



**An assessment of television and computer recycling  
experience and capacity in South Australia:**

**The role of local government in the National  
Television and Computer Recycling Scheme.**

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**Prepared for: Zero Waste SA**

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## Executive summary

South Australia has been proactive in seeking to provide environmentally responsible solutions to e-waste collection and recycling. Through Zero Waste SA and many South Australian Councils, collection and drop-off arrangements for householders either at no cost or at a subsidised cost to the householder have been provided. Some Councils choose instead to provide householders with information regarding responsible disposal options for e-waste.

The introduction and implementation of the National Television and Computer Recycling Scheme (the Scheme) presents an opportunity for local government in South Australia. In order to obtain maximum benefit from the Scheme and avoid the potential for inconsistent and inequitable outcomes between Councils there is a clear role for a coordinated and strategic approach. The structure and operation of the Scheme will over time enable local governments to reduce costs associated with the collection and recycling of end-of-life televisions and computers.

Realising that opportunity requires an understanding that the Scheme:

- Starts slowly with national targets increasing from 30 per cent in 2012-2013 to 80 per cent in 2021-2022
- Addresses only televisions and computers, not any other e-waste.
- There will be some television and computer waste not covered by the Scheme.
- Does not obligate local government to be involved. It will be up to each Council to determine if it has a role to play and then seek opportunities itself or in coordination with other Councils.
- Sets standards for the provision of collection, recovery and processing services.
- Will require Councils that wish to be involved to negotiate agreements, either by themselves or in coordination with other councils, with approved co-regulatory arrangements.

The Scheme will not in the short term replace local government's involvement in collecting and recycling televisions and computers (where this is occurring) and is likely to only interact with a small number of South Australian Councils (metropolitan and regional) in the short term. Over time it will grow to supplement or substitute Councils' involvement.

A Council that chooses not to participate in the Scheme or is not able to reach an agreement within the Scheme can opt to maintain or implement services independent of the Scheme should it wish to do so. Such an approach may over time provide opportunities for reduced e-waste management and cost savings for Councils as the extent of such services may be able to be scaled down as the Scheme becomes fully operational.

Following is a guide for local government in South Australia on requirements associated with participation in the Scheme and issues associated with collection services and recycling arrangements.

## 1 Overview of the scheme

The Scheme is an industry-led and funded initiative to reduce television and computer waste going to landfill and increase the recovery and recycling of materials. The Scheme is a co-regulatory Product Stewardship Scheme. The Australian Government has passed legislation and regulations that make television and computer companies liable parties. This requires the liable parties to make the Scheme work and achieve targets related to increasing amounts of materials being collected for recycling, access across the country to free collection services and material recovery targets.

The Scheme aims to increase television and computer recycling from the current rate of about 17 per cent nationally to 30 per cent in 2012-2013 and rising to 80 per cent by 2021-22.

The Scheme is intended to start slowly to enable the liable parties (industry) to organise their activities and meet required statutory obligations, and also enable collectors and recyclers to ensure appropriate infrastructure is in place to handle the increased amount of materials.

The Scheme collects and recycles only televisions, computers and computer peripherals (for example, printers, keyboards and mice) but no other types of e-waste.

Fundamentally the Scheme will provide people with greater choice of, and access to, recycling opportunities when disposing of televisions and computers, and consumers and small businesses will be not be charged to drop off materials for recycling.

The first full year of Scheme starts from July 2012. While the Scheme will start slowly, approved co-regulatory arrangements will be seeking to engage collection services and recyclers to undertake the actual on the ground work and communication with the community and local government about the location, timing and type of services they will provide. It is also intended that there will be communication with State and local governments to co-ordinate early Scheme activities.

