Final Report

Product Stewardship Common Data Requirements

Department of Sustainability, Environment, Water, Population and Communities

PREPARATION OF REPORT

Author: Rebecca Cain
Project Consultant
Net Balance

Project Manager: Megan Haines
Associate
Net Balance

Project Directors: Guy Edgar
Associate Director
Net Balance

Robyn Leeson
Director

Status: Final

Department of Sustainability, Environment, Water, Population and Communities
EPR and Product Stewardship Data Requirements and Reporting
13 October 2010
NB Ref: MMPJ10DWH052

Disclaimer

While reasonable efforts have been made to ensure that the contents of this publication are factually correct, the Commonwealth does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

The views and opinions expressed in this publication are those of the authors and do not necessarily reflect those of the Australian Government or the Minister for Sustainability, Environment, Water, Population and Communities.

Table of Contents

Glossary **1**

1. Introduction **5**

1.1 Purpose 5

1.2 Background 5

2. Methodology **8**

2.1 Phase 1 – Determining Current State of Data Collection, Reporting and Disclosure in Australia 8

2.2 Phase 2 – Determining Other Reporting and Disclosure 10

2.3 Phase 3 - Developing a Set of Common Data Requirements 12

3. Current Data Collection, Reporting and Disclosure in Australia **16**

3.1 Discussion of Data Reporting and Disclosure 28

3.2 Data That Could Be Readily Reported or Disclosed 30

4. Other Current Reporting and Disclosure **31**

4.1 International Product Stewardship Schemes 31

4.2 Product Stewardship and the Global Reporting Initiative 31

4.3 Other Australian Schemes 33

4.4 International Agreements and Obligations 34

4.5 Authorisation Under the *Trade Practices Act 1974* 37

5. Common Data Requirements **39**

5.1 Core Data Requirements 39

5.2 Additional Data Requirements 53

5.3 Data Omissions 57

5.4 Future Changes to the Common Data Requirements 57

5.5 Product/Material or Industry Specific Data Requirements 58

6. Data Collection and Management **59**

6.1 Data Collection 59

6.2 Cost of Data Collection 71

6.3 Collecting Data from the Supply Chain 73

6.4 The Process of Data Collection 74

6.5 Data Protocols 74
7. Reporting and Disclosure 76
7.1 Disclosure at Application Phase 76
7.2 Mechanisms for Periodic Disclosure 76
7.3 Commercial in Confidence or Sensitive Data 78
7.4 Disclosure of the Data 81
8. Data Quality Principles 83
8.1 Reliability 83
8.2 Clarity 84
8.3 Balance 84
8.4 Comparability 85
8.5 Accuracy 86
8.6 Timeliness 87
9. Third Party Assurance 89
9.1 The Rationale for Third Party Assurance 89
9.2 The Role for Third Party Assurance 89
9.3 The Assurance Process 89
Appendix A – Product Stewardship schemes 91
Appendix B – Product and Material Life Cycle 96
Appendix C – Potential Data Requirements: Inclusion Evaluation 97
Appendix D – Full List of Common Data Requirements 110

Glossary

Clear and concise terms and definitions are important when discussing information relating to product stewardship schemes. Table G.1 outlines a list of definitions that relate the product stewardship framework to the source of the definitions.

Table G.1 – Terms and Definitions

Term	Definition	Source of definition
Accreditation	The decision made by the Regulator that a proposed voluntary product stewardship arrangement conforms to the Government's standards and, if applicable, can be marketed with appropriate Government labelling.	Department of Sustainability, Environment, Water, Population and Communities
Additional data requirements	Data requirements that are beneficial (but not essential) in measuring the progress of the product stewardship scheme against its objectives and ethical operation.	Introduced for this report
Application phase	The phase where schemes are applying for approval or accreditation under the National product stewardship framework.	Introduced for this report
Approval	The decision made by the Regulator that the proposed co-regulatory or mandatory (where appropriate) product stewardship arrangement meets the requirements and obligations specified in legislation and may go ahead.	Department of Sustainability, Environment, Water, Population and Communities
Arrangement	For the co-regulatory and mandatory frameworks (where appropriate), an 'arrangement' is what a liable party develops for approval by the Regulator and implements in order to meet its product stewardship obligations and requirements under the legislation. In the case of the voluntary framework, an arrangement is what a party develops and implements in order to meet its requirements and obligations for accreditation under the legislation.	Department of Sustainability, Environment, Water, Population and Communities
Common data requirements	A comprehensive and standardised set of data that would apply to schemes accredited or approved under the National Product Stewardship Framework. The common data requirements would assure stakeholders about the effectiveness and ethical operation of the scheme.	Introduced for this report
Core data requirements	Requirements that are essential in measuring the progress of a scheme against its objectives and the ethical operation of the scheme.	Introduced for this report

Term	Definition	Source of definition
Co-regulatory	Co-regulatory approaches to product stewardship will involve a combination of Australian Government regulation and industry action. Under a co-regulatory approach, government sets the minimum outcomes and operational requirements, while industry has some discretion about how those requirements and outcomes are achieved.	Department of Sustainability, Environment, Water, Population and Communities
Design for sustainability	The design and development of products that are intentionally created to be more durable and energy efficient, avoid the use of toxic materials, and are easily disassembled for recycling. May also be called 'design for environment'.	Based on definition included in National Waste Report (DEWHA 2010)
Disclosure	To reveal or make information known. When used to refer to the GRI, disclosed means provision of supportive information of interest to third parties. These are captured in three types of Standard Disclosures within the GRI: • Strategy and Profile Disclosures set the overall context for reporting and for understanding organizational performance including strategy, profile, governance, and management approach; • Disclosures on Management Approach cover how an organization addresses a given set of topics in order to provide context for understanding performance in a specific area. • Performance Indicators that elicit comparable information on the economic, environmental, and social performance of the organization.	Global Reporting Initiative G3 Guidelines – Glossary of Terms
Environment Protection and Heritage Council (EPHC)	A council set up by the Council of Australian Governments in 2001 to ensure the protection of the environment and heritage of Australia and New Zealand. It is made up of ministers, not necessarily environment ministers, from participating jurisdictions (i.e. Commonwealth, State and Territory Governments, the New Zealand Government, and the Papua New Guinea Government). It addresses broad national policy issues relating to environmental protection, particularly in regard to air, water, and waste matters. It also addresses natural, Indigenous and historic heritage issues.	Based on definition included in National Waste Report (DEWHA 2010)
Extended Producer Responsibility (EPR)	Extended Producer Responsibility (EPR) is a subset of Product Stewardship which places primary responsibility on the producer for the re-use, recycling or disposal of their products when they are no longer required by the consumer.	Department of Sustainability, Environment, Water, Population and Communities

Term	Definition	Source of definition
Global Reporting Initiative (GRI)	The Global Reporting Initiative (GRI) is an organisation that has developed the world's most widely used sustainability reporting framework. The GRI Reporting Framework sets out the principles and indicators that organisations can use to measure and report their economic, environmental, and social performance.	Global Reporting Initiative website http://www.globalreporting.org/AboutGRI/WhatIsGRI/
Handled	To manage or be responsible for. Handled in the context used in this report means the products or materials that the scheme manages or is responsible for.	Introduced for this report
Hazardous waste	Waste that is potentially harmful to humans and the environment. For more specific definitions, see the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their *Disposal or the Hazardous Waste (Regulation of Exports and Imports) Act 1989*.	Based on definition included in National Waste Report (DEWHA 2010)
Mandatory	Mandatory product stewardship is where the Australian Government regulates requirements for product stewardship, including the way that liable parties must meet those requirements, leaving little or no discretion on how requirements are met.	Department of Sustainability, Environment, Water, Population and Communities
Non-Participant	A company belonging to an industry sector for which an Approved Scheme and product-specific schedule exists, but who is not participating in voluntary self-regulation.	Based on definition included in Industry Discussion Paper on Co-regulatory Frameworks for Product Stewardship (EPHC, 2004)
Periodic Disclosure	Disclosure that is undertaken on a regular basis and is primarily intended to provide information on the performance of the scheme. It is anticipated that periodic disclosure would be undertaken on an annual basis.	Introduced for this report
Producer Responsibility Organisation (PRO)	An independent, not for profit organisation established by industry to better manage the impacts of products.	Based on definition included in Industry Discussion Paper on Co-regulatory Frameworks for Product Stewardship (EPHC, 2004)
Product Stewardship Agreement (PSA)	An agreement between an industry sector and the Australian Government on a framework to facilitate product stewardship.	Based on definition included in Industry Discussion Paper on Co-regulatory Frameworks for Product Stewardship (EPHC, 2004)

Term	Definition	Source of definition
Product stewardship	A policy approach recognising that manufacturers, importers, retailers, governments and consumers have a shared responsibility for the environmental impacts of a product throughout its full life cycle. Product stewardship schemes establish a means for relevant parties in the product chain to share responsibility for the products they produce, handle, purchase, use and discard.	Department of Sustainability, Environment, Water, Population and Communities
Refurbished	To rebuild or replenish with new or working components enabling restoration to original (or better) working order and appearance.	Introduced for this report
Repair	Where components of a product are restored/replaced/fixed to a safe operating condition.	Introduced for this report
Reporting	Provision of information within the scheme, between the scheme operator and the members. Also referred to as disclosure to members of the scheme. Within this report, what is commonly known as public reporting is referred to as disclosure to the public.	Introduced for this report
Reuse	The act of salvaging or in some manner returning a discarded item into something usable, either in whole or in part.	Introduced for this report
Third party assurance	The process / act of independently reviewing, inspecting or testing the accuracy and quality of information disclosed.	Introduced for this report
Voluntary	Voluntary product stewardship occurs when companies, groups of companies or organisations representing them choose to undertake product stewardship as part of their business model or as a means of demonstrating their values.	Department of Sustainability, Environment, Water, Population and Communities

1. Introduction

1.1 Purpose

Net Balance Management Group Pty Ltd (Net Balance) was engaged by the Australian Government to assist in developing a set of common data requirements under a National Product Stewardship Framework. The Product Stewardship Framework is being established under the new *National Waste Policy: Less waste more resources* (2009).

The purpose of this report is to outline the suite of common data requirements for product stewardship and extended producer responsibility (EPR) schemes[1] under a Product Stewardship Framework.

Common data requirements are a comprehensive and standardised set of data that would apply to schemes accredited or approved under the National Product Stewardship Framework. The common data requirements aim to provide information for stakeholders who need confidence that product stewardship schemes are meeting their specified objectives and operating in an ethical manner.

A companion summary report which provides a comprehensive summary of the key findings of this report has also been published and will be made available on the Department of Sustainability, Environment, Water, Population and Communities website (http://www.environment.gov.au/settlements/waste/index.html).

1.2 Background

1.2.1 National Waste Policy: Less waste more resources (2009)

A new *National Waste Policy: Less waste more resources* (2009) was agreed by Australia's environment ministers in November 2009. A key direction of the policy is to ensure shared responsibility for reducing the environmental footprint and health and safety impacts of products and materials. This responsibility ought to be shared across the manufacture-supply-consumption chain and at end-of-life. A National Product Stewardship Framework is proposed to enable Australia to more effectively

[1] In both research and practical application, the term product responsibility is often used interchangeably with EPR. EPR is a policy concept which places primary responsibility on producers for the reuse, recycling or disposal of their products once they are no longer required by consumers. While conceptually similar to EPR, product stewardship is broader in its scope, engaging manufacturers, brand-owners, retailers, consumers, regulators and waste managers in developing programs to effectively and appropriately manage the impacts of products across their lifespan, rather than at the post-consumer waste stage. Therefore from herein, the term product stewardship will be used to collectively refer to both concepts.

manage products and materials that might otherwise be sent to landfill. Product stewardship schemes allow parties in the product chain to share responsibility for the products and materials they produce, handle, purchase, use and discard.

1.2.2 National Product Stewardship Framework

The Australian Government is developing framework legislation to provide a consistent approach to product stewardship for products and materials sold in national markets and to allow for flexibility in the way schemes are implemented.

The product stewardship framework is likely to have voluntary and regulatory components. Under the framework there may be provision for the following types of scheme arrangements:

Voluntary

Under the framework there could be provision for accrediting voluntary schemes for transparency and accountability. This is intended to address information gaps where the community does not have the resources to determine if a product stewardship scheme meets stated objectives. Industry or community organisations, such as charities, may be able to seek accreditation under the framework provided they meet certain criteria. Accreditation may be done on a fee-for-service basis.

Co-regulatory

The framework could also provide for co-regulatory schemes which cover a small number of products and materials (e.g. televisions and computers). Under this approach, industry may be expected to organise and fund recycling schemes. It is anticipated that the drive to include products or materials will come from industry, as was the case with the planned computer and television scheme.

Co-regulatory schemes would be underpinned by regulation to ensure that those businesses which choose not to participate in the industry scheme are subject to similar requirements for collection and recycling of their product and material waste. This would prevent non-participants from gaining a competitive advantage.

Regulatory

To ensure that the legislative framework is comprehensive, provision may also be made for regulatory schemes (given a number of these already exist), but currently no particular product or material is earmarked for such a scheme.

1.2.3 Products and Materials Covered

For products or materials to be covered by the framework (whether voluntary, co-regulatory or regulatory), they may need to be products or materials in a national market and meet two or more of the following criteria:

- contain hazardous or toxic substances
- have the potential for increased resource recovery, material conservation, re-use, recycling, recycled content and contribution to greenhouse gas reduction, energy and water conservation
- place significant economic burdens on jurisdictions (including local government) for end-of-life management
- demonstrate that the consumer is willing to pay
- offer business opportunities that would make a contribution to the economy.

In addition to meeting these criteria, a regulation impact assessment would be undertaken to establish net community benefit before the introduction of new regulatory instruments. This is consistent with existing requirements for changes to Commonwealth legislation.

2. Methodology

Net Balance conducted the Product Stewardship Common Data Requirements project through a combination of desktop research and stakeholder interviews. The project consisted of three phases, including:

- Phase 1 – Determining current state of collection, reporting and disclosure in Australia
- Phase 2 - Determining other current reporting and disclosure
- Phase 3 – Developing a common set of data requirements.

2.1 Phase 1 – Determining Current State of Data Collection, Reporting and Disclosure in Australia

2.1.1 Task 1.1 – Review of Publicly Available Information

A review of publicly available information on product stewardship schemes in Australia was undertaken. The review aimed to draw together a list of product stewardship schemes operating throughout Australia. Schemes contained in the list were divided into categories according to their individual arrangements. Different arrangements include those listed in Table 2.1.

Table 2.1 – Product Stewardship Arrangements

Category	Arrangements
Policy approach	▪ Voluntary ▪ Co-regulatory ▪ Regulatory
Operation	▪ Individual ▪ Collective – operated by a product responsibility organisation (PRO)
Product stewardship initiative focus	▪ Design and manufacture ▪ Supply ▪ Consumption ▪ End-of-life

Desktop research was undertaken in the first instance to obtain all publicly available information on the data collection, reporting and disclosure practices of the schemes.

2.1.2 Task 1.2 – Consultation with Australian Product Stewardship Schemes

Operators of 14 product stewardship schemes that have operated, currently operate or are emerging in Australia were consulted to identify existing data collection, reporting and disclosure practices[2]. The mix of schemes operating under different approaches was selected to represent a broad cross section of product stewardship. The schemes selected for review are shown in Table 2.2. A description of the schemes is provided in Appendix A.

Table 2.2 – Product Stewardship Schemes Selected for Consultation

Scheme name	Date established	Policy approach	Operation	Product coverage	Product stewardship focus
MobileMuster	1999	Voluntary	Collective	Single product	End-of-life
Refrigerant Reclaim Australia	1993	Co-regulatory	Collective	Single material	End-of-life
drumMUSTER	1999	Voluntary	Collective	Single product	End-of-life
ChemClear (Chemcollect between 2000 and 2002)	2000	Voluntary	Collective	Single product	End-of-life
Return Unwanted Medicines	1998	Voluntary	Collective	Single product	End-of-life
National Packaging Covenant (NPC)	1999	Co-regulatory	Collective	Multi product	Design and Manufacture End-of-life
South Australian container deposit legislation (CDL)	1975	Mandatory	Collective	Multi product	Consumption End-of-life
Dyson	unknown	Voluntary	Individual	Multi product	Consumption End-of-life
Cartridges 4 Planet Ark	2003	Voluntary	Collective	Single product	End-of-life
Paintback	2003-2007	Voluntary	Collective	Single product	End-of-life
Byteback	2005	Voluntary	Collective	Multi product	End-of-life

[2] Contact was attempted with Publishers National Environmental Bureau and Apple, however these organisations were not available or unreachable during the consultation phase. Contact was achieved with Dell Recycling, however data was not provided in time for this report's compilation and submission to the Australian Government.

Scheme name	Date established	Policy approach	Operation	Product coverage	Product stewardship focus
Product Stewardship for Oil program	2001	Mandatory	Collective	Single product	End-of-life
National Television and Computer Product Stewardship Scheme[3]	Not yet established	Co-regulatory	Collective	Multi product	End-of-life
Fuji Xerox End of Life Recycling	Early 2000s	Voluntary	Individual	Multi product	End-of-life

Stakeholders were consulted on the following areas of information:

- data collection, reporting and disclosure practices of the scheme
- data collection, reporting and disclosure barriers and challenges
- sources of data
- the robustness and reliability of data
- data management.

2.2 Phase 2 – Determining Other Reporting and Disclosure

To determine other current or possible product stewardship disclosures, a number of reviews were performed as outlined in the following sections. These reviews were used to determine any other possible data requirements beyond that which are currently reported and disclosed by Australian schemes to ensure the comprehensiveness of the common data requirements.

2.2.1 Task 2.1 - Review of International Product Stewardship Schemes

Desktop research was undertaken to identify the data that a selection of international product stewardship schemes disclose. Ten international schemes operating in North America, Europe and Asia Pacific were researched, in addition to the Organisation for Economic Co-operation and Development (OECD) approach to product stewardship. The schemes selected for review are shown in Table 2.3.

[3] The National Television and Computer Product Stewardship Scheme is currently being developed cooperatively by the industries in consultation with government. A representative from Product Stewardship Australia provided an indication of the data that it expects the scheme to report on and disclose. The response reflects the opinion of Product Stewardship Australia. The specific data requirements for the scheme will be determined by the Implementation Working Group which consists of representatives from state and federal governments, the consumer electronics industry and the IT equipment industry.

