

Plastic recycling and regulations in Australia

Storage and handling issues and the impacts on the viability
of plastic recycling in Australia

Issues paper
*Prepared for the
Australian Council of Recycling
by Harford Consulting*

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About ACOR

The Australian Council of Recycling (ACOR) is the peak industry body for the resource recovery, recycling, and remanufacturing sector in Australia. The Australian recycling industry contributes almost \$19 billion in economic value, while delivering environmental benefits such as resource efficiency and diversion of material from landfill. One job is supported for every 430 tonnes of material recycled in Australia.

Our membership is represented across the recycling value chain, and includes leading organisations in advanced chemical recycling processes, CDS operations, kerbside recycling, recovered metal, glass, plastic, paper, organic, tyre, textile, oil, battery and e-product reprocessing and remanufacturing, and construction and demolition recovery. Our mission is to lead the transition to a circular economy through the recycling supply chain.

About Harford Consulting

Harford Consulting is an environment and sustainability consulting firm that assists organisations understand and improve environmental performance for development and growth. Working across private, government and not for profit, Harford Consulting provides technical, research, strategic, communications and compliance support across energy, greenhouse and carbon, recycling, resource efficiency and more. The company provides hands-on and focused advice and support, working across strategy development and implementation, regulatory development, technical waste and recycling matters, product stewardship and environmental management systems.

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Executive Summary

Australia's Commonwealth, State and Territory Governments are united in their commitment to move towards a circular economy. Part of that move includes specific interest and intent to address plastic waste, plastic usage and plastic littering.

Governments have acted to ban the use of certain single-use plastic items, and also support and promote greater plastic recycling through policies, targets, funding and other incentives.

By their actions and commitments, governments endorse plastic recycling as a good environmental practice. Governments directly and indirectly encourage the acceptance and growth of plastic recycling and promote it among the broader population as a positive environmental and economic activity. National, state and local governments encourage industry and the community to participate in plastic recycling.

At present in Australia, the following objectives and targets are especially relevant to plastic recycling:

- The National Plastics Plan identifies that only 13% of plastics are currently recycled and that global use of plastic will double by 2040.
- The National Plastics Plan has a stated goal of increasing recycling rates for all plastic.
- Australia's Governments have committed to the targets in the National Waste Policy Action Plan, which includes 80% resource recovery by 2030.
- Governments are also committed to the National Packaging Targets, which specify 70% of plastic packaging be recycled or composted and 20% average recycled content within plastic packaging by 2025.

States and territories have also specifically identified that plastic recycling is a priority. For example, the New South Wales Plastics Action Plan seeks to triple the plastics recycling rate by 2030. The Queensland Plastic Pollution Reduction Plan commits to expanding all resource recovery and expanding recycling and remanufacturing.

In short, there is what can be described as a consistent position from all governments in Australia that recycling plastic is important, and they will play a role in promoting and facilitating such activity.

Governments also regulate plastic recycling. Through legislation, regulation and guidelines, governments set what they deem to be appropriate and permissible. Permits, licenses and other mechanisms set conditions for what plastic recyclers must do to control pollution and mitigate environmental risks.

The Australian Council of Recycling (ACOR) engaged Harford Consulting to review regulations that impact plastic recycling in Australia. The engagement specifically sought to understand the regulatory requirements placed on plastic recyclers around the country for plastic handling and storage, and how it may help, hinder or otherwise impact plastic recyclers and ultimately the nation's ability to meet relevant recycling objectives and targets.

A combination of desktop review and consultation was undertaken to identify current issues in plastic recycling and regulations in Australia in 2024.

The desktop review identified and examined legislation, regulation and guidelines nationally, and for all Australian states and territories.

Interviews were conducted with a range of plastic recyclers and plastic recycling experts across the country to understand the practical impact of the laws, regulations and guidelines.

Overall, the review found that there are a range of issues related to regulations that undermine the productivity and viability of plastic recycling. These must be addressed by industry and governments, in order to increase recycling and achieve their stated objectives and targets.

The review fundamentally identified that the regulation of plastic recycling conflicts with national and state policies and targets. These conflicts can be recognised and addressed in order to progress government objectives and enhance industry viability.

While policies and targets espouse the objectives and benefits of increased plastic recycling, the existence of regulations have the perverse consequence in many cases of impeding and undermining the viability of plastic recycling. This impacts investor confidence and the ability for recyclers to access capital enabling growth and scale to generate a sufficient return on investment.

It is generally a difficult, costly and convoluted pathway for recyclers to follow in order to understand and ensure compliance with legislation, regulations and guidelines.

Key observations are that:

- Arrangements for governing plastic recycling stretch across the national, state and local government boundaries.
- These arrangements lack any apparent coordination and have the effect of creating competing and conflicting expectations and outcomes, between the various government targets, objectives, regulations and compliance.
- Many regulations do not explicitly reference plastic recycling or prescribe specific requirements for plastic recycling and therefore are unclear as to their relevance and application to plastic recycling.
- Many regulations that do impact plastic recycling tend to be general in nature as they pertain to the handling of 'waste', and do not provide certainty about those conditions that may specifically apply to plastic recycling.
- Regulations generally treat plastic recycling as a waste management activity and not a manufacturing, circular economy activity.
- The National Waste Policy Action Plan 2019 and National Plastics Plan 2021 are silent on the issue of regulations and the disconnect between policies and targets and the reality of current regulations and enforcement.