### 1.1 How does it work?

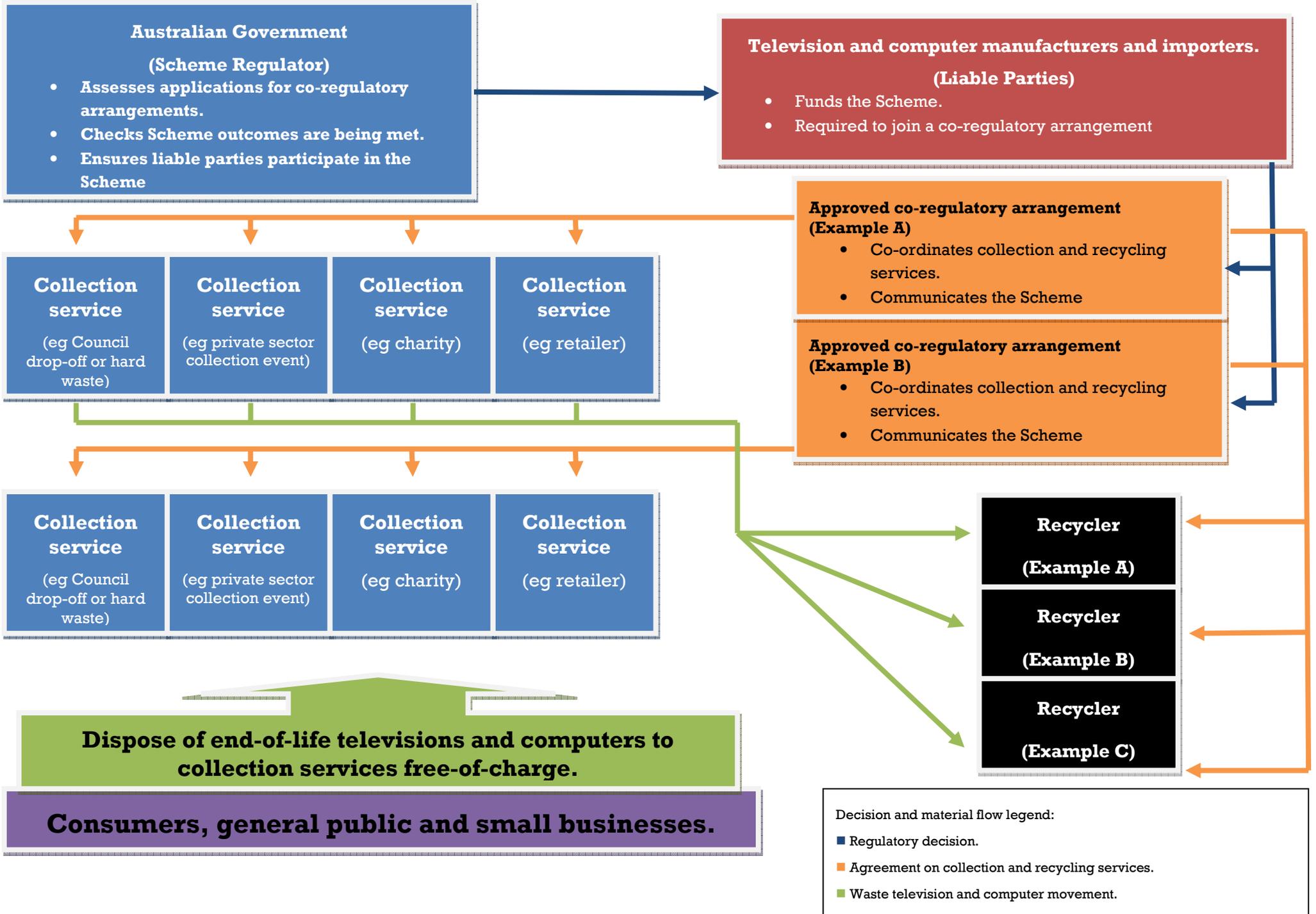
Importers and Australian manufacturers of televisions and computers who import or manufacture above a threshold prescribed in the Regulations are deemed to be liable parties and are required to become members of an organisation that manages collection and recycling. These organisations are known as approved co-regulatory arrangements.