Table 2.3 – International Product Stewardship Schemes Reviewed

Scheme name	Jurisdiction
Container and Packaging Recycling Act 1995	Japan
Waste Electrical and Electronic Equipment (WEEE) Directive	European Union
Packaging Accord	New Zealand
Saskatchewan Waste Electronic Equipment Program (SWEEP)	Saskatchewan, Canada
Return It Electronics: Electronics Stewardship Association of British Columbia	Canada
Waste Diversion Act	Ontario, Canada
American Petroleum Institute Used Motor Oil Collection and Recycling	USA
Ontario Tire Stewardship, Canada	Ontario, Canada
Beverage Container Recycling Program	California, USA
California Product Stewardship Act of 2010	California, USA

2.2.2 Task 2.2 – Review of the Global Reporting Initiative (GRI)

The *Global Reporting Initiative (GRI) Reporting Framework*[4] is the world's most widely used sustainability reporting framework. The reporting framework sets out the principles and indicators that organisations can use to measure and disclose their economic, environmental, and social performance. It is the internationally accepted, standardised approach to sustainability reporting.

Many companies that are participating or may participate in product stewardship schemes in the future prepare their annual report or sustainability report in accordance with the GRI. Consistency between the common data requirements and the GRI Reporting Framework is therefore desirable from an efficiency perspective.

Documents contained under the GRI's *Reporting Framework* were reviewed, specifically the GRI G3 Guidelines which contain information on sustainability reporting principles, reporting guidance and standard disclosures (including performance indicators).

2.2.3 Task 2.3 - Coordination with Other Australian Government Activity

Representatives from the Australian Government were consulted to ensure a coordinated approach to the development of the common data requirements. Australian Government staff members were consulted on the following matters:

- the National Product Stewardship Framework legislation

[4] http://www.globalreporting.org/Home

- international requirements, such as the *Basel Convention*, the *Stockholm Convention* and the *Montreal Protocol*
- The national television and computer recycling scheme currently being developed.

2.2.4 Task 2.4 - Review of Other Regulations and Protocols

Net Balance also reviewed the data requirements of other regulations and protocols at a national and international level. These included:

- *Basel Convention*
- *Montreal Protocol*
- *National Greenhouse and Energy Reporting Scheme (NGERS)*
- *National Pollutant Inventory*
- *Rotterdam Convention*
- *Stockholm Convention.*

Where possible, data requirements were included to meet (or link with) data requirements for national acts and policies and international waste related treaties.

2.3 Phase 3 - Developing a Set of Common Data Requirements

2.3.1 Task 3.1 – Development of a Comprehensive List of Data Requirements

Through undertaking a review of current product stewardship disclosures, a comprehensive list of data requirements was developed. Common data requirements were then divided into meaningful categories which included the following:

- Accessibility
- Administration
- Consumer awareness and behaviour
- Design for sustainability
- Environmental impacts
- Flows to landfill
- Reporting parameters
- Membership
- Material use
- Products
- Recycling and Recovery
- Repair, refurbishment and reuse
- Stockpiling
- Targets.

2.3.2 Task 3.2 - Selecting and Prioritising Common Data Requirements

A process of selection and prioritisation was required to obtain a meaningful set of common data requirements which aims to achieve a balance between the amount of information that is necessary to measure effectiveness and ethical operation, with the data collection, disclosure and reporting burden on the operators of the scheme. These common data requirements would assure stakeholders about the effectiveness and ethical operation of the scheme.

The selection and prioritisation process to determine common data requirements included:

- mapping data requirements against product stewardship objectives
- selecting data requirements that align with a set of pre-determined criteria
- determining whether data requirements are core or additional
- determining whether data is provided at the application phase or on a periodic basis
- The selection and prioritisation process is described in the following sections.

Product Stewardship Scheme Objectives

Product stewardship schemes vary according to the objectives that they aim to achieve. Objectives differ across schemes as each deals with a range of products and materials that require different treatment to achieve an optimal environmental or human safety outcome.

Table 2.4 outlines a range of product stewardship scheme objectives. These objectives have been categorised according to the life cycle stage the objective relates to. A flow chart outlining the stages of a product or material's life cycle is contained in Appendix B.

Table 2.4 – Product Stewardship Scheme Objectives

Life Cycle Stage	Objective	Description
Design and manufacture	1	Improve the efficiency of resource use (water, electricity, gas) in product and material manufacture
Design and manufacture	2	Improve the efficiency of material use in product manufacture (includes reducing hazardous materials, increasing the recycled content and the use of recyclable materials)
Design and manufacture	3	Improve product and material design to reduce environmental impacts
Design and manufacture	4	Incorporate product and material management costs into consumer price signals

Life Cycle Stage	Objective	Description
Consumption	5	Extend the product and material's useful life
Consumption	6	Reduce the risks to human health during and at the end of product and material useful life
Consumption	7	Increase target market awareness / promote changes in target market behaviour
End-of-life	8	Improve the collection and management of post-consumer waste
End-of-life	9	Increase recycling and resource recovery of materials
End-of-life	10	Increase the reuse or refurbishment of products and materials
End-of-life	11	Minimise the stockpiling and/or the disposal of waste (including hazardous waste)
End-of-life	12	Reduce the risks to human health from poor management of end-of-life waste (including hazardous waste)

The comprehensive list of data requirements was considered against these 12 objectives to determine which data was relevant to measuring the progress against each objective.

Data Requirement Inclusion Criteria

The comprehensive list of data requirements was evaluated against criteria to determine whether they should be included in the common data requirements. Criteria developed by Net Balance included:

- Does the data assist in measuring the achievement of the objectives of the scheme?
- Does the data assist in measuring the ethical operation of the scheme, including efficiency, effectiveness and good governance?
- Does the data assist in measuring the environmental and social performance of the scheme?

Core and Additional Data Requirements

Data requirements were then classified into 'core' or 'additional'. The definitions of core and additional[5] are described below:

- Core is defined as data requirements that are essential in measuring the progress of the product stewardship scheme against its objectives and the ethical operation of the scheme
- Additional is defined as data requirements that are beneficial (but not essential) in measuring the progress of the product stewardship scheme against its objectives and its ethical operation. Additional requirements may be used to support other programs.

Application and Periodic Disclosure

Data requirements were also classified according to when the data should be disclosed, whether at the application phase of the scheme or an ongoing, periodic basis. The definitions of the 'Application' and 'Periodic Disclosure' phases are described below:

The Application Phase is defined as the phase where schemes are applying for approval under the National Product Stewardship Framework. Application phase descriptions differ for different policy approaches:

- Voluntary schemes may apply for 'Accreditation' under the National Product Stewardship Framework. It is anticipated that the data requirements may be included in the criteria for 'Accreditation'
- Co-regulatory and regulatory schemes may apply for 'Approval' under the National Product Stewardship Framework. It is anticipated that satisfying the data requirements would be a criteria for 'Approval'.

Periodic Disclosure is defined as disclosure that is undertaken on a regular basis and is primarily intended to provide information on the performance of the scheme. It is anticipated that periodic disclosure would be undertaken on an annual basis.

---

[5] Core and additional are terms that are used by the *Global Reporting Initiative* (GRI). Core GRI indicators are those that are identified in the GRI Guidelines to be of interest to most stakeholders and assumed to be material unless deemed otherwise on the basis of the GRI Reporting Principles. Additional indicators are those that are identified in the GRI Guidelines that represent emerging practice or address topics that may be material to some organisations but not generally for a majority.

Similar terms have been used under this project to promote an increased understanding of the terms, especially with those stakeholders already familiar with the GRI.

3. Current Data Collection, Reporting and Disclosure in Australia

The data that is currently reported and disclosed by the Australian product stewardship schemes consulted is presented in this section. Each of the representatives from the 14 product stewardship schemes was asked to identify the data or information that they currently report on and that which they also disclose beyond the scheme (i.e. to the public, to the regulator). This information is provided in Table 3.1. These current practices were taken into account when determining the common data requirements.

Within this document, the terms 'reporting' and 'disclosure' have the following meanings:

- Reporting: Provision of information within the scheme, between the scheme operator and the members. In this document, reporting is synonymous with disclosure to members of the scheme.
- Disclosure: To reveal or make information known. Information can be disclosed to members of the scheme (synonymous with reporting in this document), the regulator and/or the public.

The schemes outlined in Table 3.1 are numbered as follows:

1 - MobileMuster

2 - Refrigerant Reclaim Australia

3 - drumMUSTER

4 - ChemClear (Chemcollect between 2000 and 2002)

5 - Return Unwanted Medicines

6 - National Packaging Covenant (NPC)

7 - South Australian container deposit legislation (CDL)

8 - Dyson End of Life Recycling[6]

9 - Cartridges 4 Planet Ark

10 - Paintback

11 - Byteback

[6] Information relating to the Dyson End of Life Recycling scheme is based on an interview with a representative from Dyson. The information was provided to Dyson for review, however Dyson was not able to provide feedback prior to this report being finalised.

12 - Product Stewardship for Oil program

13 - National Television and Computer Product Stewardship Scheme[7]

14 – Fuji Xerox End-of-Life Recycling.

A description of each scheme is provided in Appendix A.

[7] A representative from Product Stewardship Australia provided an indication of the data that it expects the televisions and computers scheme to report on and disclose. The response reflects the opinion of Product Stewardship Australia. The specific data requirements for the scheme will be determined by the Implementation Working Group which consists of representatives from state and federal governments, the consumer electronics industry and the IT equipment industry.

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Table 3.1 – Current Performance Indicators and Reporting and Disclosure

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
Membership															
Organisations that are members of the scheme	- List of organisations	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Brands that the scheme handles	- List of brands[9]	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Market share of membership	- Number of products or materials produced or imported per annum (aggregated total)	✓✓												✓✓	
	- Weight (kg/t) or volume (m^3) of products or materials (kg/t) produced or imported per annum (aggregated total)		✓✓	✓✓									✓✓		

[8] Responses indicate the data that Product Stewardship Australia expects the National Television and Computer Product Stewardship Scheme to report on and disclose once the scheme is established.

[9] Note – if all brands are handled, the scheme is allocated a 'yes' against both data reporting and disclosure.

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
	- Products produced or imported per annum (% of total market)	✓✓	✓✓										✓✓	✓✓	
	- $ revenue per annum (aggregated total and % of total market)														
Administration															
Structures and agreements for the operation of the scheme	- Description of structure and arrangements[10]	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓[11]	✓✓	✓✓	✓✓	✓✓	✓
Funding model	- Funding required to operate the scheme (total)	✓	✓✓	✓	✓	✓	✓	✓	✓	✓[12]	✓	✓	✓✓	✓	✓
	- Cost to consumer to return at end of current life	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓

[10] Disclosure is generally limited to a high level description of the structure and the relationships. Details about contractual terms between members are generally not disclosed and are considered confidential.

[11] A Governance structure is in place and is currently being finalised.

[12] In the form of cost to manufacturers to participate.

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
Compliance of members	- Number of instances of non-compliance		✓✓				✓✓	✓✓	N/A				✓	TBD	N/A
	- Nature of instances of non-compliance		✓✓				✓	✓✓	N/A				✓	TBD	N/A
Reporting Parameters															
Independent verification	- Statement of independent verification	✓✓	✓✓[13]							✓✓[14]			✓✓	✓✓[15]	
Products or Materials															
Products or materials that the scheme handles	- List of product or material types	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Quantity of products or	- Number of units per annum (total and by product) [16]	✓✓	✓✓	✓✓				✓✓	✓	✓✓	✓✓	✓✓		✓✓	

[13] Refrigerant Reclaim undergoes an annual external audit.

[14] The receipt and recording process and the zero waste to landfill commitment is independently verified.

[15] For some aspects that will be determined.

[16] This data is sometimes an estimate based on known weight or volume.

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
materials handled	- Weight (kg/t) or volume (m^3) per annum (total)	✓✓		✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
	- Products or materials handled per annum (by product[17])	✓✓	✓✓		✓✓	✓				✓	✓✓	✓✓	✓✓	✓✓	
	- Products or materials handled per annum (by brand)	✓							N/A	✓					N/A
	- Retail value														
Average age of the products or materials handled	- years since manufacture	✓	✓✓[18]						✓			✓✓			
Material Use															
Materials in products or	- List of materials used in products or materials[19]	✓✓	N/A	✓✓		N/A	N/A	N/A		✓✓		✓✓	N/A	✓✓	

[17] Product may refer to a particular product type or another category developed that is relevant to the scheme e.g. oil based and water based paint.

[18] The Refrigerant Reclaim website quotes figures on the lifespan and estimated end of life cycles for a range of products that contain refrigerants e.g. air conditioners.

[19] Materials used in product are generally typical rather than product specific.

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
materials	- Whether materials are hazardous, recyclable, non-recyclable				✓✓					✓					
Quantity of material use in products or materials	- Quantity of materials used in products or materials (by weight - kg/t and by proportion of total - %)	✓✓	N/A			N/A	N/A	N/A		✓✓		✓✓	N/A	✓✓	
	- Identification of hazardous, non-hazardous materials (by weight - kg/t and by proportion of total - %)			✓✓	✓✓					✓					
	- Identification of recyclable, non-recyclable materials (by weight - kg/t and by proportion of total - %)						✓✓			✓					
	- Ratio of product or material to packaging			N/A	N/A		✓✓								
Accessibility															
Collection points	- Geographic coverage of collection points/return routes	✓✓	✓✓	✓✓	✓✓	✓✓	N/A	✓✓	✓✓	✓✓		✓✓		✓✓	✓✓
	- Total number of collection points/return routes	✓✓	✓✓	✓✓	✓✓		N/A			✓✓	✓✓	✓✓		✓✓	✓✓

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
Recycling and Recovery															
Products or materials recycled and recovered	- Weight (kg/t) or volume (m^3) per annum (total, by waste stream)	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓		✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
	- Weight (kg/t) or volume (m^3) per annum (by product or product type)									✓✓					✓✓
	- Recycling and recovery rate (% of total materials recycled or recovered)	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓			✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
	- Recycling and recovery rate (% of total materials recycled or recovered) by product or product type	✓	✓✓							✓✓					
	- Recycling and recovery rate (% of total materials recycled or recovered) by brand							N/A		✓					N/A
	- Revenue generated through sale of products and materials recycled or recovered														

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
Destination of recycled and recovered materials	- Destination of recycling and recovery (by company, location - interstate/overseas)	✓✓	✓✓	✓	✓	✓✓				✓✓	✓	✓	✓✓	✓✓	✓✓
	- Technology utilised to recover materials (for each company receiving the materials)	✓✓	✓✓	✓✓	✓✓	✓✓				✓✓		✓✓	✓✓	✓✓	
	- Quality, environmental or health and safety standards required by the company (for each company receiving the materials)	✓		✓✓	✓	✓✓								✓✓	
Repair, Reuse or Refurbishment															
Products or materials, or components thereof, repaired, reused or refurbished	- Number of units per annum (total and by product)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓		N/A	N/A	N/A	N/A
	- Weight (kg/t) or volume (m^3) per annum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓✓	N/A	N/A	N/A	N/A

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
Destination for products or materials, or components thereof, repaired reused or refurbished	- End use and destination of repaired, reused or refurbished products or materials, or components thereof (total and by products or material)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓✓	✓✓	N/A	N/A	N/A	N/A
Flows to Landfill															
Quantity of products and materials disposed to landfill	- Number of units (total, by product or material, by waste stream)		N/A	N/A	N/A	N/A		N/A		N/A	N/A		N/A		
	- Weight (kg/t) or volume (m^3) per annum (total, by waste stream)	✓✓	N/A	N/A	N/A	N/A	✓✓	N/A		N/A	N/A	✓✓	N/A	✓✓	✓✓
	- Weight (kg/t) or volume (m^3) per annum (by product)		N/A	N/A	N/A	N/A		N/A		N/A	N/A		N/A		
Design for Sustainability															
Changes to the design or production of	- Changes to the product and materials that resulted in an environmental benefit						✓✓							✓✓	✓✓

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
products and materials	- Quantification of the benefit arising from changes to the product and materials that resulted in an environmental benefit						✓✓								
Environmental Impacts															
Environmental impacts associated with the product or material lifecycle	- Measurement of environmental impacts associated with the product or material lifecycle[20]		✓	✓	✓		✓✓			✓					✓✓
	- Initiatives to reduce environmental impacts associated with the product or material lifecycle			✓	✓		✓✓								✓✓
International Reporting Conventions															
Ozone Depleting Substances Report under the *Montreal Protocol*	- Import, export, manufacture and destruction of ozone-depleting substances by weight (tonnes) - by member		✓												

[20] Typically data generated relates to elements of the lifecycle e.g. materials savings through redesign, rather than the lifecycle as a whole.

Table key

✓ Data is reported

✓✓ Data is reported and disclosed

Performance Indicator	Metric	Scheme													
		1	2	3	4	5	6	7	8	9	10	11	12	13[8]	14
Hazardous Waste Reporting under the *Basel Convention*	- Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the *Basel Convention* Annex I, II, III and VIII, and the percentage of transported waste shipped internationally														✓✓
Consumer Awareness and Behaviour															
Knowledge of consumer behaviour that may influence or improve the operation of the scheme, or demonstrate the effectiveness of the scheme	- Describe initiatives to increase target market awareness/behaviour	✓✓	✓✓	✓✓	✓✓					✓	✓✓	✓✓		✓✓	✓✓
	- Measurement of consumer awareness/behavioural change	✓✓		✓✓						✓✓	✓✓	✓✓		✓✓	

3.1 Discussion of Data Reporting and Disclosure

The majority of schemes reviewed were reporting on and disclosing data central to product stewardship schemes, that is, the membership base, products or materials handled and materials recovered. This data is acknowledged by scheme operators as critical in terms of measuring the effectiveness of the scheme and of interest to government and the public.

Accessibility in terms of number and geographic coverage of collection points is frequently reported and disclosed. This is often for practical reasons so that consumers know how to access the scheme, but this data is also used to promote the achievements of the scheme.

Various details about the destination of recycled and recovered materials are often reported and disclosed. Scheme operators cited the need for transparency as the major reason for reporting and disclosing this information.

Data on quantity of products and materials disposed to landfill is not frequently reported or disclosed. This most likely reflects the mix of schemes consulted, as many of the schemes are dealing with products that are either banned from landfill or are considered unsuitable for disposal to landfill.

