes placed at partner optometrists.	National	Voluntary unaccredited
Batteries	ALDI (company based)	Collection of used batteries through ALDI stores for recycling.	National	Voluntary unaccredited
	Battery World (company based)	Collection of used batteries through Battery World stores for recycling.	National	Voluntary unaccredited
Pens	Officeworks recycling program (company based)	Recently launched pen recycling stations in selected stores as a trial. Will look to roll the program out nationally over the next year.	National	In development
Nappies, feminine hygiene, incontinence pads	Kimberly-Clarke (company based)	Has partnered with Relivit to develop a solution for recycling disposable nappies, female hygiene and adult incontinence products also known as absorbent hygiene waste.	National	In development
Batteries	Officeworks recycling program (company based)	Officeworks pilot program with collection centres at some stores located in Victoria, and one store each in Western Australia and Queensland. Also, in the process of developing a nationwide scheme.	National	In development
	Battery Stewardship Scheme	The Battery Stewardship Council is currently in the process of developing a national voluntary battery stewardship scheme. Does not include automotive batteries.	National	In development
	EXITcycle	Established in 2015, EXITcycle pilot program for batteries used in commercial emergency and exit lighting (nickel cadmium—Ni-Cd) for recycling. Partnership between the Queensland Department of Environment and Heritage Protection and Lighting Council Australia.	QLD	In development
Child car safety seats	SeatCare program	Equilibrium expects to commence the program in 2020. Equilibrium ran a trial in 2017 throughout Queensland, NSW and Victoria but the scheme is expected to be run nationally.	National	In development
Big plastic bags	Big Bag Recovery	Part of the Industry Waste Recovery (IWR) program. Aims to run a product stewardship scheme for big bags used in packaging. Proposed to be funded through costs passed on to consumers by brand owners. IWR aims to use material to supply their domestic resin manufacturing plants.	National	In development

Information based on email received

Product	Product stewardship scheme or company-based program name	Description	National or state reach	Type of scheme or program
		by the department (no external sources available).		
Photovoltaic systems	PV System Product Stewardship Project	A national approach is currently being developed to better manage PV products, with Sustainability Victoria playing a key role, in collaboration with other state and territory governments—as well as businesses and industry stakeholders.	National	In development
Footwear	Save Our Soles Footwear Recycling Initiative	The Save Our Soles Initiative aims to become the first national, industry-lead product stewardship program of its kind, providing an innovative solution for the collection, processing and re-use of pre-loved sporting footwear. Currently a Victorian pilot program is already underway in partnership with major brands including New Balance, Converse, Globe, rebel, adidas, ASICS, SportsPower and JD Sports.	National	In development
Textiles	Textile takeback scheme	This pilot program commenced in 2019 in association with the National Association of Charitable Recycling Organisations. It is run by the Australasian Circular Textile Association, which was launched in 2018.	National	In development
Beverage containers	Container Deposit Scheme (TAS)	The state government is introducing a state-wide container deposit scheme, which is expected to be rolled out by 2022.	TAS	In development
	Container Deposit Scheme (WA)	The state government is introducing a state-wide container deposit scheme, which is expected to commence on October 2020.	WA	In development
	Container Deposit Scheme (VIC)	Victoria will introduce a container deposit scheme by 2022/23 which will work alongside the new household waste collection system.	VIC	In development

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