The approved co-regulatory arrangements collect and recycle the products specified in the legislation on behalf of the liable parties, and will need to provide reasonable access to collection services across Australia by December 2013, meet annual recycling targets and meet material recovery targets. There are 75 product tariff codes covered by the Scheme which generally include televisions, computers (desktop, laptop, monitors, tablets) and computer peripherals (printers, keyboards, mice, hard drives).

Approved co-regulatory arrangements have flexibility in providing collection services and are expected to collect end-of-life computers and televisions from a range of locations including households and businesses. This is expected to result in a range of collection services including fixed permanent or semi-permanent collection sites, event based and periodic collections and retail take back.

Approved arrangements will have an administrator whose role will include selecting and contracting collection and recycling service providers in order to meet their obligations under the Scheme. Following is a schematic representation of the Scheme.

An assessment of television and computer recycling experience and capacity in South Australia



## 2 Collection Services

### 2.1 Types of services

The Scheme does not mandate what type of collection services must be used by a co-regulatory arrangement. A collection service can be:

- Permanent drop-off facility.
- Take back event.
- Hard waste collection.
- Retail drop-off.
- At-call collection.
- Mail-return service.

Under the reasonable access requirements, collection services must be provided at a minimum of at least once a year in metropolitan and regional areas and at least once every two years in remote areas. The requirement is also tied to population. In metropolitan areas it is one service for every 250,000 people, in inner regional areas it is one service within 100 km of every town of 10,000 people or more, in outer regional areas it is within 150km of every town of 4,000 or more and in remote areas it is one service (every two years) within 200km of every town of 2,000 or more.

The Scheme mandates that there has to be reasonable access to services across Australia. Specifically, any approved co-regulatory arrangement is required to meet the reasonable access requirements across all metropolitan, regional and remote areas by December 2013. This requirement applies to every approved co-regulatory arrangement, so if there is more than one, they each have to provide the same number of services and reasonable access.

It is estimated that meeting the reasonable access requirements in South Australia will require an approved co-regulatory arrangement to provide 18 services. The following table sets out the number and general location of these services.

<b>Area</b>	<b>Number of services for each co- regulatory arrangement</b>
Metropolitan	5
Inner regional	2
Outer regional	7
Remote and very remote	4
<b>Total</b>	<b>18</b>

As three have now been approved (Australia New Zealand Recycling Platform, DHL Supply Chain and E-Cycle Solutions / QLS Logistics) this means a minimum of 54 Scheme collection services by December 2013, with an additional 18 likely as another potential co-regulatory arrangements is being assessed.

This is an estimated minimum and approved co-regulatory arrangements may choose to support more services.

This does not necessarily mean a minimum of 54 new services in South Australia as the approved co-regulatory arrangements are engaging with existing collection and recovery services to meet its requirements as well as exploring new options.

Details of the approved and potential co-regulatory arrangements are at Appendix A.

A map at Appendix C shows the general location classifications.

## 2.2 Principles underpinning services

### Free to consumers and small businesses

The Scheme requires collection services to be free to consumers and small businesses (a small business being an enterprise with annual turnover less than \$2 million). A collection service that charges people to dispose of end-of-life televisions and computers will not count towards achieving the Scheme targets.

### Meets standards

Relevant occupational health and safety and environmental standards will need to be met.

#### (i) *For collection services (as listed in Section 2.1.1)*

There is an interim industry standard for the collection, storage, handling and transport of e-waste being used by co-regulatory arrangements and an Australian New Zealand standard is under development. A draft standard is out for public comment until 15 May 2012 and is expected to be formalised and in place by the end of 2012. Co-regulatory arrangements will expect collection services to meet the interim and then final standard.

#### (ii) *For recycling services*

Along with the interim standard, Safe Work Australia is developing a Code of Practice for Australia's e-waste industry. This is in the consultation phase and expected to be in place by the early 2013. The interim standard requires recyclers to hold a current certification to AS NZS ISO 14001 Environmental Management System and, among other requirements, stipulates what recycling processes are acceptable and not acceptable.