The review also finds:

- Most environmental regulations across the various states make no explicit reference to plastic recycling, including plastic storage and handling. While this provides for a level of discretion on the part of regulators and recyclers, it also creates uncertainty as to what conditions do apply. This includes the requirement to be licensed or not. It is not always entirely clear from the relevant laws and publicly available information what a recycler has to do. Plastic recyclers need engagement and to be able to have informed discussions with environmental authorities before commencing plastic recycling and or reprocessing operations.
- Most states have in place guidelines with respect to the management of waste or recyclable materials stockpiles. Some contain specific references to handling and storage of plastic stockpiles. Those which are not explicit with respect to references to recovered plastic still require such guidelines to be applied and followed with respect to stockpiling of any plastic 'waste'.
- Recyclable material, including recyclable plastic for the purposes of what can be put in and collected through kerbside collections, is defined loosely by local councils, and is done either through policy or by-laws.
- Local councils in many cases have an effective discretion to apply conditions on the establishment and operation of a plastic recycling business. In many cases, Councils have powers to require a business to operate under a site-specific environmental management plan for sites which are not licensed by EPA. Any such plan could be beneficial or could be detrimental to the recycling operations, and is therefore dependent on the Councils understanding of plastic recycling technology, capability and operations.
- The impact of regulations for a plastic recycler is further complicated by other non-regulatory requirements, such as responding to guidance from fire authorities and meeting requirements from insurance providers. These other requirements can variously enhance, assist or conflict with regulatory requirements, but nonetheless require further management time, costs and expertise.

The overall impact of current legislation, regulation and guidelines overseeing plastics recycling in Australia creates a barrier for operators that do not have the capacity, expertise and capability to properly understand the application of such, and therefore to respond adequately to such requirements.

As many plastic recyclers who were interviewed observed, while governments set targets, seek to establish ambitious recovery programs and support new recycling infrastructure including with capital funding assistance, regulations are sometimes unclear, create barriers to entry, and ultimately undermine the viability of the recycling sector. This outcome is counter-productive to achieving what are desirable government goals with respect to plastic recycling.

This was specifically observed and noted in three key aspects:

1. Understanding the regulations, undertaking applications and/or tracking and reporting is difficult. Plastic recyclers have to potentially deal with three levels of government with at times different, overlapping and inconsistent rules.
2. Understanding and responding to regulations requires time and resources. Recyclers sometimes do not have the capability, expertise and capacity to undertake such activities.
3. Requirements for handling and storage infrastructure and/or limitations on volumes can add significant costs and undermine viability, operational efficiency and can tie up capital that therefore cannot be optimally deployed.
4. Requirements for particular handling and storage systems, processes and or infrastructure may be impractical or inappropriate for the specific plastics being managed.

That is not to say that all regulations may not be warranted. All participants in this review acknowledged, accepted or welcomed the need for some level of regulations and associated requirements.

However, all recyclers also expressed concerns that the complex and opaque nature of regulations, the misalignment and conflict between government regulations and policy, coupled together with the sometimes inequitable application of the regulations, reduces the ability of Australian plastic recyclers to be competitive, especially in a global market.

The issues canvassed here leads to some short- and long-term recommendations, including:

- The Environment Ministers Meeting at its earliest opportunity should to prioritise the implementation of regulatory efficiency and consistency to support and foster greater plastic recycling activity.
- The Australian Government to support the establishment of an Australian Recycler Accreditation Program in order to recognise appropriate processing of recovered plastic and support and streamline licensing and permitting processes.
- Federal, State and Territory Governments to align plastic manufacturing regulatory approaches and plastic recycling regulations, in order to recognise plastic recycling as a manufacturing activity rather than a waste activity.
- Federal, State and Territory Governments to appropriately and consistently identify and define plastic in-feed for recycling
- Led by the Australian Government, establish an Australian Resource Recovery Board with input by all Australian governments, to deliver a nationally harmonised framework for resource recovery and recycling, including 'end of waste' definitions and codes.

Analysis

Plastic recycling in Australia has a history of adapting to change and forging ahead despite challenges and roadblocks.

The sector has responded to government signals, community expectations, investment opportunities and global developments. It has moved ahead with capital investments (sometimes co-funded with government), new technology and bold business models to establish a viable industry.

While there are many successes in plastic recycling in Australia, there are also many failures.

There is business risk inherent in the activities on matters including access to in-feed raw materials, process reliability and stable end markets. This is exacerbated by the global nature of polymer production and sales, and where recycled plastics competes globally with virgin resins.

Part of the business risk is regulatory compliance risk.

In Australia, there is a range of regulatory compliance risks for plastic recyclers. Fire, environmental, safety and industrial relations are part of the formal licensing, permitting and reporting regulatory requirements for most plastic recyclers.

A specific part of regulatory risks for plastic recyclers exists around the storage and handling of the 'waste' plastic that plastic recyclers use as in-feed for their processes.

This issues paper reviews and assesses Government legislation, regulations and guidelines across Australia as it relates to plastic recycling, and in particular the storage and handling of 'waste' plastic.