The availability of data diminishes as the source of the data is further removed from the scheme operator. Data that is provided by members or contracted parties is generally readily available. However, as the materials progress through the supply chain, the level of data availability diminishes. For example, data on the destination of materials, the technologies and standards adopted for recycling and reprocessing and the end use of the materials may not be known if the operator does not have a direct relationship with the recycler, particularly if the recycler is located overseas.

Market share was generally only reported or disclosed where this data was collected for the purposes of administering the scheme, i.e. where the member contributions are determined based on market share, or where the scheme is regulated. Aggregated data rather than company-specific data is provided. Market share is considered to be highly sensitive market information that manufacturers are reluctant to disclose. Market share estimates are available for fee from commercial data providers; however manufacturers are generally unwilling to release actual data. Close the Loop, the collection and recycling partner in the delivery of the Cartridges 4 Planet Ark program, has noticed that sensitivity to market share data has reduced over the life of their program. When the program was established seven years ago, company-specific data was generally only provided to the particular company. Now, the number of cartridges received, disaggregated based on manufacturer, is discussed in group forums. Close the Loop believes that the relationships and trust that have developed over the life of the program has led to this openness.

Compliance of members, in terms of fulfilling data provision and funding obligations is known to the scheme operators but specific details such as the name of non-compliant companies is generally considered inappropriate to disclose. Other mechanisms for dealing with any non-compliance, such as negotiation, are considered more appropriate.

Data on the retail value of products or materials handled, in terms of market share and products or materials, is generally not collected, and therefore not reported or disclosed. Quantity of products or materials (either in terms of units or weight/volume) was considered by scheme operators to be more relevant than retail value.

Product/material or brand specific data is generally not collected, and therefore not reported or disclosed. Scheme representatives generally considered this information of little relevance to their scheme and not consistent with the collective nature of many schemes. Commercial sensitivity was cited for the unwillingness to disclose product/material or manufacturer specific market share. Logistical barriers, such as an automated sorting and recycling process, and the additional cost of collecting product/material or brand specific recovery data were also cited. The exception to this is the Cartridges for Planet Ark scheme which collects data on brands handled as the basis for member funding contributions.

There is general sensitivity about product or material specific information, such as materials used in the manufacture of their products. Manufacturers consider the features and composition of their products or materials to be central to their unique offering and market positioning, and generally do not report or disclose product or material specific information. This however needs to be balanced against the need for transparency and for data to contribute to Australia's obligations under international agreements.

Data on the financial value of materials recovered is generally not collected. This data is often not known by the scheme operator as it is commercially sensitive and not reported or disclosed by the recycling service provider.

Refrigerant Reclaim Australia (RRA) is the only scheme consulted that contributes data to meet Australia's international obligations. RRA voluntarily provides this data to the Australian Government for inclusion in Australia's reporting to the *Montreal Protocol*. Many of the products and materials managed by the schemes investigated do deal with wastes that are relevant to international obligations, however the scheme operators themselves are not responsible for providing this data to the Australian Government. Generally the recycling service providers engaged by the scheme operators have a responsibility to report through state-based licensing.

Data on design for sustainability and the environmental impacts associated with the product/material lifecycle is not currently widely collected. This reflects the fact that most schemes are focused on end-of-life management, rather than the whole product or material lifecycle. The National Packaging Covenant has a lifecycle focus and includes KPIs related to resources used to produce packaging (KPI 2) and improvements in design, manufacture, marketing and distribution to minimise the environmental impacts of packaging (KPI 3). Information provided to satisfy KPI 3 is generally qualitative as it is difficult to aggregate individual KPI data from signatories which cover a broad range of material types and manufacturing processes.

There is very little reporting or disclosing of data by scheme operators that contributes to Australia's international obligations, such as under the *Basel Convention*. Some scheme operators noted that their recycling service providers do provide data to the state or Australian government that satisfies data requirements of international obligations.

3.2 Data That Could Be Readily Reported or Disclosed

In addition to existing reporting and disclosure practices, scheme representatives were asked to indicate the data that they are not currently reporting and disclosing. This includes data that they are currently collecting but not reporting or disclosing, or data that they could collect but are not currently doing so. This information provides an indication of the feasibility of collecting data, which was used to inform the development of common data requirements. The following information was obtained about data that is available and not reported and disclosed:

- data and details on initiatives to increase target market awareness and influence behaviour are generally known but not necessarily collated
- identification of whether materials in use are hazardous/ non-hazardous and recyclable/ non-recyclable is achievable but not a current practice
- Information about the technology and standards utilised in the recycling and recovery process is often collected during the tender process for recycling services, or otherwise known. Scheme operators may provide some general statements about the processes online or in reports, but generally do not fully report on or disclose this information.
- data to address international reporting obligations is thought to be readily available from recycling service providers
- Collection points are generally known, where this is applicable, and could be collated and translated into number of collection points and geographic coverage.

4. Other Current Reporting and Disclosure

4.1 International Product Stewardship Schemes

The review of the data disclosure practices of international product stewardship schemes revealed broad consistency with the disclosure practices of Australian product stewardship schemes. The most common data disclosure was related to the following:

- recycling and recovery rates
- waste to landfill
- Accessibility of the scheme (number and geographic coverage of collection points).

Japan's Container and Packaging Recycling Act and the *Saskatchewan Waste Electronic Equipment Program* were unique in reporting on the unit cost of managing or recycling products.

California's Beverage Container Recycling Program was the only program identified that required participants to disclose compliance with data provision and record keeping procedures, to ensure recovery was occurring and standards were adhered to.

4.2 Product Stewardship and the Global Reporting Initiative

The *GRI Reporting Framework* is intended to serve as an internationally consistent framework for sustainability reporting. As defined by the GRI:

"Sustainability reporting is the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organisational performance towards the goal of sustainable development. Sustainability reporting is a broad term considered synonymous with others used to describe reporting on economic, environmental, and social impacts (e.g. triple bottom line, corporate responsibility reporting, etc.)." [21]

The *GRI Reporting Framework* describes what information organisations should provide when complying with the framework. Some of this information includes standard disclosures such as information on the organisation's profile, and

[21] Global Reporting Initiative 2006. *Sustainability Reporting Guidelines* Version 3.0

performance indicators that elicit comparable information on the economic, environmental, and social performance of the organisation.

The GRI was reviewed because it provides direction on current international practices for sustainability reporting. Standard disclosures and performance indicators in particular were reviewed. A number of those relevant to product stewardship schemes were considered in the development of the common data requirements. These are outlined in the list below.

Organisational Profile:

2.1 - Name of the organisation

2.2 - Primary brands, products and/or services.

Report Parameters:

3.1 - Reporting Period

3.2 - Date of most recent previous report

3.3 - Reporting cycle

3.4 - Contact point for questions regarding the report and its contents.

Performance Indicators - Environment

EN1 - Materials used by weight or volume

EN2 - Percentage of materials used that are recycled input materials

EN3 - Direct energy consumption by primary energy source

EN4 - Indirect energy consumption by primary source

EN5 - Energy saved due to conservation and efficiency improvements

EN7 - Initiatives to reduce indirect energy consumption and reductions achieved

EN14 - Strategies, current actions, and future plans for managing impacts on biodiversity

EN16 - Total direct and indirect greenhouse gas emission by weight

EN17 - Other relevant indirect greenhouse gas emissions by weight

EN18 - Initiatives to reduce greenhouse gas emissions and reductions achieve

EN19 - Emissions of ozone-depleting substances by weight

EN22 - Total weight of waste by type and disposal method

EN24 - Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII, and the percentage of transported waste shipped internationally

EN26 - Initiatives to mitigate environmental impacts of products and services, and the extent of impact mitigation

EN27 - Percentage of products sold and their packaging materials that are reclaimed by category

EN28 - Monetary value of significant fines and the total number of non-monetary sanctions for non-compliance with environmental laws and regulations

EN29- Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.

Performance Indicators - Product Responsibility

PR1 - Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures

PR2 - Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services, by type of outcomes

PR9 - Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.

4.3 Other Australian Schemes

The data requirements of Australian schemes including the *National Greenhouse and Energy Reporting Scheme* (NGERS) and the *National Pollutant Inventory* (NPI) were reviewed. It was determined that under both schemes, product stewardship scheme operators would not be required to provide data to the Australian Government. NGERS applies to constitutional corporations and facilities and the NPI also applies to facilities. These regulations may therefore apply to individual companies implementing their own product stewardship schemes, but not collective schemes such as those operated by a product responsibility organisation (PRO). Nonetheless, these data requirements could be used to inform and provide data for product stewardship common data requirements.

The sections below outline information relating to these Australian schemes and identify how information collected under these requirements can inform product stewardship data requirements.

4.3.1 National Greenhouse and Energy Reporting

The *National Greenhouse and Energy Reporting Act 2007* (the Act) establishes a national framework for corporations to provide greenhouse gas (GHG) emissions and energy consumption and production data from 1 July 2008. The Act makes registration and data provision mandatory for corporations whose energy production, energy consumption or GHG emissions meet any of the facility or corporate group thresholds set by the Act.

In cases where the corporate group exceeds the corporate group threshold for a specific year, the entity is responsible for providing GHG and energy data arising from all facilities that come under its operational control to the Greenhouse and Energy Data Officer. However, where an entity does not exceed any corporate group thresholds but one or more of its facilities exceed the facility threshold, then the entity is responsible for providing GHG and energy information for each of the facilities that exceed the facility thresholds.

When relating these data requirements back to data requirements reported by product stewardship scheme operators, it is acknowledged that NGERS data can be used to inform quantification of environmental impacts associated with the products or materials. In other words, the energy consumption and greenhouse gas data (reported under NGERS) can be quantified if the data entered by the company was isolated down to a product or material level.

4.3.2 National Pollutant Inventory

The *National Pollutant Inventory* (NPI) provides substance emissions estimates for 93 toxic substances and the source and location of these emissions in Australia. Industry facilities that exceed an NPI threshold should provide data to the NPI.

None of the existing schemes consulted were required to provide data under the NPI. There is likely to be little overlap between the NPI and data that is collected by product stewardship schemes.

4.4 International Agreements and Obligations

International agreements that address hazardous materials and pollutants including the *Basel Convention, Stockholm Convention, Rotterdam Convention* and the *Montreal Protocol* were reviewed.

The sections below outline information relating to the data requirements of these international agreements to which the Australian Government is a party. Currently, data for international reporting in Australia generally flows from industry to the state regulator, who provides this to the Australian government for provision to the global authority. These requirements were considered in the development of the common data requirements for product stewardship schemes.

4.4.1 Basel Convention

The *Basel Convention on the Control of Trans-boundary Movements of Hazardous Waste and their Disposal (1989)* is a global treaty. It was developed to restrict the dumping of hazardous waste by developed countries in developing countries.

Under the *Basel Convention*, Australia is required to take appropriate measures to ensure that the generation of hazardous and other wastes (including household wastes) are reduced to a minimum and take into account:

- Social, technological and economic aspects
- Whether adequate disposal facilities exist for the environmentally sound management of wastes
- Pollution prevention and human health and the environmental impacts.

Data requirements for the *Basel Convention* include quantities and characteristics of hazardous waste generated, and handling, storage, reuse, recycling and disposal of hazardous waste.

4.4.2 Stockholm Convention

The *Stockholm Convention on Persistent Organic Pollutants (2001)* aims to protect human health and the environment from persistent organic pollutants (POPs). Twelve chemicals fall under the *Stockholm Convention*, with nine new chemicals being added in the near future. Australia is implementing its responsibilities under the *Stockholm Convention* through a national strategy that includes the development of national waste management plans for scheduled wastes including: Organochlorine Pesticides (OCPs), Polychlorinated Biphenyls (PCBs) and Hexachlorobenzene (HCB).

4.4.3 Rotterdam Convention

The purpose of the *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998)* is to share the global responsibility and cooperation in the

international trade of certain hazardous chemicals. The convention covers 27 pesticides and five industrial chemicals.

Each year, Australia is required to provide data on chemicals that have been banned or severely restricted substances, if this is a result of human health and environmental concerns. Australia is required to indicate for each chemical included on the Prior Informed Consent List ('PIC List') whether the chemical is prohibited or able to be imported. If Australia produces or exports chemicals that it has banned or restricted, it must inform the importing country. If Australia produces or exports any chemicals included on the PIC List, they must ensure that the importing country has consented to its import.

4.4.4 Ozone Protection and Synthetic Greenhouse Gas Management

The *Montreal Protocol on Substances that Deplete the Ozone Layer* is an international environment protection agreement that sets out each country's obligations to phase out the use of ozone-depleting substances. The *United Nations Framework Convention on Climate Change* establishes the commitment of parties to mitigate climate change by reducing greenhouse gas emissions.

The *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* implements Australia's obligations under the *Montreal Protocol* and the *United Nations Framework Convention on Climate Change* by prohibiting the import, export and manufacture of ozone depleting substances and synthetic greenhouse gases unless the correct licence or exemption is held.

The Australian Government provides data annually on the production, consumption and destruction of ozone depleting substances in Australia. The bulk of the data on destruction is provided by Refrigerant Reclaim Australia, an organisation that works nationally with the refrigeration industry to recover, reclaim and destroy ozone depleting and synthetic greenhouse gas chemicals. Remaining data is provided by the Commonwealth Government.

Through the stakeholder consultation process, it was determined that Refrigerant Reclaim Australia is currently supplying data on recovery and destruction of ozone depleting substances and synthetic greenhouse gases on a voluntary basis to the Australian Government. Including these data requirements under a co-regulatory and regulatory scheme could ensure that this data is disclosed under possible future legislation and regulations.

4.4.5 Common Data Requirements That Capture International Obligations

Some product stewardship schemes will be handling products or materials that are the subject of these and potentially other international agreements and

obligations. It is anticipated that scheme operators will need to demonstrate, at the application phase, that they:

- Have identified the data requirements of the international agreements and obligations that relate to the products or materials that are being handled by the scheme
- Have systems and/or processes in place for the collection of data to contribute to meeting these requirements e.g. clauses in contracts with service providers for the provision of this data
- Commit to providing this data to the Australian Government as required (typically quarterly or annually).

4.5 Authorisation Under the *Trade Practices Act 1974*

Product stewardship schemes may be required to seek authorisation to operate from the Australian Competition and Consumer Commission (ACCC) under the *Trade Practices Act 1974*. Those schemes that are a collective approach amongst industry participants might have the effect of substantially lessening competition. The role of the ACCC is to consider whether the scheme could result in a benefit to the public and whether that benefit would outweigh the any potential public detriment. If so, the ACCC should make a determination to grant authorisation to the scheme to operate.

Affected schemes may be required to make an application for authorisation to the ACCC. The information requirements of previous applications have included:

- Name of applicant
- Business carried on by the applicant
- Contracts, agreements or understanding in place
- Parties to the contracts, agreements or understanding
- How the contracts, agreements or understanding might substantially lessen competition
- The impact on the public interest
- The market affected by the scheme, including any non-participants.

The application for authorisation is a process that is legislated under Section 88(1) of the *Trade Practices Act 1974* and administered by the ACCC. Due to the fact that it is covered by legislation, the information requirements of the authorisation process are not captured with the common data requirements. Scheme operators should note that an application to the ACCC for

authorisation of the operation of the scheme may be required as part of the establishment of their scheme.

5. Common Data Requirements

The nature of a set of common data requirements is that they provide consistency across product stewardship schemes and assurance of an acceptable standard of data collection, reporting and disclosure. It is acknowledged that there is a variety of schemes and mechanisms for reporting and disclosing data and stakeholder needs. The requirements have been developed with this diversity in mind.

Based on the desktop research and stakeholder consultation, a thorough list of data requirements was developed. It was then necessary to select and prioritise the list to ensure appropriate data requirements. Firstly data requirements were selected if they promote the measurement of performance against the objectives of product stewardship which include:

- Does the data assist in measuring the achievement of the objectives of the scheme?
- Does the data assist in measuring the ethical operation of the scheme, including efficiency, effectiveness and good governance?
- Does the data assist in measuring the environmental and social performance of the scheme?

This process resulted in the development of the common data requirements presented in this section. The findings of the assessment process are outlined in Appendix C.

Secondly, the common data requirements were mapped against 12 objectives. These objectives differ among a range of schemes as each handles different products and materials that require different treatment to achieve an optimal environmental or human safety outcome.

Appendix D includes a complete list of the common data requirements that were selected under this process and mapped against the 12 objectives.

5.1 Core Data Requirements

'Core' data is defined in this report as requirements that are essential in measuring the progress of a product stewardship scheme against its objectives.

5.1.1 Application Phase

Table 5.1 outlines a set of core data requirements that could be disclosed during the product stewardship application phase[22] to the Australian Government.

5.1.2 Periodic Disclosure

Table 5.2 outlines a set of core data requirements that could be disclosed on a periodic basis throughout the operation of the scheme. It is anticipated that these requirements would be disclosed on an annual basis.

The numbering in the first column of Tables 5.1 to 5.4 may not be sequential. This numbering corresponds to the numbering adopted in the full list of common data requirements presented in Appendix D. Because the data core and additional data requirements are being presented in Tables 5.1 to 5.4 separately, the numbering is not always sequential.

It should be noted that the number of 'ticks' in Tables 5.1 and 5.2 do not represent the importance of each possible data requirement. Rather, the 'ticks' represent whether the common data requirement should be disclosed under a pre-determined set of objectives.

The objectives outlined in Tables 5.1 to 5.4 are numbered as follows:

1 - Design and manufacture - Improve the efficiency of resource use (water, electricity, gas) in product and material manufacture

2 - Design and manufacture - Improve the efficiency of material use in product and material manufacture (includes reducing hazardous materials

3 - Design and manufacture - Improve product and material design to reduce environmental impacts

4 - Design and manufacture - Incorporate product and material management costs into consumer price signals

5 – Consumption -Extend the product and material's useful life

6 - Consumption -Reduce the risks to human health during and at the end of product and material useful life

7 - Consumption -Increase target market awareness / promote changes in target market behaviour

[22] Approval phase for voluntary schemes and accreditation phase for co-regulatory and regulatory schemes.

8 – End-of-life - Improve the collection and management of post-consumer waste

9 - End-of-life -Increase recycling and resource recovery of materials

10 - End-of-life -Increase the reuse or refurbishment of products and materials

11 - End-of-life - Minimise the stockpiling and/or the disposal of waste (including hazardous waste)

12 - End-of-life - Reduce the risks to human health from poor management of end-of-life waste (including hazardous waste).