## 2.3 Elements to be considered and costed

A Council considering becoming involved in the Scheme and seeking to reach an agreement with an approved co-regulatory arrangement would need to consider and cost the following elements.

#### (i) *Contractual arrangements.*

There is no specific requirement regarding how an approved co-regulatory arrangement may engage with a Council. The current proposed arrangements have indicated that they may or

may not seek a formal agreement depending on the services required and Council expectations. They may enter into a memorandum of understanding (MOU), contract or informal agreement.

In considering any such engagement a Council may wish to consider the following:

- It is a negotiation. The Council is potentially of interest to the approved co-regulatory arrangement because of issues such as location, current collection services (whether a site or hard waste or other service), access to material, communication and education programs and connection to its community (and the general public).
- In the early days of the Scheme approved co-regulatory arrangements may seek short-term or limited engagement to ensure they meet targets but also manage risks.
- A Council could engage with more than one approved co-regulatory arrangement.
- A regional approach. It may be of benefit to a Council to join with others to provide economies of scale, different collection service offerings and share the procurement process.
- While the Scheme starts at a 30per cent target, it rises over time and as such access to materials will become more competitive over time.
- Approved co-regulatory arrangements can, if they so choose, take non-Scheme materials from collection services. Any non-Scheme materials will not count towards Scheme targets.
- Approved co-regulatory arrangements can, if they so choose, assist Councils to ensure collection services are in accordance with requirements and standards. This may include assisting with matters such as infrastructure, storage, signage and training. The cost incidence of infrastructure upgrades, if required, will be a matter for negotiation and confirmation in a formal agreement.
- The interface between collection arrangements and recycling arrangements and, in particular, the negotiation and confirmation in a formal agreement of arrangements for the transport of items to recyclers.

**(ii) Type of collection service.**

Councils may wish to consider the effectiveness and efficiency of different types of collection services, whether they seek to participate directly in the Scheme or not. There are underlying issues for Councils to consider for all types of collection services and then variations relating to different types of collection services.

An assessment of existing collection services in South Australia shows that there are some key elements to be considered and assessed when considering providing a collection service. They are:

**Key collection service elements**

- **Participation:** What is the community's willingness to participate or expectation of a service and potential number of participants per year.
- **Location:** Whether a permanent drop-off or collection event the location of the collection services and its proximity to a disposal / recycling point has an impact on transport costs, most notable for regional and remote Councils.

- **Quantity and type of material:** What is the potential tonnes and mix of materials (televisions, computers and other e-waste) that could be collected.
- **Capital costs:** Is capital expenditure required for buildings, plant or equipment and if seeking to participate in the Scheme are there capital costs to meet the Scheme requirements.
- **Operating Costs:** Can operating costs be co-ordinated and shared with other Council services or is dedicated resourcing required to cover collection activities, staffing, disposal / recycling, transport, maintenance, insurance and other costs.
- **Administration:** What is the current level of training, record keeping and reporting and would it meet the Scheme requirements.

The disposal for recycling costs are the single biggest costs associated with providing television and computer recycling services. An assessment of current collection services in South Australia and other States show that current disposal for recycling costs range from about \$630 to \$890 per tonne, with costs most commonly being in the range of \$650 to \$750 per tonne. Costs are dependent on volume, type (mostly televisions or mostly computers and peripherals) and quality of materials (quality being factors such as the general condition of the materials, age and any level of damage / breakage).

The following sets out some of the variations and pros and cons of different collection services.