Plastic recyclers in Australia manage certain demands specific to the receipt, handling and storage of plastic. Such demands cover all stages of plastic recycling including the raw material storage, in-feed, preparation and processing, as well as the finished recycled plastic or product.

This paper seeks to identify, assess and detail the impacts of such demands, and to document how the specific impacts of such requirements effect the development, operations, and overall viability of plastic recycling in Australia.

The scope considers that plastic recyclers vary considerably in their business models and modes of operations. The source of plastics, types of plastics and volume of plastics all vary, as does the plant and equipment, operating environment and outputs.

In order to canvass these issues, this paper is built in two stages:

1. Identification, review and documentation of all potentially relevant regulations and an assessment thereof of to determine overall and specific impacts for plastic recyclers.
2. Interviews and discussions with a range of plastic recyclers and industry experts to check completeness of part 1 and identify and document issues and impacts.

Stage 1 included identifying, documenting and referencing all relevant legislation, regulations and guidelines. Upon documentation of identified regulations, an assessment was undertaken to review the overall relevance and impact to plastic recyclers, and to inform the interviews and discussions with recyclers and experts.

For the interviews and discussions, a guiding template was drafted to ensure the process covered the key areas of the scope and was consistent for all interviews. This guide also formed the basis of record keeping and note taking for stage 2.

Consultation sought information and examples of how regulation is working in practice, informed the completeness of the identification, and provided examples and insights on the impact of regulation.

Throughout stages 1 and 2 there were internal checks to review the completeness and accuracy of what was being documented for both parts, and to identify and fill in any gaps.

Policy environment and case studies

Around 20 separate pieces of legislation, regulations and or guidelines were identified, which potentially impact the receipt, handling and storage of plastics for plastic recyclers across Australia.

Of these, 18 are state or territory based and therefore applicable to plastic recyclers operating in those jurisdictions.

Table A provides a summary and overview of the legislation, regulations and guidelines that were identified and assessed for this report.

As this table shows, the scope and application of current legislation, regulations and guidelines are potentially broad. The legislation, regulations and guidelines can impact a wide range of the activities of a plastic recycler such as:

- Permissible or licensed in-feed materials (that is, the recovered plastic that is going to be sorted, processed and recycled at the facility) and the quality or amounts of such materials,
- The classification of such in-feed materials as 'waste',
- The receipt, handling and storage requirements for the in-feed materials at the facilities,
- Outputs from the facility (being the processed or finished product from the recycling) and the specific qualities, specifications and contents of the output products,
- Discharges and wastes from the facility in the form of solid waste to landfill, liquid waste and trade waste, and including the specific contents of discharges and wastes.

For this review, the pertinent aspects of current legislation, regulations and guidelines are as they apply to the receipt, handling and storage of the in-feed to a plastic recycling facility, and the handling and storage of the output from a plastic recycling facility.

A number of factors were identified that indicate that regulations may be counter-productive to achieving government targets and goals.

The review of regulations and interviews with recyclers finds that ease of accessibility to, and the understanding of regulatory requirements, may impact the level and deployment of capital and operational expenditure.

For example, lack of consistency in definitions and regulations, the absence of a common approach by regulators, and differing levels of knowledge among regulators, may require a national operator to have different storage and handling processes in place across different jurisdictions.

In the case of a small, single-state operator, they may be required to spend time and resources on determining the relevance and applicability of regulations.

This may be considered a cost of doing business or business as usual; however, it should also be looked at in terms of it being a consequence of government inconsistency, cost shifting and what can be described as a dead weight economic loss in which resources are expended for no discernible productive benefit or outcome.

The National Waste Policy Action Plan (NWPAP) aims to achieve an 80% average recovery rate from all waste streams by 2030 and to significantly increase the use of recycled content by governments and industry.

To achieve these objectives the NWPAP specifically commits all government to *'...build industry capacity and infrastructure to collect, separate, recycle and remanufacture recycled materials'*. Plastic recyclers however report that the time and cost required to comply with storage and handling regulations is actively undermining the commitment to and achievement of this.

As documented in the National Plastics Plan, there has been extensive government investment often by way of direct funding in plastic recycling infrastructure in recent times. To this end, the Australian Government Recycling Modernisation Fund with support from States and industry has generated about \$600 million in recycling investment.

However, plastic recyclers report that such investments are sometimes being made in what are at best marginal on-going commercial operations due to increases in the costs of operating a business. One of those costs cited is the increase in compliance and the associated resourcing of this.

While the NWPAP and the National Plastics Plan acknowledge the need for increasing plastic recycling capacity, other government actions, in particular those relating to regulation and compliance, end up contributing to what are perverse outcomes, undermining attempts to increase capacity.

The following State case studies provide examples of regulations in specific jurisdictions and how they impact plastic recycling outcomes.

Victoria

Victoria has explicit requirements as contained in the *Environment Protection Act 2017* and related guidelines for the management and storage of combustible and recyclable waste materials¹ (CRWM policies) and specify storage and handling requirements.

It is notable that through these requirements and instruments such as the CRWM, the Victorian Government is explicitly identifying and classifying manufacturing material inputs as waste. While there is no question that many of the materials subject to the Act and the CRWM in this manner are in fact and in some way end-of-life materials, the reason for them being at a plastic recycler is as an input into a manufacturing process.