Table 5.1 – Core Data Requirements Disclosed at the Application Phase

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
1	**Membership**														
1.1	Organisations that are members of the scheme	- List of Organisations	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.3	Market share of membership	- Number of products or materials produced or imported per annum (aggregated total and % of total)	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.4		- Weight of products or materials (kg/t) produced or imported per annum?	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	**Administration**														
2.1	Name	- Name of scheme	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.2	Structures and agreements for the operation of the scheme	- Description of structure and arrangements	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.3		- Location	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.4		- Nominated contact point	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.5	Funding model	- Funding required to operate the scheme (total and/or cost per tonne or unit)	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.6		- Cost to consumer to return at end of current life	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
2.7		- Process and funding arrangements prior to the establishment of the scheme and description of who bore the cost	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.11	Objectives and outcomes	- State the objectives of scheme (aligning them with the list of objectives (1-12) provided)	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	**Targets**														
4.1	Targets	- Targets established under the scheme	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	**Products and Materials**														
5.1	Products and materials that the scheme handles	- List of product and material types	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	**Material Use**														
6.1	Materials in products or materials	- List of materials used in products and materials and whether they are hazardous, recyclable/non-recyclable	- Quantitative		✓							✓			

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
6.2	Quantity of material used in products and materials	- Quantity of materials used in products and materials and whether they are hazardous/non-hazardous, recyclable/non-recyclable (by weight - kg/t and by proportion of total - %)	- Quantitative		✓							✓			
7	**Accessibility**														
7.1	Collection points	- Geographic coverage of collection points/return routes (e.g. number of local government areas that contain a collection point/return route, number of households with a collection point/ return route within X minutes)	- Qualitative								✓	✓	✓		
7.2		- Total number of collection points/return routes	- Quantitative								✓	✓	✓		
8	**Recycling and Recovery**														
8.4	Destination of recycled and recovered materials	- Destination of recycling and recovery (by company, location - interstate/overseas)	- Qualitative									✓			
8.6		- Quality, environmental or health and safety standards required by the company (for each company receiving the materials)	- Qualitative									✓	✓		

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
9	**Repair, Reuse or Refurbishment**														
9.3	Destination for products and materials, or components thereof, repaired reused or refurbished	- End use and destination of repaired, reused or refurbished products and materials, or components thereof (total and by product and material)	- Qualitative										✓		
14	**International Conventions**														
14.1	Contribution to Australia's international obligations	- Data requirements of the international agreements and obligations that relate to the products or materials handled	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14.2		- Systems and/or processes in place for the collection of data to contribute to meeting data requirements	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14.3		- Commitment to providing this data to the Australian Government as required	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 5.2 - Core Data Requirements Disclosed on a Periodic Basis

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
1	**Membership**														
1.3	Market share of membership	- Number of products and material produced or imported per annum (aggregated total and % of total)	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.4		- Weight of products and materials (kg/t) produced or imported per annum?	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	**Administration**														
2.5	Funding model	- Funding required to operate the scheme (total and/or cost per tonne or unit)	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.6		- Cost to consumer to return at end of current life	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.7		- Process and funding arrangements prior to the establishment of the scheme and description of who bore the cost	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.8	Compliance of members	- Number of instances of non-compliance	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.9		- Nature of instances of non-compliance	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
2.10	Regulatory enforcement	- Describe the regulatory enforcement activities undertaken	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.12	Compliance with laws and regulations	- Total number of incidents of non-compliance with environmental or human health and safety regulations and voluntary codes.	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.13		- Penalties for non-compliance with environmental or human health and safety regulations and voluntary codes	- Qualitative and quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	**Reporting Parameters**														
3.1	Report details	- Report period	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.2		- Date of most previous report	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.3	Independent verification or assurance	- Statement from independent verifier	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	**Targets**														
4.1	Targets	- Targets established under the scheme	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4.2	Corrective measures	- Corrective measures in place for not achieving targets	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
5	**Products and Materials**														
5.1	Products and materials that the scheme handles	- List of product and material types	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.2	Quantity of products handled	- Number of units per annum (total and by product)	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.3		- Weight (kg/t) per annum (total and by product)	-Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.4	Average age of the products and materials handled	- years since manufacture	- Quantitative							✓					
6	**Material Use**														
6.1	Materials in products and materials	- List of materials used in products and materials and whether they are hazardous, recyclable, non-recyclable	- Quantitative		✓							✓			

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
6.2	Quantity of material use in products and materials	- Quantity of materials used in products and materials and whether they are hazardous/ non-hazardous, recyclable/ non-recyclable (by weight – kg/t and by proportion of total - %). Quantification of hazardous materials must be product and material specific, while remaining composition can be average or typical for the particular product and material.	- Quantitative		✓							✓			
7	**Accessibility**														
7.1	Collection points	- Geographic coverage of collection points/return routes (e.g. number of local government areas that contain a collection point/return route, number of households with a collection point/ return route within X minutes)	- Qualitative								✓	✓	✓		
7.2		- Total number of collection points/return routes	- Quantitative								✓	✓	✓		
8	**Recycling and Recovery**														
8.1	Products and materials recycled and recovered	- Weight (kg/t) or volume (m^3) per annum (total, by product and material, by waste stream)	- Quantitative									✓			

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
8.2		- Recycling and recovery rate (% of total materials recycled or recovered)	- Quantitative									✓			
8.4	Destination of recycled and recovered materials	- Destination of recycling and recovery (by company, location - interstate/overseas)	- Qualitative									✓			
8.6		- Quality, environmental or health and safety standards required by the company (for each company receiving the materials)	- Qualitative									✓	✓		
9	**Repair, Reuse or Refurbishment**														
9.1	Products and materials, or components thereof, repaired, reused or refurbished	- Number of units per annum (total and by product)	- Quantitative										✓		
9.2		- Weight (kg/t) or volume (m^3) per annum	- Quantitative										✓		
9.3	Destination for products and materials, or components thereof, repaired reused or refurbished	- End use and destination of repaired, reused or refurbished products and materials, or components thereof (total, by products and material)	- Qualitative										✓		

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
10	**Stockpiling**														
10.1	Quantity of products and materials stockpiled	- Number of units (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓
10.2		- Weight (kg/t) or volume (m^3) per annum (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓
11	**Flows to Landfill**														
11.2	Quantity of products and materials disposed to landfill	- Weight (kg/t) or volume (m3) per annum (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓
11.3		- Description of the measures in place to minimise risk to human health and safety during end-of-life management	- Qualitative									✓	✓	✓	✓
12	**Design for Sustainability**														
12.1	Changes to the design or production of products and	- Quantification and description of resource efficiency (energy, water and waste) initiatives during product and material manufacture	- Quantitative	✓											

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
12.2	materials	- Quantification and description of material efficiency initiatives during product and material manufacture (include reducing hazardous materials, recyclable and recoverable materials)	- Quantitative		✓										
12.3		- Description of improvements to product and material to reduce environmental impacts	- Qualitative			✓									
12.4		- Description of improvements to product and material to reduce impacts on human health and safety	- Qualitative						✓						
15	**Consumer Awareness and Behaviour**														
15.1	Knowledge of consumer behaviour that may influence or improve the operation of the scheme, or demonstrate the effectiveness of the scheme	- Describe initiatives to increase target market awareness/behaviour	- Qualitative and quantitative							✓					
15.2		- Measurement of consumer awareness/behavioural change	- Qualitative and quantitative							✓					

5.2 Additional Data Requirements

'Additional' is defined as data requirements that are beneficial (but not essential) in measuring the progress of a product stewardship scheme against its objectives.

5.2.1 Application Phase

Table 5.3 outlines a set of additional data requirements that could be disclosed during the product stewardship application phase[23] to the Australian Government.

5.2.2 Periodic Disclosure

Table 5.4 outlines a set of additional data requirements that could be disclosed on a periodic basis throughout the operation of the scheme. It is anticipated that these requirements could be disclosed on an annual basis.

[23] Approval phase for voluntary schemes and accreditation phase for co-regulatory and regulatory schemes.

Table 5.3 - Additional Common Data Requirements Disclosed at the Application Phase

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
1	**Membership**														
1.2	Brands that the scheme handles	- List of Brands	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	**Material Use**														
6.3	Quantity of material use in products and materials	- Ratio of product and material to packaging	- Quantitative		✓							✓			
8	**Recycling and Recovery**														
8.5	Destination of recycled and recovered materials	- Technology utilised to recover materials (for each company receiving the materials)	- Qualitative									✓			

Table 5.4 – Additional Common Data Requirements Disclosed on a Periodic Basis

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
8	**Recycling and Recovery**														
8.1	Products and materials recycled and recovered	- Number of units (total, by product and material, by waste stream)	- Quantitative									✓			

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
8.5	Destination of recycled and recovered materials	- Technology utilised to recover materials (for each company receiving the materials)	- Qualitative									✓			
11	**Flows to Landfill**														
11.1	Quantity of products and materials disposed to landfill	- Number of units (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓
13	**Environmental Impacts**														
13.1	Environmental impacts associated with the product and material lifecycle	- Measurement of resource use and environmental impacts of production	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13.2		- Initiatives to reduce resource use and environmental impacts of production	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13.3		- Measurement of resource use and environmental impacts of consumption	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13.4		- Initiatives to reduce resource use and environmental impacts of consumption	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13.5		- Measurement of resource use and environmental impacts at end of life	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

#	Data	Metric	Qualitative / Quantitative	Objective											
				1	2	3	4	5	6	7	8	9	10	11	12
13.6		- Initiatives to reduce resource use and environmental impacts at end of life	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

5.3 Data Omissions

In some circumstances, all data may not be available. This may be the case particularly in the early stages of the life of the product stewardship scheme when systems, processes and relationships with service providers are still in development. In other circumstances, a data requirement may not apply to a particular scheme. In these instances, it is anticipated that the scheme operator will need to provide an explanation for why the data is not available or why the requirement is not applicable.

The GRI can provide guidance on the approach to data omissions. A data omission under the GRI is acceptable for the following reasons[24]:

- The indicator is not applicable or not material (with reference to the GRI materiality principle[25]). Organisations must explain why their activities do not result in impacts in this particular area.
- Information on the indicator is not available. Organisations must explain current barriers to gathering data relevant to the indicator and their plans for improving the data gathering in the future i.e. in near, mid, or long-term future.
- Information on the indicator is not allowed (proprietary). This is only applicable in cases where local laws forbid monitoring/disclosure or when disclosing this performance indicator would be seen as business confidential.

Common data requirements that are considered to be commercial in confidence, based on input from existing scheme operators, have been identified and discussed in Section 7.3. Commercial in confidence considerations must be weighed against the need for information to demonstrate the effectiveness and ethical operation of a product stewardship scheme.

5.4 Future Changes to the Common Data Requirements

The common data requirements outlined in this report should be reviewed periodically in future.

---

[24] http://www.globalreporting.org/NR/rdonlyres/AF7513BB-E216-415F-8137-1AD80AFB071F/4141/ApplicationLevelCheckMethod2010.pdf.

[25] Materiality is defined as information reflecting the organisation's significant economic, environmental, and social impacts, or that would substantively influence the assessments and decisions of stakeholders (http://www.globalreporting.org/ReportingFramework/G3Online/DefiningReportContent/LowerBlock/Materiality.htm).

It is likely that new products or technologies will be introduced that were not anticipated when these common data requirements were developed. These products or technologies may present particular environmental or human health and safety challenges that need to be addressed by product stewardship schemes and should therefore be reflected in the common data requirements.

Community expectations and industry practices will also continue to evolve. At this stage, measuring the environmental impacts across the product/material life cycle is not standard practice for many industries, and cost effective approaches for measuring these impacts are not available for many schemes. At some stage in the future this situation may change and it may then be appropriate for measurement of the environmental impacts of the product/material life cycle to be a core data requirement.

5.5 Product/Material or Industry Specific Data Requirements

There are likely to be instances where specific data requirements are appropriate for particular industries but are not more broadly applicable. In this instance, scheme operators should identify specific data requirements that are relevant to their scheme at the application phase and demonstrate how these data requirements will be satisfied.

Data scrubbing/ data destruction is one such issue that is specific to the electronics industry. Electronic waste (e-waste) product stewardship schemes receive products that contain user information which may be considered either personal or commercially sensitive (i.e. computer hard drives).

There is an expectation that data destruction of hard drives occurs and security steps are in place to prevent black market re-birthing prior to any destructive step. It is expected that schemes dealing with these products would disclose information supporting the data destruction process.

Product/material or industry specific data requirements, such as data scrubbing/data destruction have not been included in the common data requirements, but will need to be considered at the application phase to determine if additional data requirements are required.

6. Data Collection and Management

6.1 Data Collection

Data collection is defined here as the process of collecting and preparing data. In the context of product stewardship schemes, there are many reasons why data collection is important:

- to measure the achievements of the scheme and assess its adequacy delivering environmental and human health and safety outcomes
- to provide feedback to members and other stakeholders on the achievements of the scheme
- to identify opportunities for improvement
- To meet the common data requirements.

Data collection is likely to be more challenging as the number of members of the scheme and the diversity of products and materials handled increases. The data collection process is expected to be more straightforward for single-company schemes where some data is provided from within the company and the scale of the program is smaller.

The following sections outline findings and recommendations relating to collecting and preparing data for the common data requirements. Possible sources of data are outlined under each data requirement category. The sources listed are not prescriptive or exhaustive, but simply provide some direction based on the sources utilised by existing schemes. Where relevant, any issues or recommendations relating to the cost and feasibility of data collection and preparation have been included.

6.1.1 Membership

Possible sources of data on the membership of the scheme are outlined in Table 6.1.

Table 6.1 – Membership Source Data

Core / Add	Data	Metric	Sources
C	Organisations that are members of the scheme	- List of organisations	Scheme operator
C	Brands that the scheme handles	- List of brands	Members

Core / Add	Data	Metric	Sources
C	Market share of membership	- Number of products and materials produced or imported per annum (aggregated total and % of total market)	Total ▪ Manufacturer or importer members ▪ % of total market ▪ Commercial data providers ▪ Import data from Australian Customs Service ▪ Market participants
		- Weight (kg/t) or volume (m^3) of products and materials (kg/t) produced or imported per annum (aggregated total and % of total market)	Total ▪ Manufacturer or importer members ▪ % of total market ▪ Commercial data providers ▪ Import data from Australian Customs Service ▪ Market participants

Data on the market share of the members may be available from the members themselves or from commercial data providers. The market share of an individual company is often considered to be commercially sensitive because it can provide valuable intelligence to market competitors. Some existing PROs have overcome this challenge by engaging a third party to receive and aggregate market share data of individual members and release only an aggregated market share for the membership base as a whole.

Data on membership should be relatively easy and inexpensive to collect. Expenses could include the cost of engaging a third party to handle commercially sensitive information or the cost of purchasing data from a commercial data provider.

The common data requirements could include a requirement for market share based on number of units or weight of products and materials. Market share based on revenue or retail value has not been included because it is considered of less relevance to a product stewardship scheme than the number of units or weight of materials.

6.1.2 Administration

As outlined in Table 6.2 the most likely source of data on the administration of the scheme is the scheme operator.

Table 6.2 – Administration Source Data

Core / Add	Data	Metric	Sources
C	Name	- Name of scheme	Scheme operator
C	Structures and agreements for the operation of the scheme	- Description of structure and arrangements	Scheme operator
		- Location	Scheme operator
		- Nominated contact point	Scheme operator
C	Funding model	- Funding required to operate the scheme	Scheme operator
		- Cost to consumer to return at end of current life	Scheme operator
		- Process and funding arrangements prior to the establishment of the scheme and description of who bore the cost	Third parties such as state and local governments
C	Compliance of members	- Number of instances of non-compliance	Scheme operator
		- Nature of instances of non-compliance	Scheme operator
C	Regulatory enforcement	- Describe the regulatory enforcement activities undertaken	Regulatory authority
C	Objectives and outcomes	- State the objectives of scheme (aligning them with the 12 objectives provided)	Scheme operator
C	Compliance with laws and regulations	- Total number of incidents of non-compliance with environmental or human health and safety regulations and voluntary codes	Regulatory authorities such as state EPAs Members
		- Penalties for non-compliance with environmental or human health and safety regulations and voluntary codes	Regulatory authorities such as state EPAs Members

The data on administration of the scheme should be readily available to the scheme operator, as it is central to the operation of the scheme.

Depending on the nature of co-regulatory schemes, compilation of enforcement activities from multiple jurisdictions may be required. Co-regulatory schemes, such as the National Packaging Covenant, that are underpinned by state-based regulations, require data on enforcement that is contributed by each of the state jurisdictions to be compiled. This is not considered to be an onerous task.

6.1.3 Reporting Parameters

Likely sources of data on the reporting parameters are outlined in Table 6.3.

Table 6.3 – Sources of Data on Reporting Parameters

Core / Add	Data	Metric	Sources
C	Report details	- Report period	Scheme operator
		- Date of most previous report	Scheme operator
C	Independent verification	- Statement of independent verification	Independent verifier

The data on report details could be easily generated by the scheme operator at the time of disclosure.

Independent verification of the periodic disclosures would incur a cost to the scheme for the services of a verification or assurance service provider. Please refer to section 9 for a detailed discussion of verification and assurance.

6.1.4 Targets

As outlined in Table 6.4, the scheme operator is the likely source of data on the targets of the scheme.

Table 6.4 – Target Source Data

Core / Add	Data	Metric	Sources
C	Targets	- Targets established under the scheme	Scheme operator
C	Corrective measures	- Corrective measures in place to address insufficient progress in achieving targets	Scheme operator

Once determined, the disclosure of the targets and corrective measures in place would be straightforward.

Setting Meaningful Targets

Targets are typically established as part of the scheme development and updated over time. Such targets, which can be quantitative or qualitative, can be described in a variety of ways.

It is important for schemes to set meaningful targets. The benefit of having targets is that they can drive improvement and innovation. Ideally, targets will follow the SMART acronym:

- Specific
- Measurable
- Agreed
- Realistic
- Time bound.

6.1.5 Products and Materials

Likely sources of data on the products and materials handled by the scheme are outlined in Table 6.5.