<b>Permanent drop-off</b>		
<b>General description</b>	<b>Pros</b>	<b>Cons</b>
<p>Typified by a reasonably steady stream of materials that is able to be co-ordinated with other material activities on site and services / operations able to be increased or decreased as needed. Also typically have on-going and reasonably stable arrangements for regular transport of materials to recyclers and coordination with Council’s broader waste and recycling management and communication program.</p>	<ul style="list-style-type: none"> <li>• Potential to use existing facility.</li> <li>• Co-ordinated with other waste and recycling services to be cost effective.</li> <li>• Community access and service provision.</li> <li>• Quality management (material handling, storage and transportation).</li> <li>• Attractive to approved co-regulatory arrangements.</li> <li>• Steady stream of material.</li> </ul>	<ul style="list-style-type: none"> <li>• May be overwhelmed with material.</li> <li>• May collect material not wanted by the Scheme (that is e-waste other than televisions and computers).</li> <li>• May not meet Scheme requirements (such as signage and storage requirements).</li> </ul>

<b>Collection day or event</b>		
<b>General description</b>	<b>Pros</b>	<b>Cons</b>
<p>Typified by a concentrated collection of materials and operating as a stand-alone activity. Demand and participation largely controlled by the extent of advertising and communication. Typically collect reasonably large volumes and generally good quality control.</p>	<ul style="list-style-type: none"> <li>Controlled area and time frame.</li> <li>Can collect large amounts of material in one event.</li> <li>Attractive to co-regulatory arrangement.</li> </ul>	<ul style="list-style-type: none"> <li>Can be overwhelmed with participants and material.</li> <li>Volumes may exceed downstream processing capacity and create bottlenecks.</li> <li>Limited opportunity for community participation may not meet community's expectation.</li> </ul>

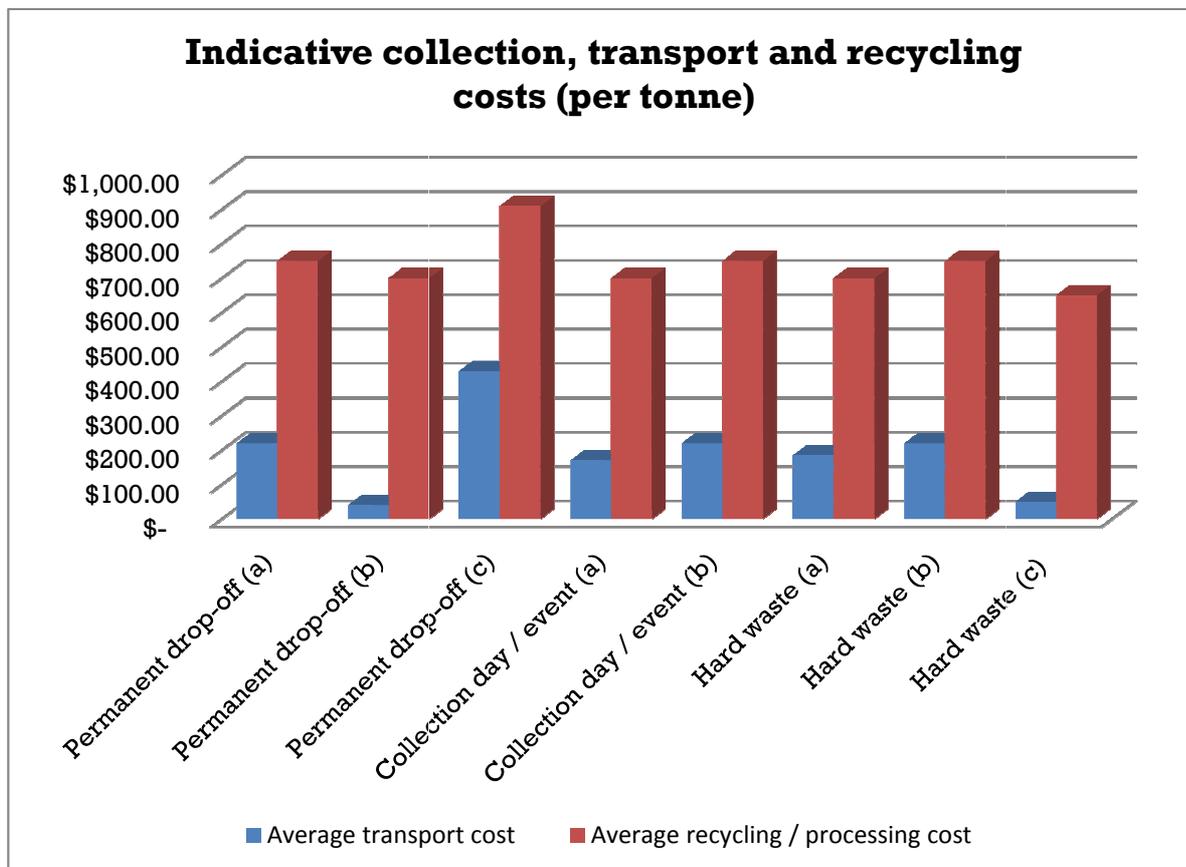
<b>Hard waste</b>		
<b>General description</b>	<b>Pros</b>	<b>Cons</b>
<p>Typified by a concentrated period of collection, whether conducted in combination with general hard waste or as a separate e-waste collection. Participation largely controlled by communication to residents. Typically have quality issues.</p>	<ul style="list-style-type: none"> <li>Community service and ease of participation.</li> <li>Can collect large amounts of materials in a short time frame.</li> <li>Able to be co-ordinated with other recycling services.</li> <li>Can be timed to collect a steady stream of material.</li> </ul>	<ul style="list-style-type: none"> <li>Potentially subject to scavenging.</li> <li>Poor quality and mix of materials means may not be attractive to co-regulatory arrangement.</li> </ul>