Further, such requirements and directions from the Victorian Government labels plastic recycling facilities as a waste activity; specifically, the EPA VIC classifies them as waste and resource recovery facilities.

Such identification and classification of the material inputs and operational processes does not comprehensively recognise the nature of plastic recycling. It is in most cases clearly a manufacturing activity, as it is producing a product.

Nonetheless, through these instruments Victoria specifies how much 'waste' plastic can be stored on site and how it must be stored. This extends to specifications, conditions and requirements relating to stockpile sizes, bunkers and separation of stockpiles and purpose-built storage facilities.

The Victorian EPA sets license conditions and enforces requirements including the total volume of waste plastic that can be stored on site, location on site, the space required for storage, separation distances of storage from buildings and containment, bunding and fire-retarding structures.

Plastic recyclers in Victoria report that in general terms the requirements are a very significant impost to their business viability.

Operators report that the regulations for plastic 'waste' in Victoria present a trade-off between processing capacity, throughput and saleable product, and compliance with receipt, storage and handling requirements.

The effect is self-limiting. For example, it is reported that the capital needed for storage infrastructure is such that an operator may limit their throughput so as to not have to meet more stringent bunding or separation requirements.

There are also other factors undermining financial viability. In some cases, financial assurances are required for recyclers who store over a certain amount of material, which has the effect of causing some recyclers to either limit their processing or having to account for potential extra financial costs.

The Victorian environment protection CRWM policies also require plastic recyclers to maintain an inventory of materials accepted and stored on site, and report monthly to the EPA.

Plastic recyclers report that the prescriptive nature of CRWM policies creates an uneven playing field, where on the one side, legitimate operators invest time and resources in undertaking the required works and

¹ Management and storage of combustible recyclable and waste materials – guideline. Publication 1667.3 July 2021
Authorised and published by EPA Victoria

processes in order to properly comply, while others are prepared to avoid such requirements, and therefore not incur the related costs.

It was further reported that plastic recyclers could seek a workaround to avoid the storage requirements and costs of building bunkers by not managing the in-feed on the recycling site but instead keeping it as a separate activity and entity.

Industry Case Study 1: Victoria

A Victorian plastic recycler identified that current storage of in-feed 'waste' plastic materials may have been inadequate to meet current regulatory requirements.

The recycler undertook assessments with support from consulting engineers and determined that in the current environment close to \$1 million in capital and time would be needed to properly meet the requirements. The investment required would have no positive impact on operational efficiency nor the commercial performance and outcomes of the business (noting of course that regulatory compliance is itself fundamental to viability). At the time of writing this matter remains unresolved.

Queensland

In Queensland, the primary legislation, the *Environmental Protection Act and Regulations 2019*, establishes power for local government to determine requirements for material handling and stockpile management at a plastic recycling facility.

The Act stipulates that an Environmentally Relevant Activity (ERA) must be licensed. An ERA specifically includes 'plastic product manufacturing' and 'mechanical waste reprocessing', but does not specify inclusion of elements such as baling or compacting of plastics. Therefore, some plastic recycling operations may require licensing and others not.

Plastic recyclers report that while the Queensland Department of Environment, Science and Innovation (DESI) is very supportive of plastic recycling generally, regulations can present a challenge to understand and respond to.

It was reported that the Act is generally clear in its requirements, but when localised through the imposition of particular council conditions, can create complexity and confusion.

Smaller recyclers reported that there seems to be a need to understand and respond to multiple standards, specifications and requirements, while larger operators report that any such confusion leaves space for rogue businesses to operate outside of the regulations, and therefore effectively avoid those costs borne by recyclers that do comply with the regulations.

Industry Case Study 2: Queensland

A plastic recycler reported that the layers and complexity for regulatory compliance for the storage and handling of 'waste' plastic in Queensland created an incentive to devote resources to finding workarounds.

They also reported that the regulatory conditions and the ERA requirements for storage and handling add significant cost and time to the establishment and operation of a plastic recycling facility.

As such, a workaround includes having raw material in-feed stored elsewhere by a separate operation, so the plastic recycler receives materials as needed and avoids any storage and handling issues. Such an approach does resolve compliance requirements along the supply chain, but only removes them from being directly part of the recycling operations. While this approach also relieves some capital expenditure (for example, storage bunkers are not needed), it adds administrative tasks as the feedstock provider needs to be managed, and adds risk due to reliance on just-in-time deliveries of feedstock.

South Australia

South Australia has a long-standing guideline for materials stockpiling and management² that is used to determine whether a recycling facility is meeting legislative requirements.³

The guideline does not cover plastics specifically, but references further guidance for resource recovery and recycling activities and the EPA SA waste definitions.

The *Environment Protection Act 2003* contains no specific reference to storage and handling of plastics but does reference plastic containers as a prescribed class, and that waste recovery and waste reprocessing undertaken at a waste depot requires a license required to operate.

Separate to the regulation and licensing of plastic recyclers, the South Australian Government has been very active by incentivising and supporting plastic recyclers. There has been recent co-investment through the South Australia and Federal Government of a number of plastic recycling facilities in South Australia.

Recyclers report that the South Australian Government is generally very supportive of enhanced plastic recycling, and works to support the sector. However, it was also reported that in South Australia the current licensing and regulatory requirements create difficulties for new entrants and smaller operators. It was reported that new and small operators require assistance to both understand and respond to requirements without the risk of being in non-compliance.