Table 6.5 – Products Source Data

Core / Add	Data	Metric	Sources
C	Products and materials that the scheme handles	- List of product and material types	Scheme operator
C	Quantity of products and materials handled	- Number of units per annum (total and by product and material)	Waste management service providers Collection/transport service providers Collection point host organisations Members
		- Weight (kg/t) or volume (m^3) per annum (total and by product)	Waste management service providers Collection/transport service providers Collection point host organisations
A	Average age of the products and materials handled	- Years since manufacture	Members Waste management service providers

The collection of data on type and quantity of products and materials handled is considered generally straightforward. It may not be feasible or meaningful to collect data on the number of units handled, particularly where the product or material is a single material or high volume and low cost, for example, a newspaper or a drink container.

In some cases, collecting the average age of the products and materials handled is not technically or financially feasible. For this reason, this data has been classified as additional information which can be provided by the scheme operator if this information is available.

6.1.6 Material Use

Likely sources of data on material use for the manufacture of the products and materials handled by the scheme are outlined in Table 6.6.

Table 6.6 – Material Use Source Data

Core / Add	Data	Metric	Sources
C	Materials in products and materials	- List of materials used in products and whether they are hazardous, recyclable, non-recyclable	Member manufacturing sites or R&D facilities
C	Quantity of material use in products and materials	- Quantity of materials used in products and materials and whether they are hazardous/hazardous, recyclable/non-recyclable (by weight - kg/t and by proportion of total - %). Quantification of hazardous materials must be product and material specific, while remaining composition can be average or typical for the particular product and material.	Member manufacturing sites or R&D facilities
		- Ratio of product and material to packaging	Member manufacturing sites or R&D facilities

In many cases, manufacturing facilities will not be located in Australia. Additional time and effort may be required to source material use data from overseas manufacturing facilities. Some stakeholders considered this situation to be prohibitive to data collection. However, as the manufacturing facilities are likely to be owned by the member companies, these challenges are considered surmountable.

Data on the type and proportion of hazardous and recyclable materials in use would need to be determined with reference to current definitions of these

terms, jurisdictional disparities, and any changes over time. Relevant regulations and market conditions would need to be reviewed periodically to ensure data accuracy.

6.1.7 Accessibility

Likely sources of data on collection points are outlined in Table 6.7.

Table 6.7 – Accessibility Source Data

Core / Add	Data	Metric	Sources
C	Collection points	- Geographic coverage of collection points/return routes (e.g. number of local government areas that contain a collection point/return route, number of households with a collection point/ return route within X minutes)	Members Scheme partners e.g. retail outlets Collection point host organisations
		- Total number of collection points/return routes	Members Scheme partners e.g. retail outlets Collection point host organisations

Data on the number and coverage of collection points would likely be more difficult to collect as the number of collection points increases, and as the collection points disperse. Some schemes utilise a variety of collection points, for example, retail outlets, waste management facilities, shopping centres and individual businesses, which may become difficult to monitor. Data may be difficult to source on collection points that are hosted by organisations that are not members of the scheme.

6.1.8 Recycling and Recovery

Likely sources of data on recycling and recovery are outlined in Table 6.8.

Table 6.8 – Recycling and Recovery Source Data

Core / Add	Data	Metric	Sources
A	Products and materials recycled and recovered	- Number of units (total, by product and material, by waste stream)	Waste management service providers
C		- Weight (kg/t) or volume (m^3) per annum (total, by product and material, by waste stream)	Waste management service providers

Core / Add	Data	Metric	Sources
C		- Recycling and recovery rate (% of total materials recycled or recovered)	Waste management service providers
C	Destination of recycled and recovered materials	- Destination of recycling and recovery (by company, location - interstate/overseas)	Waste management service providers
A		- Technology utilised to recover materials (for each company receiving the materials)	Waste management service providers
C		- Quality, environmental or health and safety standards required by the company (for each company receiving the materials)	Waste management service providers

Data on recycling and recovery of materials is central to the operation of product stewardship schemes. All schemes consulted in the preparation of the common data requirements were collecting data on recycling and recovery (where applicable). The waste management industry has responded to ever increasing requirements for data provision from their customers and government agencies, and collection of data is now standard practice for much of the industry.

It is acknowledged that data collection becomes more challenging and time consuming as products and materials progress through the recovery supply chain, however most schemes consulted were addressing this through incorporating data requirements in contracts with recycling service providers.

6.1.9 Repair, Reuse or Refurbishment

Likely sources of data on repair, reuse or refurbishment are outlined in Table 6.9.

Table 6.9 – Repair, Reuse or Refurbishment Source Data

Core / Add	Data	Metric	Sources
C	Products and materials, or components thereof, repaired, reused or refurbished	- Number of units per annum (total and by product)	Waste management service providers Scheme partners e.g. NGO, charities, community groups
		- Weight (kg/t) or volume (m^3) per annum	Waste management service providers Scheme partners e.g. NGO, charities, community groups

Core / Add	Data	Metric	Sources
C	Destination for products and materials, or components thereof, repaired, reused or refurbished	- End use and destination of repaired, reused or refurbished products and materials, or components thereof (total and by products or material)	Waste management service providers Scheme partners e.g. NGO, charities, community groups

While data on total repair, reuse or refurbishment that is undertaken is not quantifiable. The quantity of products and materials repaired, reused or refurbished as a result of the operation of the scheme should be easily determined.

It is possible that products and materials deemed suitable for repair, reuse or refurbishment by the scheme operators will be provided to a third party to facilitate this. The third party may also make a judgement on the potential for repair, reuse or refurbishment, resulting in some products and materials being recycled or landfilled. Where possible, the scheme should disclose data on the products and materials that are actually repaired, reused or refurbished rather than the products and materials that are provided to the third party. Depending on the nature of the relationship with the third party and the number of third parties utilised, this level of data collection may not be feasible.

6.1.10 Stockpiling

Likely sources of data on stockpiling of products and materials are outlined in Table 6.10.

Table 6.10 – Stockpiling Source Data

Core / Add	Data	Metric	Sources
C	Quantity of products and materials stockpiled	- Number of units (total, by product and material, by waste stream)	Waste management service providers Collection point host organisations
		- Weight (kg/t) or volume (m^3) per annum (total, by product and material, by waste stream)	Waste management service providers Collection point host organisations

Data on stockpiling could be difficult to obtain. Stockpiling could be taking place at various points along the collection and recovery supply chain, many of which are not members of the scheme. However, data on stockpiling is an important indicator of the actual achievements and the financial liability of a

scheme. While quantitative data is preferred, it is possible in some circumstances that only qualitative data is available. For example, products and materials may be stockpiled at a resource recovery facility, of which there are thousands across Australia, making data collection unfeasible.

Data on stockpiles of some products and materials is also relevant to state and territory licensing of premises in order to manage the risks of environmental harm and build-up of financial liability, and may already be collected by the waste management facility for this purpose. In this instance the data may be more readily available to the product stewardship scheme operator.

There is also potential for double counting of products or materials. Stockpiling is usually a temporary measure, and data on stockpiling is for a point in time. During the data collection period, stockpiled products could be supplied onwards, and potentially also be counted as being recovered or landfilled.

6.1.11 Flows to Landfill

Likely sources of data on flows to landfill are outlined in Table 6.11.

Table 6.11 – Flows to Landfill Source Data

Core / Add	Data	Metric	Sources
A	Quantity of products and materials disposed to landfill	- Number of units (total, by product and material, by waste stream)	Landfill operators Waste management service providers
C		- Weight (kg/t) or volume (m^3) per annum (total, by product and material, by waste stream)	Landfill operators Waste management service providers
C		- Description of the measures in place to minimise risk to human health and safety during end-of-life management	Scheme operator Landfill operator

Data on quantities of products and materials handled by the scheme disposed to landfill should be readily obtainable. Waste disposed to landfill is typically measured to enable a fee to be charged.

The number of units in flows to landfill may not be collected on an ongoing basis. If not, number of units could be estimated based on waste audits that are periodically conducted. There would be a cost associated with conducting waste audits, either as fees paid to a service provider or staff downtime.

6.1.12 Design for Sustainability

Likely sources of data on design for sustainability are outlined in Table 6.12.

Table 6.12 – Design for Sustainability Source Data

Core / Add	Data	Metric	Sources
C	Changes to the design or production of products and materials	- Quantification and description of resource efficiency (energy, water and waste) initiatives during product and material manufacture	Member manufacturing sites or R&D facilities
		- Quantification and description of material efficiency initiatives during product and material manufacture (include reducing hazardous materials, recyclable and recoverable materials)	Member manufacturing sites or R&D facilities
		- Description of improvements to product and material to reduce environmental impacts	Member manufacturing sites or R&D facilities
		- Description of improvements to product and material to reduce impacts on human health and safety	Member manufacturing sites or R&D facilities

Data on changes to the design or production of products and materials, resulting from the operation of the scheme should be obtainable by those schemes with the objective of influencing the design process. Where design for sustainability is not a core objective of the scheme, data may be more difficult to obtain.

6.1.13 Environmental Impacts

Likely sources of data on the environmental impacts associated with the product and material lifecycle are outlined in Table 6.13.

Table 6.13 – Environmental Impacts Source Data

Core / Add	Data	Metric	Sources
A	Environmental impacts associated with the product and material lifecycle	- Measurement of resource use and environmental impacts of production	Members
		- Initiatives to reduce resource use and environmental impacts of production	Members

Core / Add	Data	Metric	Sources
		- Measurement of resource use and environmental impacts of consumption	Members
		- Initiatives to reduce resource use and environmental impacts of consumption	Members
		- Measurement of resource use and environmental impacts at end of life	Members
		- Initiatives to reduce resource use and environmental impacts at end of life	Members

Generating data on environmental impacts is currently not common practice. It can also be costly to generate such data, through a process such as a life cycle assessment. Where this data is available, it has often been generated for another purpose, such as informing decision making about product and material changes or to support marketing claims. For this reason, data on environmental impacts is deemed to be additional. As life cycle assessment becomes more common practice and less costly, it may be considered to be a core data requirement for some schemes.

6.1.14 International Conventions

Likely sources of data that would link to international conventions are outlined in Table 6.14.

Table 6.14 – International Reporting Conventions

Core / Add	Data	Metric	Sources
C	Contribution to Australia's international data obligations	- Data requirements of the international agreements and obligations that relate to the products or materials handled	Scheme operator
C		- Systems and/or processes in place for the collection of data to contribute to meeting data requirements	Scheme operator Waste management service providers
C		- Commitment to providing this data to the Australian Government as required	Scheme operator

It is anticipated that the weight of ozone depleting substance imported, exported, manufactured and destroyed would only be applicable to Refrigerant Reclaim Australia which is the only scheme dealing with these substances. As

mentioned previously, this data is currently provided to the Australian Government on a voluntary basis. However, the Australian Government may require this data to be disclosed on a compulsory basis as outlined in legislation or regulations.

Hazardous waste data (the weight of transported, imported, exported or treated waste deemed hazardous under the terms of the *Basel Convention* Annex I, II, III and VIII, and the percentage of transported waste shipped internationally) is already being provided by organisations and waste management service providers to jurisdictions (States and Territories). However, this could be introduced as a product stewardship data requirement to allow for an internal verification or reconciliation process that can identify gaps in the data provided.

6.1.15 Consumer Awareness and Behaviour

Likely sources of data on consumer awareness and behaviour are outlined in Table 6.15.

Table 6.15 – Consumer Awareness and Behaviour Source Data

Core / Add	Data	Metric	Sources
C	Knowledge of consumer behaviour that may influence or improve the operation of the scheme, or demonstrate the effectiveness of the scheme	- Describe initiatives to increase target market awareness/behaviour	Market research reports and scheme operator
		- Measurement of consumer awareness/behavioural change	Market research reports and scheme operator

Market research to provide data on consumer attitudes and behaviours includes methods such as surveys, focus groups sessions and behavioural observations. A market research specialist is usually engaged to carry out the research to ensure that it is undertaken using a valid statistical and analytical method. Smaller scale research can be undertaken to provide qualitative information. Market research can be costly to undertake, depending on the sample size, the research method adopted and the required outcomes, however it can generate valuable information to inform the development of the product stewardship scheme.

6.2 Cost of Data Collection

It was identified through discussions with stakeholders that the costs associated with data capture, storage and processing are very difficult to estimate. The same finding was determined through the National Waste Data

System (NWDS) Requirements Study undertaken by Net Balance and commissioned by the Australian Government.

The costs borne by the scheme operator are generally able to be determined more readily than the costs borne by members. The National Packaging Covenant Secretariat has quantified that collection of packaging consumption and recycling data costs the Secretariat $60,000 per annum. The cost of data collection and annual reporting for the approximately 700 Covenant signatories has not been determined.

One scheme operator commented that there is already a lot of data collection occurring that schemes can utilise. Many industry associations and commercial data providers collect data that may align with the common data requirements specified in this study. For example, the Plastics and Chemicals Industries Association conducts an annual 'National Plastics Recycling Survey' that the National Packaging Covenant utilises for its annual reporting. Existing data could be used where possible, to minimise the cost and burden of data collection.

Data collection is a significant cost for the Cartridges 4 Planet Ark program. This is predominantly due to the fact that the scheme attributes operational costs proportionally to members based on the quantity of each member's cartridges that are received. Close the Loop, the collection and recycling partner in the delivery of the Cartridges 4 Planet Ark program, captures data on receipt of the cartridges and uses this data as the basis of the monthly invoicing of the participating manufacturers. This data is also a valuable source of market intelligence for the participating manufacturers that would not otherwise be available. Data capture represents approximately 25% of the total per unit cost.

It is likely that schemes which use market share or units sold as the basis for attributing costs to members would have lower data collection costs as data does not need to be collected at the point of receival.

Some data collection and processing would require the use of external consultancies. This is especially the case for commercial in confidence data and would result in various levels of costs.

A more robust estimate of the costs of data collection could be obtained through the application of the Standard Cost Model[26] which is a broadly

[26] The Standard Cost Model (SCM) is a method for measuring the administrative costs imposed on business by governments (refer to www.administrative-burdens.com for more information).

accepted tool for determining the administrative burden for business imposed by potential regulation.

6.3 Collecting Data from the Supply Chain

The supply chain, particularly the waste management elements (which are typically outsourced), is a vital source of data on the performance of product stewardship schemes. The reporting and disclosure demands on the supply chain have increased in recent years with the emergence of reporting mechanisms such as the GRI. In addition there has been recent scrutiny and increased expectations relating to the disclosure of information relating to the social and environmental practices of multi-national companies.

While Australian businesses are often small in the global context and may not have the leverage to require overseas suppliers to provide data, collective schemes that handle greater quantities may have greater leverage than single-company schemes.

Single-company schemes, such as Fuji Xerox's End of Life Recycling scheme and Dyson's End of Life Recycling scheme use company-owned facilities for the provision of some aspects of the recovery process. Data from the stages that are managed by the company itself would be more accessible.

Where contractual relationships exist, data requirements should be incorporated into contracts. This will establish expectations at the outset of the relationship and ensure that the data provider has factored data collection into their service cost, thereby improving the likelihood of data provision.

The approach to data collection may need to be tailored specifically to different supply chain participants. Scheme operators could consider a capacity building or an auditing approach. An auditing approach, particularly with overseas suppliers, may be met with distrust and resistance. Alternatively, some cultures may respond better to the clarity and authority provided by an auditing approach. Adopting a capacity building approach, where data collection is one part of a process of continuous improvement could be more effective in yielding data as well as seeking opportunities for improved outcomes.

In addition to demonstrating outcomes, data from suppliers can provide transparency in terms of the environmental and social standards of the supply chain. Data on the employment practices and environmental standards is critical to demonstrating the ethical operation of the scheme.

6.4 The Process of Data Collection

The majority of the existing product stewardship schemes consulted during this project are using manual data collection systems. Typically, data is provided to the scheme operator electronically in a MS Excel spreadsheet format. The scheme operator may collate and analyse the data to produce information to inform decision making or meet disclosure requirements. The National Packaging Covenant and Cartridges 4 Planet Ark were the only schemes investigated that have adopted a purpose-built data management system.

The nature of the data management system will vary depending on the amount of data being collected, the number of different sources of data, the information needs, the resources available for the development and maintenance of the system and the maturity of the scheme.

Close the Loop operates a purpose built database to record data on cartridges received through the Cartridges 4 Planet Ark scheme. Data collection at the point of receipt is critical because the monthly invoicing to participating manufacturers is based on the quantity and types of their cartridges received. Rapid data collection and entry is essential to contain the costs of data collection.

As the volumes of data and the number of sources increases, the greater the need for an online, automated system. There are over 700 National Packaging Covenant signatories across Australia, which necessitated the development of an online system to collect and aggregate data. Where there are a small number of data sources, manual data collection and aggregation is likely to be more cost effective.

6.5 Data Protocols

Once disclosure requirements under the Product Stewardship Framework have been determined, it is recommended that the Australian Government releases data protocol reference documents relating to common data requirements. These protocols will drive consistency and fairness in the provision of required data to support their scheme. The reference documents should outline guidance in the following areas:

- how to collect and compile data
- how to determine the appropriate level of aggregation, which will be dependent on the involved scheme
- how to present data (e.g. metrics, whole numbers, ratios, normalised data)
- How to reference or flag data that is primary, verified or fully assured.

These protocols would reflect the common data requirements and data collection and management practices outlined in this document.

7. Reporting and Disclosure

Product stewardship schemes may be required to report and disclose information that meets the common data requirements under a variety of 'arrangements' (e.g. voluntary, co-regulatory or mandatory). This section aims to describe how a scheme could report and disclose information to stakeholders, in addition to the issues that arise from disclosure.

7.1 Disclosure at Application Phase

Scheme operators may be required to provide information which meets the common data requirements when applying for approval under the National Product Stewardship Framework.

The Australian Government could provide guidance to scheme operators on the structure of this application, in order to provide clarity and maximise efficiency.

As noted in Section 4.5, scheme operators may be required to seek authorisation to operate from the ACCC under the *Trade Practices Act 1974*. The requirements of this process may be additional to the common data requirements.

7.2 Mechanisms for Periodic Disclosure

There are at least three options that the Australian Government could use to ensure that scheme operators provide the required data specified under the product stewardship arrangement. These include:

- Annual report
- GRI compliant sustainability report
- Online database.