**Indicative collection and transport case studies**

As assessment of a number of existing services and types in metropolitan and regional South Australia provides an indicative guide to the costs associated with the collection and transport of television and computer waste across different types of collection services.

The following table is for indicative purposes as it shows case studies of different types of collection. It illustrates that while the majority of services work within a narrow band of costs, there are some in which transport and / or recycling costs vary greatly.

The reasons for this are the proximity of collection to a recycler and the volumes, mix and quality of collected materials. It is also the case that the costs can vary over time and the term of any agreement with transport companies and recyclers can impact costs.



**(iii) Collection vehicles and related equipment.**

Whether in-house or contracted, the vehicles and loading/unloading equipment required to collect and transport materials in the case of hard waste collection, event based collection or at-call collection require their operations to be conducted in accordance with regulatory arrangements for the movement of e-waste and any relevant application of the Australian Dangerous Goods Code (ADG).

Existing requirements are set out in such documents as Australian Dangerous Goods Code Information Guide 7 (ADG7) and associated South Australian regulations that govern the transport of dangerous goods. ADG7 sets out the requirements for transporting of hazardous substances by road or rail, and each Australian state and territory has passed complementary legislation that gives legal effect to the Code. Administration of the Code is the responsibility of each state and territory, and in South Australia the Competent Authority is Safework SA. A link to further information is provided at Appendix B.

**(iv) Site management:**

The Environment Protection Authority South Australia (EPA SA) is the agency responsible for determining whether a business or activity requires a licence setting out conditions to regulate activities that have the potential to harm the environment through emissions to air, water, is odorous or noisy. Some recycling facilities in SA are not required to have a licence, however, this depends upon the nature, duration and risk associated with the activity. A link to further information is at Appendix B.

**(v) End-of-life television and computer acceptance, handling and management.**

Conducted to ensure protection from theft and/or vandalism, exposure to the elements, exposure of people to hazardous substances and to limit damage or breakage.

**(vi) Storage facilities, containment arrangements and security.**

Protection from exposure to the elements, no uncontrolled tipping and need for containers that minimise damage in transport and ensure effective recovery of materials.