Conversely, it was reported the South Australia regulations are perceived to favour larger plastic recyclers and operators. This is reflected in the costs of compliance for storage and handling, which are more efficiently absorbed when operating at scale. Larger operators also generally have greater capacity and by definition resources to devote the time to working through complex and costly compliance measures.

New South Wales

Plastic recycling operators in New South Wales (NSW) report a number of regulatory pressures that require closed attention and impact overall viability. Fundamental among these pressures are the need to deal with multiple levels of government and the lack of specificity available.

At the state government level, the NSW Environment Protection Authority (NSW EPA) requires recyclers, and what it defines as waste facilities, to be licensed and abide by certain conditions. These conditions frequently reference fire management guidelines and establish prescriptive storage and handling requirements. Plastic recyclers need to understand and respond to both the *NSW Protection of the Environment Operations Act 1997* and *Environmental Protection (Waste Management) Regulations*.

At a local government level, plastic recyclers require permitting from local council authorities. Operators report that local government approvals can be slow and tedious and not understand the nature and extent of plastic recycling operations.

Plastic recyclers in NSW report that the lack of easily understood requirements and the lack of timeliness and responsiveness from state and local government authorities adds significant cost, risk and complexity to recycling operations in the State.

Some operators reported that they consider such state and local requirements as a cost of doing business and a barrier to rogue operators.

Some operators reported that some local government requirements in particular showed a complete lack of understanding of the nature of plastic recycling and sought to impose conditions that are technically not feasible.

² Guideline for stockpile management, EPA South Australia 2010 (Updated October 2020)

³ Environment Protection Act 2003, SA

It was further noted that NSW does not provide a definition for what is considered end of waste. That is, for the material that has been processed through a plastic recycling facility and made into a saleable product, it could still be defined as 'waste' even though it is no longer waste and is new goods, the upshot being that material through plastic recycling facilities may indefinitely be defined as waste and therefore continue to be subject to waste regulations.

Industry Case Study 3: New South Wales

A NSW plastic recycler reports that a key to reducing the barriers to increased plastic recycling rests with raising regulators' knowledge and understanding of the sector.

The recycler reports that lack of understanding at local and state government levels is leading to risk-averse decision making, or not making decisions at all.

The company reports it took about 18 months working with regulators to explain proposed technology, how it would be used locally and provide suitable references and case studies to make state and local authorities aware of its reliability and performance.

Even at the end of the period of education, engagement and awareness raising, authorities could not provide clear direction on approval and the pathway to compliance.

For this company, a core issue is also the definition of waste and the end of waste.

In NSW, even though a waste plastic can go through cleaning, washing, shredding., densification, extrusion and palletisation—and so is substantially transformed and is a product suitable for sale or export—it is still considered as a waste and needs to be licenced and managed as a waste. This is not only a barrier in itself, it conflicts with National Government regulations around exporting recovered plastics.

Industry Case Study 4: New South Wales

An engineering and technical advisory firm to a number of small and large plastic recycling projects in NSW observes significant barriers in the state due to regulatory uncertainty and inconsistency. After working on more than 12 green field, brown field and upgrading plastic recycling facilities over the last seven years, they report an ongoing and increasing risk to project viability due to regulatory issues.

Specifically with respect to the requirements in NSW for the handling and storage of 'waste' plastic, they note:

- the general definition of feedstock as waste does not always accurately reflect the nature of the materials and their source,
- inconsistency and contradiction between local and state government requires responding differently to different regulators,
- inconsistent enforcement of licence and permit conditions creates management uncertainty and risk,
- barriers can be more significant for new and smaller operations due to their greater capacity and capability constraints.

The company reported that in its experience all plastic recyclers are focused on being compliant. They said operators want to ensure all environmental risks are managed and mitigated, so the facility can achieve the best triple bottom line results. To this end, the firm suggested that Government would be innovative and support the sector if it recognised operators that are doing the right thing and have a strong record of good practice, and then reward them with individually tailored, appropriate and favourable licence and permit conditions.

Table of regulations

TABLE A—Australian legislation, regulation and guidelines for plastic recyclers

The table below illustrates that across Australian jurisdictions there is a diversity of regulation that plastic recyclers may need to access, understand and comply with. It also shows that there are a range of regulations that may impact plastic recyclers, and therefore recyclers may need to consider and assess whether the requirement is applicable for them or not.