7.2.1 Annual Report

Scheme operators could produce an annual report outlining information that meets the common data requirements. To reduce variance in layout, the Australian Government could produce guidance on how to structure the Annual Report or could produce a template that the scheme operator could be required to adopt.

7.2.2 Sustainability Report

Scheme operators could produce a GRI compliant Sustainability Report. A number of the common data requirements are consistent with performance indicators required by the GRI. However, it is anticipated that the Australian

Government's data requirements for product stewardship schemes would be clearly referenced within the Sustainability Report.

By adopting the GRI Reporting Framework, the Australian Government's requirements would be consistent with international best practice. Many major companies in the product stewardship scheme's supply chains would already produce a GRI based sustainability report.

The scheme operator could introduce contractual and partnering arrangements (such as with recycling services providers) so that data is collected to support the common data requirements. This could involve ensuring that data collection, including that done through supply chains, aligns with other schemes such as NGERS or the NPI. The domestic and/or international standards applied by PROs to their supply chains should be clear.

7.2.3 Online Database

Online databases could be set up to collect information meeting the common data requirements from product stewardship scheme operators. Similar examples include:

- Online System for Comprehensive Activity Reporting (OSCAR) which is used for the submission of NGERS data
- The Industry Data Aggregation Systems used by National Packaging Covenant signatories for the submission of KPI data
- NPI database.

A National Waste Data System is being investigated so as to support data requirements that arise under the *National Waste Policy: Less waste more resources*. Previous work undertaken by Net Balance has identified possible requirements of such a system. Some information relating to the National Waste Data System is outlined below.

The National Waste Data System

A successful National Waste Data System (NWDS) that supports standard comprehensive provision of waste data under the *National Waste Policy: Less waste more resources* is being investigated. It is expected that the new system would inform policy and investment into sustainable waste practices.

Key issues relating to the NWDS include ownership, prioritisation, engagement, confidentiality and legislative change. It is anticipated that comprehensive data capture and management by scheme operators could contribute to a successful data system.

A number of broad requirements will be required to allow for product stewardship common data requirements to be captured by the future NWDS. These include:

- clearly outlining data collection and management ownership, including roles and responsibilities
- providing high quality data through meeting common data quality principles
- Including standardised definitions, methodologies and classifications.

7.3 Commercial in Confidence or Sensitive Data

Data reporting and disclosure is an essential element of demonstrating the effectiveness and ethical operation of a product stewardship scheme. However, this need for information must be balanced with the needs of product stewardship participants who are operating in a commercial and competitive environment.

The challenges with sensitive data are greater for single-company schemes as data cannot be aggregated and de-identified. All data generated by the scheme is known to be specific to the company.

The information contained in Table 7.1 was identified as commercial in confidence or sensitive. The information is based on existing data disclosure practices and advice from representatives of existing schemes. Given the range of scheme types, the following statements should be considered conditional.

Table 7.1 – Commercial in Confidence or Sensitive Data

Data	Metric	Reason for sensitivity	Reporting and Disclosure Requirement
Market share of membership	Number of products and materials produced or imported per annum (aggregated total and % of total market)	Individual market share can provide information that will enable competitors to understand a company's business model. Disclosure of information about market share can impact on the share price of a publicly listed company.	The aggregated market share of the membership is a core common data requirements. If preferred this information can be disclosed to the regulator only (particularly relevant to single-company schemes).
	Weight (kg/t) or Volume (m^3) of products and materials (kg/t) produced or imported per annum (aggregated total and % of total market)		

Data	Metric	Reason for sensitivity	Reporting and Disclosure Requirement
Funding model	Funding required to operate the scheme (total and/or cost per tonne or unit)	A small number of scheme operators indicated sensitivity regarding the funding model. They stated that the internal operations of the scheme were confidential to members. Other scheme operators were willing to disclose such information.	The funding model is considered to be an essential measure of the effectiveness of the scheme and central to the Government's willingness to approve or accredit the scheme. It is therefore a core data requirement that can be disclosed to the regulator only.
Compliance of members	Number of instances of non-compliance	Operators of voluntary schemes believed that public disclosure of specific details of non-compliance undermines the collective and cooperative nature of a voluntary scheme, and that public disclosure was not the appropriate mechanism to deal with instances of non-compliance.	Data on compliance is of interest to both the regulator and the public in determining the effectiveness and credentials of the scheme. It is acknowledged that 'naming and shaming' is not always in the best interests of the scheme and may not be possible due to privacy legislation, therefore, non-identifying data would be required. For both co-regulatory and mandatory schemes, knowledge of non-compliant companies is an essential requirement for the operation of the regulatory elements of the scheme. Therefore disclosure of company specific data to the regulator is also required for co-regulatory and mandatory schemes.
	Nature of instances of non-compliance		
Average age of the products and materials handled	Years since manufacture	Operators of single company schemes may not want to disclose information about the	Average age of the products and materials handled is central to the performance of a scheme

Data	Metric	Reason for sensitivity	Reporting and Disclosure Requirement
		lifespan of their products and materials to competitors as it could reduce their competitive position. Aggregated data was not considered sensitive.	that has the objective of extending the product and material's useful life, and is therefore a core data requirement for such schemes.
Quantity of material use in products and materials	Quantity of materials used in products and materials and whether they are hazardous, non-hazardous, recyclable, non-recyclable (by weight - kg/t and by proportion of total - %)	Companies would not want to disclose information about their product and material as it could reduce their competitive position. Average or typical data was not considered sensitive.	Quantification of hazardous materials must be product and material specific as these materials require careful management and it is believed that the public would be interested in such information. Remaining composition can be average or typical for the particular product and material.
Destination of recycled and recovered materials	Technology utilised to recover materials (for each company receiving the materials)	The technology utilised may be central to the competitive position of a company and therefore sensitive.	Technology utilised to recover materials is an additional data requirement.
Products and materials recycled or recovered	Dollar value of products and materials (total, by product and material, by waste stream)	Data on the revenue generated through the sale of recovered materials is central to a company's business model and therefore considered confidential. Disclosure of this information could prejudice the company in their business dealings.	Dollar value of products and materials has not been included in the common data requirements.
Products and materials recycled or recovered	Recycling and recovery rate for different brands or products	Scheme operators believed that disclosure of the recycling or recovery rate for different brands or products would damage the perception of product stewardship and potentially deter	Recycling and recovery rates for different brands or products have not been included in the common data requirements.

Data	Metric	Reason for sensitivity	Reporting and Disclosure Requirement
		voluntary participation.	

7.4 Disclosure of the Data

Information that meets the common data requirements will need to be disclosed in order to provide the regulator and the public with the information that is required to assess the performance and the ethical operation of the scheme. This need for information must also be balanced with the commercial needs of the scheme members.

7.4.1 Disclosure to Members of the Scheme

Sharing of information between the scheme operator and the members is essential to the effective operation of the scheme. There may be some data or information that is generated or becomes available that is useful to members, but is not a common data requirement.

Information that may be disclosed to members without being disclosed more broadly is likely to be aggregated and/or de-identified by the scheme operator (or an independent service provider) before it is provided to members so that company specific data is not disclosed.

In this document, disclosure to members of the scheme can also be referred to as reporting.

7.4.2 Disclosure to the Regulator

There is some data considered commercial in confidence by the data owners that has been proposed as a core data requirement as it is central to the Government's willingness to approve or accredit a product stewardship scheme. In these instances, the data could be disclosed, in a secure and confidential manner, to the regulator only.

The data that has been highlighted as appropriate for limited disclosure to the regulator is:

- Aggregated market share of the membership (particularly relevant to single-company schemes)
- Funding required to operate the scheme
- Company specific data on the number and nature of instances of non-compliance (for co-regulatory and mandatory schemes).

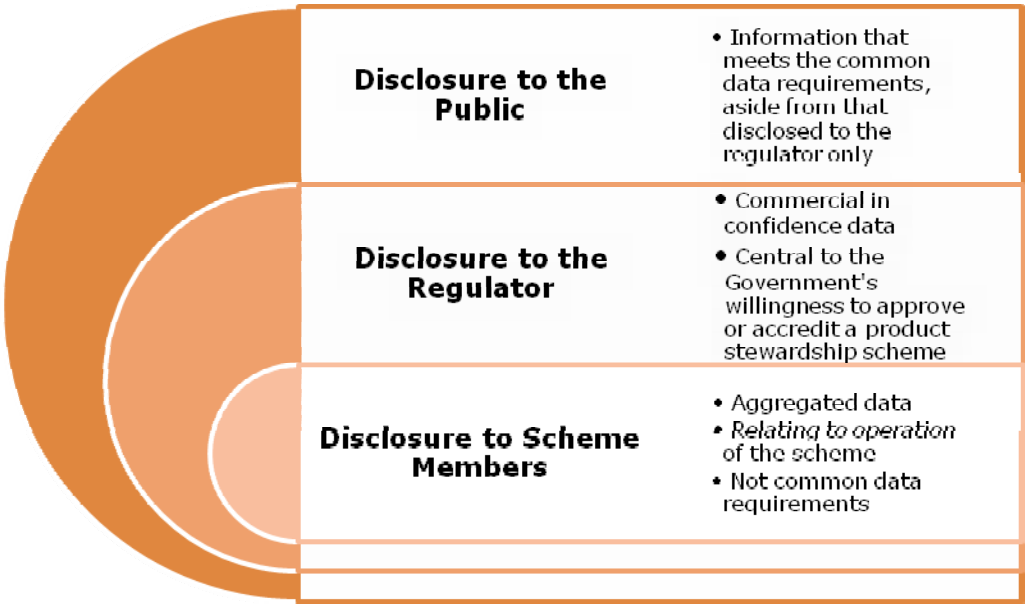
In order to provide the data owners with the confidence to disclose the data, the scheme operator and/or the regulator will need to establish systems and processes to ensure that the confidentiality of the above data can be maintained.

7.4.3 Disclosure to the Public

It is anticipated that information that meets the common data requirements, aside from that identified in section 7.4.2, would be disclosed to the public.

The different levels of disclosure are depicted in Figure 7.1.

Figure 7.1 Levels of Disclosure



8. Data Quality Principles

The quality of the data management life cycle, consisting of data collection, processing, management, reporting and disclosure, is important and can be guided by a set of principles. The GRI Principles of Quality can be used as a guide to ensure that the data collection and management processes are reliable and robust.

There are six principles that comprise the GRI Principles of Quality and relate to data collection, reporting and disclosure. These are described further in the section below.

It is important to note that although the wording within these descriptions relate to Sustainability Reporting, the Principles can also be applied to data collected and managed under product stewardship schemes.

8.1 Reliability

Reliability requires that information and processes are used in the preparation of data and information. Data and statements should be gathered, recorded, compiled, analysed and disclosed in a way that could be subject to examination. Data and information should also be material.

The GRI further explains the Reliability Principle below:

"Stakeholders should have confidence that a report could be checked to establish the veracity of its contents and the extent to which it has appropriately applied Reporting Principles. The information and data included in a report should be supported by internal controls or documentation that could be reviewed by individuals other than those who prepared the report. Disclosures about performance that are not substantiated by evidence should not be disclosed publicly unless they represent material information, and the report provides unambiguous explanations of any uncertainties associated with the information. The decision-making processes underlying a report should be documented in a manner that allows the basis of key decisions (such as processes for determining the report content and boundary or stakeholder engagement) to be examined. In designing information systems, reporting organizations should anticipate that the systems could be examined as part of an external assurance process."

If data was compared against the Reliability Principle, the following questions may be proposed to the owner of the data:

- Can the original source of your information be easily identified?

- Can you identify evidence to support assumptions or complex calculations?
- Are you the original data owner? If not, can you gain notes from them to show that your information is accurate and contains no errors?

8.2 Clarity

Clarity requires that information is provided in an understandable manner that is accessible to stakeholders using the data or information.

The GRI further explains the Clarity Principle below:

"The report should present information in a way that is understandable, accessible, and usable by the organisation's range of stakeholders (whether in print form or through other channels). A stakeholder should be able to find desired information without unreasonable effort. Information should be presented in a manner that is comprehensible to stakeholders who have a reasonable understanding of the organisation and its activities. Graphics and consolidated data tables can help make the information in the report accessible and understandable. The level of aggregation of information can also affect the clarity of a report if it is either significantly more or less detailed than stakeholders expect."

If data was compared against the Clarity Principle, the following questions may be proposed to the owner of the data:

- Does your information contain clear and concise information? Or will stakeholders be overwhelmed by excessive and unnecessary detail?
- Can stakeholders find the specific information they want without unreasonable effort, through tables of contents, maps, links, or other aids?
- Does your information avoid technical terms, acronyms, jargon, or other content likely to be unfamiliar to stakeholders?
- Is the data and information available to stakeholders, including those with particular accessibility needs (e.g. differing abilities, language, or technology)?

8.3 Balance

Balance requires that information reflects both positive and negative aspects of a product stewardship scheme's performance. Balanced data should enable a stakeholder to make a reasoned assessment of the scheme's overall performance.

The GRI further explains the Balance Principle below:

"The overall presentation of the report's content should provide an unbiased picture of the reporting organisation's performance. The report should avoid selections, omissions, or presentation formats that are reasonably likely to unduly or inappropriately influence a decision or judgment by the report reader. The report should include both favourable and unfavourable results, as well as topics that can influence the decisions of stakeholders in proportion to their materiality. Reports should clearly distinguish between factual presentation and the reporting organisation's interpretation of information."

If data was compared against the balanced principle, the following questions may be proposed to the owner of the data:

- Does your data or information disclose both favourable and unfavourable results and topics?
- Is the information presented in a format that allows users to see positive and negative trends in performance on a year-to-year basis?
- Is the emphasis on the various topics proportionate to their relative materiality or importance?

8.4 Comparability

Comparability requires that information is selected, compiled and disclosed consistently. Data should be presented in a manner that enables stakeholders to interpret the changes in the performance over time, and could support analysis relative to other schemes.

The GRI further explains the Comparability Principle below:

"Comparability is necessary for evaluating performance. Stakeholders using the report should be able to compare information reported on economic, environmental, and social performance against the organisation's past performance, its outcomes, and, to the degree possible, against the performance of other organisations. Consistency in reporting allows internal and external parties to benchmark performance and assess progress as part of rating activities, investment decisions, advocacy programs, and other activities. Comparisons between organisations require sensitivity to factors such as differences in organisational size, geographic influences, and other considerations that may affect the relative performance of an organisation.

Where necessary, report preparers should consider providing context that will help report users understand the factors that may contribute to differences in performance between organisations.

Maintaining consistency with the methods used to calculate data, with the layout of the report, and with explaining the methods and assumptions used to prepare information, all facilitates comparability over time. As the relative importance of topics to a given organisation and its stakeholders change over time, the content of reports will also evolve. However, within the confines of the Principle of Materiality, organizations should aim for consistency in their reports over time. An organization should include total numbers (i.e. absolute data such as tons of waste) as well as ratios (i.e. normalised data such as waste per unit of production) to enable analytical comparisons.

When changes occur with the boundary, scope, length of the reporting period, or content (including the design, definitions, and use of any Indicators in the report), reporting organisations should, whenever practicable, restate current disclosures alongside historical data (or vice versa). This ensures that information and comparisons are both reliable and meaningful over time. Where such restatements are not provided, the report should explain the reasons and implications for interpreting current disclosures."

If data was compared against the Comparability Principle, the following questions may be proposed to the owner of the data:

- Can your information be compared on a year-to-year basis?
- Can your information and the related performance be compared with appropriate benchmarks (i.e. industry standards)?
- Can any significant variation between reporting periods in the boundary, scope, length of reporting period, or information covered be identified and explained?
- Does information provided utilise generally accepted protocols for compiling, measuring, and presenting information where available?

8.5 Accuracy

Accuracy requires that data should be sufficiently accurate and detailed for stakeholders to assess the product stewardship scheme's performance.

The GRI further explains the Accuracy Principle below:

"Responses to economic, environmental, and social topics and Indicators can be expressed in many different ways, ranging from

qualitative responses to detailed quantitative measurements. The characteristics that determine accuracy vary according to the nature of the information and the user of the information. For example, the accuracy of qualitative information is largely determined by the degree of clarity, detail, and balance in presentation within the appropriate Report Boundary. The accuracy of quantitative information, on the other hand, may depend on the specific methods used to gather, compile, and analyse data. The specific threshold of accuracy that is necessary will depend partly on the intended use of the information. Certain decisions will require higher levels of accuracy in reported information than others."

If data was compared against the Accuracy Principle, the following questions may be proposed to the owner of the data:

- Does the disclosure indicate that the data has been measured?
- Are the data measurement techniques and bases for calculations adequately described, and can they be replicated with similar results?
- Is the margin of error for quantitative data not sufficient to substantially influence the ability of stakeholders to reach appropriate and informed conclusions on performance?
- Does the disclosure indicate which data has been estimated, and can the underlying assumptions and techniques used to produce the estimates be easily found?

8.6 Timeliness

Timeliness requires that the product stewardship scheme reports or discloses data and information on a regular schedule. In addition, the information should be available in a time to make informed decisions.

The GRI further explains the Timeliness Principle below:

"The usefulness of information is closely tied to whether the timing of its disclosure to stakeholders enables them to effectively integrate it into their decision-making. The timing of release refers both to the regularity of reporting as well as its proximity to the actual events described in the report.

Although a constant flow of information is desirable for meeting certain purposes, reporting organisations should commit to regularly providing a consolidated disclosure of their economic, environmental, and social performance at a single point in time. Consistency in the frequency of reporting and the length of reporting periods is also

necessary to ensure comparability of information over time and accessibility of the report to stakeholders. It can be of value for stakeholders if the schedules for sustainability reporting and financial reporting are aligned. The organisation should balance the need to provide information in a timely manner with the importance of ensuring that the information is reliable."

If data was compared against the Timeliness Principle, the following questions may be proposed to the owner of the data:

- Has information provided been disclosed while it is recent relative to the reporting period?
- Is the collection and publication of key performance information aligned with the sustainability reporting schedule?
- Does the information in the disclosure (including online disclosures) clearly indicate the time period to which it relates, when it will be updated, and when the last updates were made?

9. Third Party Assurance

9.1 The Rationale for Third Party Assurance

Assurance is an evaluation method that uses a specified set of principles and standards to assess the quality and credibility of data and information. The assurance process also assists is assessing the effectiveness of an organisation's underlying systems, processes and competencies that underpin its performance. Assurance includes the communication of the results of this evaluation to provide credibility to the subject matter for its users.