Key features of a permanent collection facility may include:

- A location easily accessible to householders and small businesses that is secure and free of hazards.
- Clear signage informing the public of access times, what materials are or are not accepted, traffic movement and any required or appropriate warnings.
- Separate receipt and storage areas for televisions and computers segregated from any other material disposal on site.
- Receipt and handling processes to ensure there is no uncontrolled tipping of products.
- Receipt areas to ensure there is no release of hazardous substances to air, water or soil and appropriate protection from exposure to the elements.
- Containers and storage areas of appropriate design and including coverage to ensure materials are not exposed to the elements.
- Forklift and other equipment for handling and movement.
- Appropriate site security to protect materials from theft or damage.
- An emergency response plan to respond to any incidents and accidents.

The above is not exhaustive and existing sites with features such as paved and roofed areas, storage facilities, security and fencing, administrative areas and amenities may be considered suitable and would therefore not require as much capital investment as a greenfield site. It is a matter for each approved co-regulatory arrangement to assess a site's suitability and whether it meets the standards required.

**(vii) Staffing levels, qualifications and training.**

As required to provide the collection service and meet the required standards.

**(viii) Occupational Health, Safety and Environment systems.**

In accordance with environmental regulations including permits or certification for operating the service or facility and any related requirements in respect to stockpiling, air emissions, leachate and run-off or other discharges. Specific requirements such as those for the handling of material, provision of personal protection equipment and staff qualifications and training.

The Safework SA website provides a number of existing nationally approved Codes of Practice published by Standards Australia and Safe Work Australia and a number are also adopted as the South Australian code. A link to further details is at Appendix B.

Safe Work Australia is currently working on a new Code of Practice specifically for the e-waste recycling sector. This will aim to ensure Australia-wide adoption of work health and safety compliance requirements by the e-waste recycling industry, plus set out compliance requirements and provide guidance on practical risk control and hazard identification.

In preparing for compliance in the interim, Codes that may be relevant to the operators in the new recycling Scheme could include the following:

- Code of Practice (COP) for manual handling
- COP for Noise Management and Protection of Hearing
- COP for the Preparation of Material Safety Data Sheets
- COP for the control of workplace hazardous substances
- COP for the labelling of workplace substances.

**(ix) Legal compliance.**

Ensuring compliance with all applicable regulatory requirements including, as required, South Australia regulations for the management, transport and tracking of e-waste, Australian Dangerous Goods Code and Privacy Legislation.

**(x) Inventory management.**

Systems as may be required by an approved co-regulatory arrangement.

**(xi) Data management and reporting.**

Tracking of quantities and sources of end-of-life televisions and computers reported in units and weights with records made available for audit as required by the approved co-regulatory arrangement. This may not be directly the responsibility of a Council unless it is the operator of the collection service.

**(xii) Communications and education.**

Communication strategies normally employed by the local government to provide information to the community, plus collection site requirements for signage providing instructions on details of the service available.

**(xiii) Recycling arrangements**

Approved co-regulatory arrangements are generally seeking to engage with recycling services themselves. If this is the case, it means a Council collection service may be expected to prepare the materials for collection by the recycler or other transport provider. If this is not the case, Council may consider its existing transport arrangements, what, if any, current agreements it has with a recycler and how these may be incorporated with the approved co-regulatory arrangement's requirements.

### **3 Communications and education**

Whether a Council seeks to participate in the Scheme or not, the Scheme regulator, co-regulatory arrangements, State and Territory Governments and local government itself expects that Councils will still be critical links in communication and education. It is expected that even though co-regulatory arrangements will be required to conduct communications programs and the Australian Government is developing communication tools, residents will continue to turn to their local Council for information.

There are a number of elements of the Scheme which will assist local government in this regard.

#### ***Co-regulatory arrangements and communication***

Approved co-regulatory arrangements are required to have communication plans and programs in place to inform the public about their services. They need to ensure there is information available about when and where collection services will be available and what types of services will be available.