Jurisdiction	Regulations/ Guidance/Policy	Conditions & requirements	Sections and Definitions to note	Application
National / Australian Government	<i>Recycling and Waste Reduction Act 2020</i> <i>Recycling and Waste Reduction (Export—Waste Plastic) Rules 2021</i>	<ul style="list-style-type: none"> Exporters of processed ‘waste’ plastic to hold an export licence and declare each export consignment of waste plastic prior to export. 	Covers export of processed ‘waste’ plastics that have been sorted, and further processed and capable of remanufacture without further processing, in accordance with a specification. Plastic pellets made from recycled plastic do not require a licence to export.	Export licences are subject to specific conditions: from 1 July 2022 allows export of ‘waste’ plastic that is further processed, such as flaked or pelletised.
		<ul style="list-style-type: none"> No direct role in regulating waste management & recycling. 	State and territory governments have primary responsibility for regulating domestic waste management.	
		<ul style="list-style-type: none"> Cost recovery for the waste export program commenced on 1 July 2024. 	Waste exporters are required to pay upfront application fees for the assessment of new licences, licence variations, licence renewals and exemptions. Fees apply to waste streams regulated under the <i>Recycling and Waste Reduction Act 2020</i> . This includes tyres, plastics, glass, paper and cardboard.	Export licenses and exemptions are subject to fees between \$13k–\$19k to export processed recycled commodities.
New South Wales	<i>Protection of the Environment Operations Act 1997</i>	<ul style="list-style-type: none"> No specific reference to storage and handling of plastics Plastic feedstock regulated by local authorities. Environment Protection Licence. 	Licence required for MRF, recycling and other facilities. Penalties for escape to water or land. NSW legislation does not provide for a definition of ‘end of waste’, meaning that recovered/recycled material could indefinitely be defined as waste.	All recyclers and preprocessors of plastic waste feedstock.
	<i>Environmental Protection (Waste Management) Regulation 2000</i>	<ul style="list-style-type: none"> Storage of general waste and industrial waste Provides power to local government to establish requirements for plastic recycling facilities. 	Definition: recyclable waste, clean and inoffensive waste that is declared by the local government to be recyclable waste for the area.	Assuming local council were to exercise such discretion, then would likely apply to all recyclers and preprocessors of plastic waste feedstock.

Jurisdiction	Regulations/ Guidance/Policy	Conditions & requirements	Sections and Definitions to note	Application
	<i>Waste Avoidance and Resource Recovery (Container Deposit Scheme) Regulation 2017</i>	<ul style="list-style-type: none"> • Container deposit scheme 		Container deposit scheme operates statewide.
Queensland	<i>Waste Reduction and Recycling Regulation 2023 (refer also Waste Reduction and Recycling and Other Legislation Amendment Act 2023)</i>	<ul style="list-style-type: none"> • No specific reference to storage and handling of plastics. • Reference to banned plastics. • Container deposit material collection and handling. 	Part 6 Banned plastic items https://qldplasticsban.com.au/ Part 7 Container refund scheme	Plastics ban is statewide. Beverage container refund scheme operates statewide.
	<i>Environmental Protection Act and Regulations 2019</i>	<ul style="list-style-type: none"> • A process deemed to be an Environmentally Relevant Activity (ERA) must be licensed. 	S.19 and Schedule 2 what constitutes an ERA Plastic product manufacturing: Plastic product manufacturing (the relevant activity) consists of—(a) manufacturing, in a year, a total of 50t or more of plastic products, other than a plastic product mentioned in paragraph (b); or (b) manufacturing, in a year, a total of 5t or more of foam, composite plastics or rigid fibre-reinforced plastics. Mechanical waste reprocessing: (1) Mechanical waste reprocessing (the relevant activity) consists of operating a facility for receiving and mechanically reprocessing waste. The relevant activity does not include baling or compacting of plastics.	Assuming processing, reprocessing of plastic waste into plastic product fits the definition of plastic product manufacturing, then an ERA would be required.
	'Environmental Services Guideline – Prevention of fires in waste stockpiles' ESR/2020/5506	<ul style="list-style-type: none"> • Assist operators of waste facilities with the management of fire risks associated with stockpiles of combustible waste and reduce the impacts upon the environment of a fire at their premises. 	Guideline notes that stockpile is a term that generally refers to any vertically piled storage of material, whether loose, baled, sorted or not, accumulated for future use. Guideline notes that waste is defined in section 13 of the <i>Environmental Protection Act</i> , as follows: (1) Waste includes anything, other than an end of waste resource, that is— (a) left over, or an unwanted by-product, from an industrial, commercial, domestic, or other activity; or (b) surplus to the industrial, commercial, domestic or other activity generating the waste.	All recyclers and preprocessors of plastic waste feedstock.