Third party assurance provides the following benefits:

- Increased transparency in reporting by ensuring that errors and ambiguities are reduced
- Increased confidence to Board and management, as well as stakeholders and the public, in the accuracy and the reliability of the data
- An indication that the systems and processes in place are sound and reflect appropriate quality requirements
- Recommendations for continuously improving the level and quality of data.

Stakeholders are increasingly requesting independent confirmation of the accuracy of data and information, particularly when using such data to make decisions.

9.2 The Role for Third Party Assurance

It is recommended that information which meets the common data requirements is assured by an independent third party. Information provided during the application phase and on a periodic basis could be assured. Assurance at the application phase will ensure that the basis upon which the scheme is established is credible.

9.3 The Assurance Process

Third party assurance providers generally assess the accuracy of the data and information. A process is included that assesses the collection and management of data and can also provide feedback on the data management systems that are currently in place.

Key principles used in the assurance of performance include:

- Inclusivity – whether stakeholders have been included in developing and achieving an accountable and strategic response
- Materiality – whether material information required by stakeholders to make informed judgements, decisions and actions has been provided
- Responsiveness – whether the organisation has responded to stakeholder concerns, policies, and relevant standards and adequately communicated these.

It is recommended that product stewardship schemes aim to implement measured and robust data management systems and procedures for meeting the common data requirements. Measured data management systems rely on data directly collected from a service provider. For example: invoices and contractor receipts. Robust data management systems are those that are sound, mature and rigid, where room for error in negligible. For example: the use of spreadsheets, databases or online reporting. Measured and robust systems for the management of data reduce the likelihood of human error and ensure that organisational knowledge is retained in the event of staff turnover.

Generally, third party verifiers would provide a statement attesting that the data is accurate and depicts the performance of the product stewardship scheme.

There are two recognised professional standards for the assurance of sustainability information:

- The *AA1000 Assurance Standard* (2008) was developed by AccountAbility and is used to provide assurance on publicly available sustainability information. AccountAbility is a global, not-for-profit self-managed partnership governed by its multi-stakeholder network.
- The International Federation of Accountants' *International Standard on Assurance Engagements (ISAE 3000)* is used by the accounting profession for non-financial assurance.

Appendix A – Product Stewardship schemes

Descriptions of each of the Australian product stewardship schemes consulted are provided below.

Mobile Muster (1999)

MobileMuster is the official recycling program of the mobile phone industry. Initiated voluntarily by the Australian telecommunications industry in 1999, its overall aim is to prevent mobile phones ending up in landfill. The program collects and recycles mobile phone handsets, batteries and accessories from a network of over 3,500 mobile phone retailers, local councils, government agencies and business drop off points across Australia.

Refrigerant Reclaim Australia (1993)

Refrigerant Reclaim Australia is an industry-led, non-profit product stewardship organisation for the Australian refrigeration and air conditioning industry. It is a co-regulatory scheme that allows for the responsibilities and costs of recovering, reclaiming and destroying surplus and unwanted refrigerants to be shared nationally. The scheme utilises a take-back program to reduce the emissions of refrigerants, and provides rebates for collected refrigerants (non-flammable, non-toxic ones) to contractors, wholesalers and importers. Refrigerant Reclaim Australia operates a national collection service, which transports, for a fee, recovered refrigerants to a central, secure storage facility where these chemicals are destroyed in an environmentally-friendly, cost-effective and safe manner[27].

drumMUSTER (1999)

drumMUSTER is a national, voluntary industry-group led program aimed at enabling the safe collection and recycling of cleaned eligible non-returnable crop production and on-farm animal health chemical containers. The scheme operates over 700 collection points across Australia, and reuses the plastic and steel from the drums through recycling. The scheme is part of the broader ChemClear program[28].

[27] http://www.refrigerantreclaim.com.au/

[28] http://www.drummuster.com.au/category.php?id=41

ChemClear (2000)

ChemClear (called Chemcollect between 2000 and 2002) is a national, voluntary industry-group led program for the safe management and destruction of unwanted/obsolete agricultural and veterinary chemicals. Falling under the umbrella of the Industry Waste Reduction Scheme (IWRS), ChemClear is an Extended Producer Responsibility (EPR) program and an Industry Stewardship initiative for the agricultural, veterinary, forestry, and golf course industries and local and state government agencies. Certain types of chemicals are collected for free, and some for a fee under the scheme[29].

Return of Unwanted Medicines (1998)

The National Return & Disposal of Unwanted Medicines Limited, a national not-for-profit company that runs the Return of Unwanted Medicine (RUM) Project – a voluntary, national scheme for unwanted and out-of-date medicines which are collected from consumers, at no cost, by community pharmacies. Pharmaceutical wholesalers provide a discounted charge for delivery and collection of RUM Project containers, to and from pharmacies. The collected medicines are then disposed of through high temperature incineration (an EPA approved method of disposal). The RUM Project is considered a "world-first" in the management and removal of unwanted and expired medicines from the community[30].

National Packaging Covenant (1999)

The National Packaging Covenant (NPC) is a government and industry collaborative, voluntary initiative that aims to reduce the impact of packaging on the environment. The Covenant focuses on reducing impacts arising from the disposal of used packaging, resource conservation through improved design and production processes and facilitating reuse and recycling of used packaging materials. Any organisation involved in the packaging supply chain is invited to sign the NPC, thereby committing the organisation to certain responsibilities which contribute to the NPC's performance goals and KPIs[31]. To ensure that Covenant signatories are not disadvantaged in the marketplace and to encourage participation in the Covenant, the Covenant framework includes a regulatory instrument, the National Environment Protection Measure (NEPM) for Used Packaging Materials. If 'brand Owners' don't participate in the

[29] http://www.chemclear.com.au/category.php?id=2

[30] http://www.returnmed.com.au/background

[31] http://www.packagingcovenant.org.au/page.php?name=aboutus

Covenant they will have to comply with the requirements of the state legislation giving effect to the NEPM[32].

South Australian Container Deposit Legislation (1975)

South Australia's Container Deposit Legislation was introduced in 1975, enabling all South Australian consumers to obtain a 10 cent rebate for each container (a particular type, volume, etc.) they return to collection depots across the state. South Australia is the only Australian state with such a scheme and has experienced significantly less beverage container litter and higher recycling rates of beverage containers than other states since the scheme's introduction in 1977[33].

Dyson (commencement data unknown)

In Australia, customers can return their old Dyson products through Dyson's voluntary end-of-life recycling scheme. Customers are provided with a reply paid address so that they can send the machine back to Dyson, at no extra cost; or a pick-up of an old machine can be arranged when delivering a new Dyson machine to the customer. The returned machines are then disassembled, and the components are recycled[34].

Cartridges for Planet Ark (2003)

Planet Ark, Close the Loop and printer cartridge manufacturers (Brother, Canon, Epson, Konica Minolta, Lexmark) established the voluntary Cartridges for Planet Ark scheme. The costs of collection, transport, awareness campaigns and recycling of the cartridges are paid by participating manufacturers. The program collects and returns ink and toner cartridges for remanufacturing and recycling, thereby diverting them from landfills. The program guarantees zero waste to landfill for all collected cartridges and uses the independently-audited Melbourne-based recycling partner, Close the Loop, to ensure this commitment. In the eight years since the program's establishment, Cartridges for Planet Ark has diverted 12 million printer cartridges from landfills[35].

---

[32] http://www.packagingcovenant.org.au/page.php?name=ifidonotsignnepmregulation

[33] http://www.epa.sa.gov.au/environmental_info/waste/container_deposit_legislation/faqs

[34] http://www.dyson.com.au/environment/, http://www.dyson.com.au/support/weee.asp

[35] http://cartridges.planetark.org/about/

Paintback (2003-2007)

Paintback was a free drop-off service for unwanted paint and paint packaging at the Bunnings Warehouse in Vermont South that operated between 2004 and 2007. The scheme was a voluntary partnership between Dulux, Bunnings, Bluescope Steel, Chemsal, Sustainability Victoria and the Steel Can Recycling Council to develop an economically viable and sustainable paint take-back scheme. The Paintback scheme aimed to keep paint waste out of landfills and away from drains where it can pose a threat to the environment. Up to 10% of the collected paint was substituted for raw material in the production of Dulux Walpamur™ fence paint, with the remainder converted to energy[36].

Byteback (2005)

The Byteback program is a voluntary, government and industry product take-back scheme for computers, run by Sustainability Victoria, the Australian Information Industry Association (AIIA) and founding members Apple, Canon, Dell, Epson, Fujitsu, Fuji-Xerox, HP, IBM, Lenovo and Lexmark. The program is being trialled in Victoria and serves as a model for the development of a national scheme for the collection and disposal of end-of-life computer equipment. The program is free to the public and small businesses and accepts a wide variety of computers and peripherals. Collected computer equipment is disassembled into components and directed to various recovery facilities for recycling[37].

Product Stewardship for Oil program (2001)

The PSO is an Australian Government initiative to increase the rate of used oil recycling. The Department of Sustainability, Environment, Water, Population and Communities administers the program, which is aimed at encouraging the environmentally-friendly, safe and ethical management and re-refining of used oil, and its reuse. The 5.449 cent per litre levy instituted by the *Product Stewardship (Oil) Act 2000* is directed to fund benefit payments for used oil recyclers, thereby providing incentives to improve the rates of used oil recycling in Australia[38].

[36] http://www.paintback.com.au/PaintbackProcess.html

[37] http://www.bytebackaustralia.com.au/about#jumptocontent2

[38] http://www.environment.gov.au/settlements/waste/oilrecycling/program/index.html

National Television and Computer Product Stewardship Scheme (to be established)

In November 2009, after the Environment Protection and Heritage Council (EPHC) meeting, it was agreed that the Australian Government would implement regulations to support an industry-led product stewardship scheme that would collect and recycle end-of-life televisions and computers across Australia. Importers or manufacturers will need to join a producer responsibility organisation (PRO) to organise collection and recycling of televisions and computers. The PRO will charge its members for the costs of collection and recycling. The product stewardship legislative framework laid out by the Commonwealth for this scheme ensures that manufacturers/importers do not 'free-ride' by avoiding their recycling responsibilities. Consumers will not be charged for the drop-off of end-of-life TVs and computers at designated collection points, but will be charged a small fee when purchasing a new computer or television, which will be used for the future collection and recycling of the item[39].

Fuji Xerox End of Life Recycling (early 2000s)

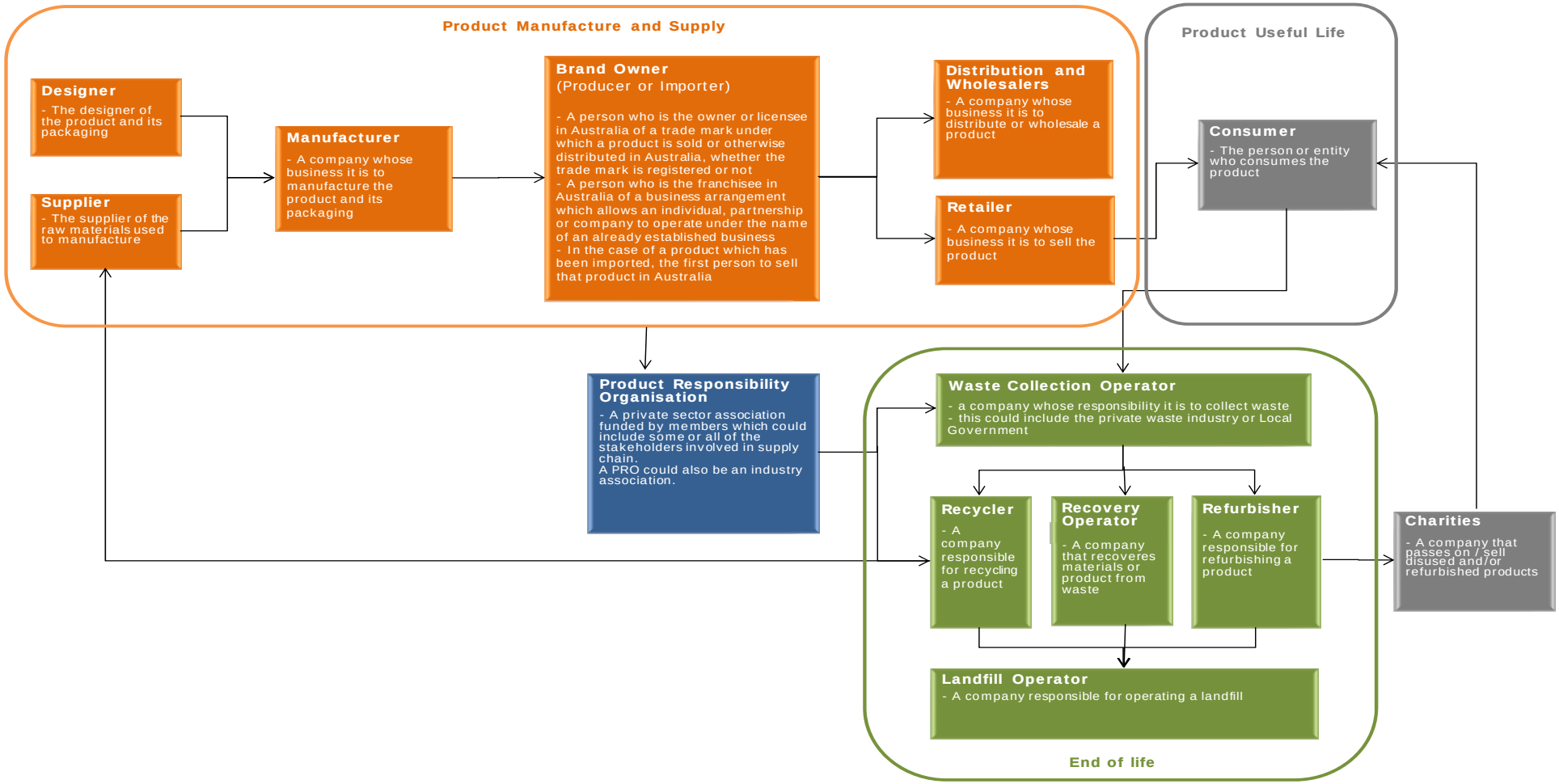
Fuji-Xerox voluntarily takes back end-of-life equipment from Australian customers and directs it to their Asia-Pacific Integrated Recycling Centre in Thailand where over 99% resource recovery can be achieved. 139,000 tonnes of carbon emissions were avoided and 22,600 tonnes of raw materials were saved by the company's incorporation of policies for future remanufacturing and recycling into their product design process, in the period of 1996-2008. Their Eco-Manufacturing Centre in Sydney remanufactures parts and sub-assemblies removed from equipment during service, and serves as a total waste management centre for customers returning parts, sub-assemblies, cartridges and packaging for resource recovery[40].

[39] http://www.environment.gov.au/settlements/waste/ewaste/

[40] http://www.fujixerox.com.au/docs/FXA_Sustainability_Media_Factsheet.pdf

Appendix B – Product and Material Life Cycle

This flow charts aims to represent a generic product or material life cycle. It should, however, be noted that the life cycle flow will differ according to what a product stewardship scheme covers.



Appendix C – Potential Data Requirements: Inclusion Evaluation

Each of the potential data requirements identified through phases 1 and 2 of the methodology were evaluated against the following criteria to determine whether they should be included in the common data requirements:

- Does the data assist in measuring the achievement of the objectives of the scheme?
- Does the data assist in measuring the ethical operation of the scheme, including efficiency, effectiveness and good governance?
- Does the data assist in measuring the environmental and social performance of the scheme?

If the data met any of the above statements, the data was included as a common data requirement.

Other information that defines the scheme, such as its name or location, has been included in the data requirements for practical reasons rather than as an outcome of the evaluation against the inclusions criteria.

The table below provides the results of this inclusion evaluation and comments on the rationale for classifying the data as a core or additional data requirement.