They are also required to give notice to relevant Councils in the areas where they will be providing services, whether they are working with those Councils or not.

#### ***Australian Government support***

The Australian Government has been undertaking a national communications program to assist with development of the Scheme and will be providing on-going communications support.

The communications program is under development but is aimed at providing local government (as well as recyclers and charities) with tools to enable consistent, timely and appropriate information is provided to the community.

Initial indications are that local government will be provided with a toolkit containing general information plus printable flyers, posters and fact sheets along with generic articles for newsletters and websites. It is envisaged these will be in a form that local governments can tailor to ensure it suits their communications and branding requirements.

#### ***Zero Waste SA***

Zero Waste SA (ZWSA) provides information to householders and small businesses regarding where to take a range of items for recycling through the online Recycle Right search engine. The ZWSA website also provides information in the form of fact sheets, frequently asked questions, reports and links regarding recycling and resource management. In addition, ZWSA provides recycling advice and information through the Recycle Right Hotline.

As the Scheme rolls out, ZWSA will seek to obtain the most up to date information regarding permanent drop off locations, take back events and other forms of collection arrangements that will exist as part of the Scheme. ZWSA will seek to provide information through the ZWSA website and the Recycle Right Hotline regarding the 'whole of state' coverage as the Scheme becomes established in metropolitan, regional and remote areas by December 2013.

**Appendix A: Further information and contacts.**

Zero Waste SA	<p>www.zerowaste.sa.gov.au                  Erin Henson, Program Manager                  Email: erin.henson@zerowaste.sa.gov.au                  Phone: 08 8204 1576</p>
Australian Government, Department of Sustainability, Environment, Water, Population and Communities	<p>www.environment.gov.au/ewaste                  Email ewaste@environment.gov.au</p>
Approved co-regulatory arrangements	<p><b>Australia New Zealand Recycling Platform</b>                  Carmel Dollison, General Manager                  Email: Carmel.Dollison@anzrp.com.au                  Phone: 03 9412 5115                  Mobile: 0434 608 314</p> <p><b>DHL Supply Chain</b>                  Mark Phillips                  Account Manager - Special Projects                  Email: Mark.Phillips2@dhl.com                  Phone: 02 8759 7148                  Mobile: 0419 474 348</p> <p><b>E-Cycle Solutions / QLS Logistics (televisions only)</b>                  Sandy McGregor                  Email: sandy@vic.qlslogistics.com.au                  Phone: 03 9706 5966                  Fax: 03 9706 4138</p>
Proposed co-regulatory arrangements	<p><b>Sims Recycling Solutions</b>                  Zoltan Sekula, Manager – Product Stewardship                  Email: product.stewardship@simsmm.com                  Phone: 02 8708 2015                  Mobile: 0418 360 057</p>
Stakeholder reference group and demand management facilitator	<p><b>Nick Harford</b>                  Email: nick@eqlomg.com                  Phone: (03) 9690 8090                  Mobile: 0419 993 234</p>

## **Appendix B: Further information.**

A guide for local government is also available and further details of the Scheme can be found at [www.environment.gov.au/ewaste](http://www.environment.gov.au/ewaste) or by emailing [ewaste@environment.gov.au](mailto:ewaste@environment.gov.au)

The interim industry standard can be found at the Australia New Zealand Recycling Platform at [www.anzrp.com.au](http://www.anzrp.com.au)

Australian Dangerous Goods Code

<http://www.ntc.gov.au/viewpage.aspx?documentid=01147>).

Site licence issues, Environment Protection Authority of South Australia.

<http://www.epa.sa.gov.au/licensees>

Safe Work SA

[http://www.safework.sa.gov.au/show\\_page.jsp?id=5892](http://www.safework.sa.gov.au/show_page.jsp?id=5892).

### Appendix C: General location map.

The following map from the Australian Government Department of Sustainability, Environment, Water, Population and Communities shows the general location classifications for the collection services.

## ABS Remoteness Classification Structure