Jurisdiction	Regulations/ Guidance/Policy	Conditions & requirements	Sections and Definitions to note	Application
South Australia	<i>Environment Protection Act 2003</i>	<ul style="list-style-type: none"> No specific reference to storage and handling of plastics Only reference is to plastic containers as a prescribed class to be prohibited. Refers to waste recovery and waste reprocessing undertaken at a waste depot. Licence required to operate. Container Deposit scheme 	<p>Part A - Activities A2 - Waste reprocessing - any other waste reprocessing facility, being a depot, works or facility, that during a 12 month period, receives or has the capacity to treat— (i) more than 100 tonnes of solid waste or matter.</p> <p>Licence would presumably stipulate any storage and handling conditions.</p> <p>Container Deposit scheme – prescribed in Part 8 Division 2</p>	Licence required to operate waste recovery depot and for waste reprocessing undertaken at a waste depot.
	'Guideline for Stockpile Management' EPA SA October 2020	<ul style="list-style-type: none"> Guideline outlines the potential risks associated with the stockpiling of materials (waste or other matter) 	<p>Provides guidance on appropriate stockpile management and relevant controls to reduce those risks.</p> <p>The aim is to prevent or minimise the potential for negative impacts on human health and/or the environment, promote material circulation through the waste management process, and reduce environmental liabilities and the risk of abandonment.</p> <p>Plastics are categorised by material risk category.</p>	All recyclers and preprocessors of plastic waste feedstock.
	<i>Single-use and Other Plastic Products (Waste Avoidance) Act 2020</i>	<ul style="list-style-type: none"> Phasing out of single-use plastics. 	<p>South Australia's <i>Single-use and Other Plastic Products (Waste Avoidance) Act 2020</i> phases out single use plastics over several years https://www.replacethewaste.sa.gov.au/</p>	Plastics ban is statewide.
Tasmania	<i>Waste and Resource Recovery Act 2022</i>	<ul style="list-style-type: none"> No specific reference to plastics. Contains requirements relating to the operation of a resource recovery facility and maintaining records. 	<p>Section 5. Meaning of resource recovery facility</p> <p>A facility, or place, that is –</p> <p>(a) a facility or place at which resource recovery occurs; or</p> <p>(b) prescribed as a resource recovery facility.</p> <p>(2) Despite subsection (1), a facility, or place, is not a resource recovery facility if it is prescribed not to be a resource recovery facility for the purposes of the Act.</p>	Applies to all recyclers and preprocessors of plastic waste feedstock. Plastics ban is statewide.
		<ul style="list-style-type: none"> These requirements are set by Ministerial standards. Phasing out of single-use plastics. 	<p>Resource Recovery Facility Requirements</p> <p>Records of Resource Recovery Facility</p> <p>Phasing out the sale and supply of select problematic and single-use plastics and materials</p>	
	<i>Environmental Management and Pollution Control Act 1994</i>	<ul style="list-style-type: none"> No specific reference to plastics or processing. 	Schedule 2 - Level 2 Activities requiring a permit, includes waste depots.	

Jurisdiction	Regulations/ Guidance/Policy	Conditions & requirements	Sections and Definitions to note	Application
		<ul style="list-style-type: none"> • Provision for environmental permits for certain activities. • Waste Treatment and Disposal Depots are required to have a permit 	Waste Treatment and Disposal - Waste Depots: the conduct of depots for the reception, storage, treatment or disposal of waste other than for temporary storage at the place at which the waste is produced while awaiting transport to another place, or for waste transfer stations which are designed to receive, or are likely to receive, 100 tonnes or more of waste per year.	
	'Environmental Guidelines for Stockpiling Waste', December 2021 EPA Tasmania	<ul style="list-style-type: none"> • Purpose is to help Tasmanian industry and regulatory authorities (EPA and local councils) manage the environmental risks of waste stockpiling. • Waste stockpiling is defined as the temporary storage of waste prior to disposal, or as part of recycling, reprocessing, recovery, or reuse activities 	<p>The guide describes the environmental risks of stockpiling waste and suggests management practices that can be implemented to reduce the likelihood of environmental harm. Stockpile managers can use the guide to improve onsite environmental management systems and to promote the circulation of materials throughout the waste management process. Regulatory authorities may also use the guide to aid decision making and to address specific issues at individual facilities.</p> <p>Plastic is described as general waste, including any waste other than a controlled waste.</p>	Applies to all recyclers and preprocessors of plastic waste feedstock.
Victoria	<i>Environment Protection Act 2017</i>	<ul style="list-style-type: none"> • No specific reference to plastics or processing. • Provides for licensing of certain operations. 		Applies to all recyclers and preprocessors of plastic waste feedstock.
	<i>Circular Economy (Waste Reduction and Recycling) Act 2021</i>	<ul style="list-style-type: none"> • Defines waste and recycling service • Establishes and empowers Recycling Victoria (RV) 	<p>Establishes service standards and data reporting for Councils</p> <p>Establishes RV's power to procure waste and recycling services</p> <p>Sets container deposit scheme requirements and administration</p>	Determines what plastics Councils may place in bins, and what needs to be recovered and recycled
	<i>Environment Protection Regulations 2021</i>	<ul style="list-style-type: none"> • References to plastic shopping bag ban and single use plastic ban 	<p>Div 1 – Plastic shopping bag ban</p> <p>Div 2 – Single-use plastic item ban</p>	
	Guideline 1667.3: 'Management and storage of combustible recyclable and waste materials' EPA.	<ul style="list-style-type: none"> • Duty holders of waste and resource recovery facilities (WRRFs) who receive, store and process waste including CRWM to understand their obligations under the EP Act. 	<p>These obligations include approaches to identifying their risks and practical measures that can be taken to minimise risk of harm to human health and the environment from fire as far as reasonably practicable.</p> <p>Maximum stockpiles by weight of "waste" plastic</p> <p>Barriers and walls to contain stockpiles</p>	Applies to all recyclers and preprocessors of plastic waste feedstock.