Table C.1 - Assessment of Potential Data Requirements against Inclusion Criteria

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Membership						
Organisations that are members of the scheme	- List of Organisations	✓	✓		C	Breadth of coverage of industry is central to the determining the effectiveness of the scheme.
Brands that the scheme handles	- List of Brands		✓		A	This level of detail may be impractical for the scheme operator to collect due to number of brands. Not applicable where all brands are covered.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Market share of membership	- Number of products and materials produced or imported per annum (aggregated total and % of total market)		✓		C	Breadth of coverage of market is central to determining the effectiveness of the scheme. Important indicator of whether voluntary schemes provide adequate coverage.
	- Weight (kg/t) or Volume (m^3) of products and materials (kg/t) produced or imported per annum (aggregated total and % of total market)		✓		C	Breadth of coverage of market is central to determining the effectiveness of the scheme.
	- $ revenue per annum (aggregated total and % of total market)				-	Market share is more meaningfully measured in terms of number of products, weight or volume.
Administration						
Name	- Name of scheme				C	Practical inclusion.
Structures and agreements for the operation of the scheme	- Description of structure and arrangements		✓		C	Demonstrates the ability of the scheme to achieve its objectives and sustainability of the scheme.
	- Location				C	Practical inclusion.
	- Nominated contact point				C	Practical inclusion.
Funding model	- Funding required to operate the scheme (total and/or cost per tonne or unit)		✓	✓	C	Demonstrates financial sustainability of the scheme, including the ability of the scheme to manage liabilities such as stockpiles. Demonstrates efficiency of the scheme. The Australian Government would want to be assured of value for money for consumers to approve or accredit the scheme.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
	- Cost to consumer to return at end of current life		✓		C	Practical inclusion. Key ethical consideration.
	- Process and funding arrangements prior to the establishment of the scheme and description of who bore the cost	✓	✓	✓	C	Demonstrates effectiveness of the scheme in reducing cost burden on third parties.
Compliance of members	- Number of instances of non-compliance	✓	✓		C	Demonstrates effectiveness and sustainability of scheme. Demonstrates credentials of members. Essential information to enable a co-regulatory or mandatory scheme to operative effectively.
	- Nature of instances of non-compliance	✓	✓		C	Demonstrates effectiveness and sustainability of scheme. Demonstrates credentials of members. Essential information to enable a co-regulatory or mandatory scheme to operative effectively.
Regulatory enforcement	- Describe the regulatory enforcement activities undertaken		✓		C	Provides confidence to industry participants to invest in product stewardship schemes as enforcement prevents non-participants from gaining a competitive advantage.
Objectives and outcomes	- State the objectives of scheme (aligning them with the list of objectives (1-12) provided)	✓	✓		C	Demonstrates at the application phase the adequacy and effectiveness of the scheme.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Compliance with laws and regulations	- Total number of incidents of non-compliance with environmental or human health and safety regulations and voluntary codes.		✓		C	Demonstrates credentials of scheme operator to members, the regulator and the public.
	- Penalties for non-compliance with environmental or human health and safety regulations and voluntary codes		✓		C	Demonstrates credentials of scheme operator to members, the regulator and the public.
Reporting Parameters						
Report details	- Report period				C	Practical inclusion.
	- Date of most previous report				C	Practical inclusion.
Independent verification	- Statement of independent verification	✓	✓	✓	C	Increases robustness of data by ensuring that errors and ambiguities are reduced. Provides independent assurance of accuracy of data and statements made about the effectiveness of the scheme.
Targets						
Targets	- Targets established under the scheme	✓	✓	✓	C	Demonstrates at the application phase the adequacy and effectiveness of the scheme.
Corrective measures	- Corrective measures in place to address insufficient progress in achieving targets	✓	✓		C	Demonstrates effectiveness of the scheme.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Products and Materials						
Products and materials that the scheme handles	- List of product and material types	✓	✓		C	Breadth of coverage of product market is central to the determining the effectiveness of the scheme.
Quantity of products and materials handled	- Number of units per annum (total and by product and material)		✓		C	Central to the performance of the scheme.
	- Weight (kg/t) or Volume (m^3) per annum (total and by product and material)		✓		C	Central to the performance of the scheme.
	- Products or materials handled per annum (by product)				-	Generally not consistent with current industry practice and additional value outweighed by cost of data collection where it is not required as part of the scheme.
	- Products or materials handled per annum (by brand)				-	Generally not consistent with current industry practice and additional value outweighed by cost of data collection where it is not required as part of the scheme.
	- Retail value of products handled per annum				-	Products handled is more meaningfully measured in terms of number of products, weight or volume.
Average age of the products and materials handled	- years since manufacture	✓		✓	C	Central to the performance of a scheme that has the objective of extending the product and material's useful life.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Material Use						
Materials in products and materials	- List of materials used in products and materials and whether they are hazardous, recyclable, non-recyclable			✓	C	Material use and identification of hazardous and non-recyclable materials is central to demonstrating environmental and social outcomes.
Quantity of material use in products and materials	- Quantity of materials used in products and materials and whether they are hazardous, non-hazardous, recyclable, non-recyclable (by weight - kg/t and by proportion of total - %)			✓	C	Material use and identification of hazardous and non-recyclable materials is central to demonstrating environmental and social outcomes.
	- Ratio of product and material to packaging			✓	A	Not applicable to many schemes.
Accessibility						
Collection points	- Geographic coverage of collection points/return routes (e.g. number of local government areas that contain a collection point/return route, number of households with a collection point/ return route within X minutes)		✓	✓	C	Demonstrates adequacy of the scheme. Practical inclusion.
	- Total number of collection points/return routes		✓	✓	C	Demonstrates adequacy of the scheme. Practical inclusion.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Recycling and Recovery						
Products and materials recycled and recovered	- Number of units (total, by product and material, by waste stream)		✓		A	Market share is more meaningfully measured in terms of number of products, weight or volume. Weight is considered to be a more meaningful metric than units and is more practical to collect.
	- Weight (kg/t) or Volume (m^3) per annum (total, by product and material, by waste stream)		✓		C	Central to the performance of the scheme.
	- Recycling and Recovery rate (% of total materials recycled or recovered)	✓	✓	✓	C	Central to the performance of the scheme.
	- Recycling and Recovery rate (% of total materials recycled or recovered) by product or product type				-	Generally not consistent with current industry practice and additional value outweighed by cost of data collection where it is not required as part of the scheme.
	- Recycling and Recovery rate (% of total materials recycled or recovered) by brand				-	Generally not consistent with current industry practice and additional value outweighed by cost of data collection where it is not required as part of the scheme.
	- Revenue generated through sale of products and materials recycled or recovered				-	Generally not consistent with current industry practice and additional value outweighed by cost of data collection where it is not required as part of the scheme.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Destination of recycled and recovered materials	- Destination of recycling and recovery (by company, location - interstate/overseas)		✓	✓	C	Demonstrates that the arrangements in place for the recycling and recovery of materials are environmentally and socially responsible.
	- Technology utilised to recover materials (for each company receiving the materials)		✓	✓	A	Is useful information but not central to demonstrating environmental and social responsibility.
	- Quality, Environmental or Health and Safety standards required by the company (for each company receiving the materials)	✓	✓	✓	C	Demonstrates that the arrangements in place for the recycling and recovery of materials are environmentally and socially responsible.
Repair, Reuse or Refurbishment						
Products and materials, or components thereof, repaired, reused or refurbished	- Number of units per annum (total and by product and material)	✓	✓	✓	C	Central to the performance of a scheme that has the objective of increasing the reuse or refurbishment of products and materials.
	- Weight (kg/t) or Volume (m^3) per annum	✓	✓	✓	C	Central to the performance of a scheme that has the objective of increasing the reuse or refurbishment of products and materials.
Destination for products and materials, or components thereof, repaired reused or refurbished	- End use and destination of repaired, reused or refurbished products and materials, or components thereof (total and by products or material)		✓	✓	C	Demonstrates that the arrangements in place for the repair, reuse or refurbishment of materials are environmentally and socially responsible.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Stockpiling						
Quantity of products and materials stockpiled	- Number of units (total, by product and material, by waste stream)	✓	✓	✓	C	Is an indicator of the financial liability of the scheme. Demonstrates that the arrangements in place for managing products and materials are environmentally and socially responsible. Disclosure can be a driver for reducing stockpiled materials or avoiding stockpiling.
	- Weight (kg/t) or Volume (m^3) per annum (total, by product and material, by waste stream)	✓	✓	✓	C	Is an indicator of the financial liability of the scheme. Demonstrates that the arrangements in place for managing products and materials are environmentally and socially responsible. Disclosure can be a driver for reducing stockpiled materials or avoiding stockpiling.
Flows to Landfill						
Quantity of products and materials disposed to landfill	- Number of units (total, by product and material, by waste stream)	✓	✓	✓	A	Weight is considered to be a more useful metric at end of life.
	- Weight (kg/t) or Volume (m^3) per annum (total, by product and material, by waste stream)	✓	✓	✓	C	Central to the performance of the scheme.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
	- Description of the measures in place to minimise risk to human health and safety during end-of-life management	✓	✓	✓	C	Demonstrates that the arrangements in place for managing products and materials are socially responsible.
Design for Sustainability						
Changes to the design or production of products and materials	- Quantification and description of resource efficiency (energy, water and waste) initiatives during product and material manufacture	✓	✓	✓	C	Central to the performance of a scheme that has the objective of improving product and material design or manufacture.
	- Quantification and description of material efficiency initiatives during product and material manufacture (include reducing hazardous materials, recyclable and recoverable materials)	✓	✓	✓	C	Central to the performance of a scheme that has the objective of improving product and material design or manufacture.
	- Description of improvements to product and material to reduce environmental impacts	✓	✓	✓	C	Central to the performance of a scheme that has the objective of improving product and material design or manufacture.
	- Description of improvements to product and material to reduce impacts on human health and safety	✓	✓	✓	C	Central to the performance of a scheme that has the objective of improving product and material design or manufacture.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Environmental Impacts						
Environmental impacts associated with the product and material lifecycle	- Measurement of resource use and environmental impacts of production	✓	✓	✓	A	Measurement of environmental impacts is not currently standard industry practice, so it would be onerous and premature to establish this as a core data requirement. Cost effective methods for measuring environmental impacts are not yet available for many schemes.
	- Initiatives to reduce resource use and environmental impacts of production	✓	✓	✓	A	Measurement of environmental impacts is not currently standard industry practice, so it would be onerous and premature to establish this as a core data requirement.
	- Measurement of resource use and environmental impacts of consumption	✓	✓	✓	A	Measurement of environmental impacts is not currently standard industry practice, so it would be onerous and premature to establish this as a core data requirement. Cost effective methods for measuring environmental impacts are not yet available for many schemes.
	- Initiatives to reduce resource use and environmental impacts of consumption	✓	✓	✓	A	Measurement of environmental impacts is not currently standard industry practice, so it would be onerous and premature to establish this as a core data requirement.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
	- Measurement of resource use and environmental impacts at end of life	✓	✓	✓	A	Measurement of environmental impacts is not currently standard industry practice, so it would be onerous and premature to establish this as a core data requirement. Cost effective methods for measuring environmental impacts are not yet available for many schemes.
	- Initiatives to reduce resource use and environmental impacts at end of life	✓	✓	✓	A	Measurement of environmental impacts is not currently standard industry practice, so it would be onerous and premature to establish this as a core data requirement.
International Conventions						
Contribution to Australia's international obligations	- Data requirements of the international agreements and obligations that relate to the products or materials handled		✓		C	Demonstrates good governance and the ability to contribute to Australia's obligations to the international community.
	- Systems and/or processes in place for the collection of data to contribute to meeting data requirements		✓		C	Demonstrates good governance and the ability to contribute to Australia's obligations to the international community.
	- Commitment to providing this data to the Australian Government as required		✓		C	Demonstrates good governance and the ability to contribute to Australia's obligations to the international community.

Performance Indicator	Metric	Achieve Objectives	Ethical Operation	Measuring Enviro / Social Performance	Core or Additional	Comments on Rationale
Consumer Awareness and Behaviour						
Knowledge of consumer behaviour that may influence or improve the operation of the scheme, or demonstrate the effectiveness of the scheme	- Describe initiatives to increase target market awareness/behaviour	✓		✓	C	Central to the performance of a scheme that has the objective of increasing target market awareness or promoting changes in target market behaviour.
	- Measurement of consumer awareness/behavioural change	✓		✓	C	Central to the performance of a scheme that has the objective of increasing target market awareness or promoting changes in target market behaviour.

Appendix D – Full List of Common Data Requirements

The common data requirements are presented here in consolidated form, mapped against the 12 product stewardship objectives. Each metric has been identified as core or additional and disclosed at the application phase or on a periodic basis.

Table D.1 - Product Stewardship Objectives

Life Cycle Stage	Objective	Description
Design and manufacture	1	Improve the efficiency of resource use (water, electricity, gas) in product and material manufacture
Design and manufacture	2	Improve the efficiency of material use in product and material manufacture (includes reducing hazardous materials, increasing the recycled content and the use of recyclable materials)
Design and manufacture	3	Improve product and material design to reduce environmental impacts
Design and manufacture	4	Incorporate product and material management costs into consumer price signals
Consumption	5	Extend the product and material's useful life
Consumption	6	Reduce the risks to human health during and at the end of product and material useful life
Consumption	7	Increase target market awareness/promote changes in target market behaviour
End-of-life	8	Improve the collection and management of post-consumer waste
End-of-life	9	Increase recycling and resource recovery of materials
End-of-life	10	Increase the reuse or refurbishment of products and materials
End-of-life	11	Minimise the stockpiling and/or the disposal of waste (including hazardous waste)
End-of-life	12	Reduce the risks to human health from poor management of end-of-life waste (including hazardous waste)

Table D.2 - Common Data Requirements

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
1	**Membership**																
1.1	Organisations that are members of the scheme	- List of Organisations	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
1.2	Brands that the scheme handles	- List of Brands	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A	A
1.3	Market share of membership	- Number of products and materials produced or imported per annum (aggregated total and % of total market)	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
1.4		- Weight (kg/t) or Volume (m^3) of products and materials (kg/t) produced or imported per annum (aggregated total and % of total market)	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
2	**Administration**																
2.1	Name	- Name of scheme	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
2.2	Structures and agreements for the operation of the scheme	- Description of structure and arrangements	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
2.3		- Location	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
2.4		- Nominated contact point	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
2.5	Funding model	- Funding required to operate the scheme (total and/or cost per tonne or unit)	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
2.6		- Cost to consumer to return at end of current life	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
2.7		- Process and funding arrangements prior to the establishment of the scheme and description of who bore the cost	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
2.8	Compliance of members	- Number of instances of non-compliance	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
2.9		- Nature of instances of non-compliance	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
2.10	Regulatory enforcement	- Describe the regulatory enforcement activities undertaken	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
2.11	Objectives and outcomes	- State the objectives of scheme (aligning them with the list of objectives (1-12) provided)	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
2.12	Compliance with laws and regulations	- Total number of incidents of non-compliance with environmental or human health and safety regulations and voluntary codes.	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
2.13		- Penalties for non-compliance with environmental or human health and safety regulations and voluntary codes	- Qualitative and quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
3	**Reporting Parameters**																
3.1	Report details	- Report period	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
3.2		- Date of most previous report	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
3.3	Independent verification	- Statement of independent verification	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
4	**Targets**																
4.1	Targets	- Targets established under the scheme	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
4.2	Corrective measures	- Corrective measures in place to address insufficient progress in achieving targets	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
5	**Products and Materials**																
5.1	Products and materials that the scheme handles	- List of product and material types	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A,O
5.2	Quantity of products and materials handled	- Number of units per annum (total and by product and material)	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
5.3		- Weight (kg/t) or Volume (m^3) per annum (total and by product and material)	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	O
5.4	Average age of the products and materials handled	- years since manufacture	- Quantitative							✓						C	O
6	**Material Use**																
6.1	Materials in products and materials	- List of materials used in products and materials and whether they are hazardous, recyclable, non-recyclable	- Qualitative		✓							✓				C	A,O
6.2	Quantity of material use in products and materials	- Quantity of materials used in products and materials and whether they are hazardous/ non-hazardous, recyclable/ non-recyclable (by weight - kg/t and by proportion of total - %). Quantification of hazardous materials must be product and material specific, while remaining composition can be average or typical for the particular product and material.	- Quantitative		✓							✓				C	A,O

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
6.3		- Ratio of product and material to packaging	- Quantitative		✓							✓				A	A,O
7	**Accessibility**																
7.1	Collection points	- Geographic coverage of collection points/return routes (e.g. number of local government areas that contain a collection point/return route, number of households with a collection point/ return route within X minutes)	- Qualitative								✓	✓	✓			C	A,O
7.2		- Total number of collection points/return routes	- Quantitative								✓	✓	✓			C	A,O
8	**Recycling and Recovery**																
8.1	Products and materials recycled and recovered	- Number of units (total, by product and material, by waste stream)	- Quantitative									✓				A	O
8.2		- Weight (kg/t) or Volume (m^3) per annum (total, by product and material, by waste stream)	- Quantitative									✓				C	O
8.3		- Recycling and Recovery rate (% of total materials recycled or recovered)	- Quantitative									✓				C	O

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
8.4	Destination of recycled and recovered materials	- Destination of recycling and recovery (by company, location - interstate/overseas)	- Qualitative									✓				C	A,O
8.5		- Technology utilised to recover materials (for each company receiving the materials)	- Qualitative									✓				A	A,O
8.6		- Quality, Environmental or Health and Safety standards required by the company (for each company receiving the materials)	- Qualitative									✓	✓			C	A,O
9	**Repair, Reuse or Refurbishment**																
9.1	Products and materials, or components thereof, repaired, reused or refurbished	- Number of units per annum (total and by product and material)	- Quantitative										✓			C	A,O
9.2		- Weight (kg/t) or Volume (m^3) per annum	- Quantitative										✓			C	A,O
9.3	Destination for products and materials, or components thereof, repaired reused or refurbished	- End use and destination of repaired, reused or refurbished products and materials, or components thereof (total and by products or material)	- Qualitative										✓			C	A,O
10	**Stockpiling**																

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
10.1	Quantity of products and materials stockpiled	- Number of units (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓	C	O
10.2		- Weight (kg/t) or Volume (m^3) per annum (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓	C	O
11	**Flows to Landfill**																
11.1	Quantity of products and materials disposed to landfill	- Number of units (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓	A	O
11.2		- Weight (kg/t) or Volume (m^3) per annum (total, by product and material, by waste stream)	- Quantitative									✓	✓	✓	✓	C	O
11.3		- Description of the measures in place to minimise risk to human health and safety during end-of-life management	- Qualitative									✓	✓	✓	✓	C	O
12	**Design for Sustainability**																
12.1	Changes to the design or production of products and materials	- Quantification and description of resource efficiency (energy, water and waste) initiatives during product and material manufacture	- Quantitative	✓												C	O

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
12.2		- Quantification and description of material efficiency initiatives during product and material manufacture (include reducing hazardous materials, recyclable and recoverable materials)	- Quantitative		✓											C	O
12.3		- Description of improvements to product and material to reduce environmental impacts	- Qualitative			✓										C	O
12.4		- Description of improvements to product and material to reduce impacts on human health and safety	- Qualitative						✓							C	O
13	**Environmental Impacts**																
13.1	Environmental impacts associated with the product and material lifecycle	- Measurement of resource use and environmental impacts of production	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A	O
13.2		- Initiatives to reduce resource use and environmental impacts of production	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A	O
13.3		- Measurement of resource use and environmental impacts of consumption	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A	O

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
13.4		- Initiatives to reduce resource use and environmental impacts of consumption	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A	O
13.5		- Measurement of resource use and environmental impacts at end of life	- Quantitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A	O
13.6		- Initiatives to reduce resource use and environmental impacts at end of life	- Quantitative and qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	A	O
14	**International Conventions**																
14.1	Contribution to Australia's international obligations	- Data requirements of the international agreements and obligations that relate to the products or materials handled	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
14.2		- Systems and/or processes in place for the collection of data to contribute to meeting data requirements	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
14.3		- Commitment to providing this data to the Australian Government as required	- Qualitative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	C	A
15	**Consumer Awareness and Behaviour**																
15.1	Knowledge of consumer behaviour that	- Describe initiatives to increase target market awareness/behaviour	- Quantitative and qualitative							✓						C	O

#	Performance Indicator	Metric	Qualitative / Quantitative	1	2	3	4	5	6	7	8	9	10	11	12	Core or Add	Application or Periodic Disclosure
15.2	may influence or improve the operation of the scheme, or demonstrate the effectiveness of the scheme	- Measurement of consumer awareness/behavioural change	- Quantitative and quantitative							✓						C	O