Jurisdiction	Regulations/ Guidance/Policy	Conditions & requirements	Sections and Definitions to note	Application
Western Australia	<i>Waste Avoidance and Resource Recovery Act 2007</i>	<ul style="list-style-type: none"> No specific reference to storage and handling of plastics Container deposit scheme 	Schedule matters in respect of which regulations may be made Division 2 — Waste collection and facilities, including: Regulating the operation of waste facilities, and the treatment, storage, processing, recycling or disposal of waste at waste facilities. Regulating the creation, collection, storage, handling, processing, recycling and disposal of waste. Part 5A — Container deposit scheme	Assume applies to all recyclers and preprocessors of plastic waste feedstock.
	<i>Environment Protection Act 1986</i> <i>Environmental Protection Regulations 1987</i>	<ul style="list-style-type: none"> No specific reference to storage and handling of plastics Requires a works approval to be obtained before constructing a prescribed premises and makes it an offence to cause an emission or discharge unless a licence or registration is held for the prescribed premises. 	Part V of the Act deals with licensing process, to prevent, control, abate and mitigate pollution or environmental harm. Schedule 1 of the regulations outlines prescribed premises categories Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land. 1 000 tonnes or more per year. Solid waste depot: premises on which waste is stored or sorted, pending final disposal or re-use.	Assume applies to all recyclers and preprocessors of plastic waste feedstock.
	<i>Environmental Protection (Prohibited Plastics and Balloons) Regulations 2018</i>	<ul style="list-style-type: none"> Single-use plastic ban 	Section 3A contains prescribed plastic items which are currently banned.	Plastics ban is statewide

Findings and recommendations

Regulation of plastic recycling conflicts with national and state policies and targets. While policies and targets promote and seek to incentivise increased plastic recycling, regulations in many cases undermine the viability of plastic recyclers operations, and can act as a barrier to those entering the industry and establishing a recycling business.

It is generally a difficult, costly and convoluted exercise for plastic recyclers to navigate the regulatory environment, in order to understand and ensure compliance with legislation, regulations and guidelines. This can lead to sub-optimal outcomes, where less plastic is recycled than might otherwise occur.

Specifically, it is currently apparent that:

- The governing of arrangements as they relate to plastic recycling in Australia occurs across multiple levels of government, involving national, state and local government.
- Approaches, regulations and arrangements across the various levels of government are not coordinated and, in many cases, are inconsistently applied.
- There are competing and conflicting expectations and outcomes between government targets and objectives, and regulations and compliance.
- The level of awareness, knowledge and expertise with respect to plastic recycling that resides within regulatory authorities and decision-makers in state and local government has a significant impact on timely and appropriate licensing and permitting.
- Many regulations do not explicitly reference plastic recycling or prescribe specific requirements for plastic recycling, leading to confusion and uncertainty.
- Many regulations that impact plastic recycling are only general in nature relating to the handling of 'waste', while not providing adequate certainty about conditions that apply to plastic recycling specifically.
- Regulations generally treat plastic recycling as a waste management activity and not a manufacturing and circular economy activity.
- The National Waste Policy Action Plan and National Plastics Plan do not specifically address this issue of appropriate and efficient regulations, and the issue of regulations and the disconnect between policies and targets and regulations and enforcement.
- Most environmental regulations across the various states make no explicit reference to plastic recycling, including plastic storage and handling.
- Plastic recyclers need engagement and discussion with environmental authorities and invariably require the services of a range of external consultants before commencing a plastic recycling and or reprocessing operation.
- Most states have in place guidelines with respect to the management of waste or recyclable materials stockpiles and some contain specific references to handling and storage of plastic 'waste stockpiles'.
- Recyclable waste, including recyclable plastic for the purposes of what can be collected in kerbside collections, is defined loosely by local councils, and is done either through policy or by-laws.
- Local councils in many cases have an effective discretion to apply conditions as part of development approvals for the establishment and operation of a plastic recycling business.
- Other non-regulatory requirements such as responding to guidance from fire authorities and meeting requirements from insurance providers interact with regulations, and also need to further management time, costs and expertise.

The conflict and tension that exists whereby governments set targets, establish recovery programs and support new recycling infrastructure, but at the same time regulations often create barriers, is undermining the viability of the plastic recycling sector.

If Government wishes to therefore achieve the targets it sets for increased plastic recycling, there needs to be an alignment with the regulations for the handling and storage of plastic. Regulation is of course needed to properly manage and account for the environmental risks inherent in plastic recycling facilities, but it also

needs to efficient and cost effective, and avoid stifling of the productive allocation of capital, ongoing investment, the promotion of innovation and overall viability.

Recommendations and next steps for consideration are:

Short term (6–18 months)	<ul style="list-style-type: none"> • The Environment Ministers Meeting at its earliest opportunity to prioritise the implementation of regulatory efficiency and consistency to foster greater plastic recycling activity. • The Australian Government to support the establishment of an Australian Recycler Accreditation Program, to recognise appropriate processing of recovered plastic and support and streamline licensing and permitting processes.
Medium term (18–36 months)	<ul style="list-style-type: none"> • Federal, State and Territory Governments to align plastic manufacturing regulatory approaches and plastic recycling regulations, in order to recognise plastic recycling as a manufacturing activity rather than a waste activity. • Federal, State and Territory Governments to appropriately and consistently identify and define plastic in-feed for recycling. • Subject to the short-term action of implementing regulatory efficiency measures, include regulatory efficiency as an on-going objective in the National Plastic Plan • Led by the Australian Government, establish an Australian Resource Recovery Board with input by all Australian governments, to deliver a nationally harmonised framework for resource recovery and recycling, including ‘end of waste’ definitions and codes.
Long term (3–5 years)	<ul style="list-style-type: none"> • Through the Australian Resource Recovery Board, develop a National Resource Recovery Framework that is adopted by all States and Territories.