

**Australian
Mobile Telecommunications
Association**

Mobile Telecommunications Industry Statement of Commitment to Mobile Phone Recycling



Executive Summary

The Australian Mobile Telecommunications Association's (AMTA) vision is to promote an environmentally, socially and economically responsible, successful and sustainable mobile telecommunications industry in Australia.

This document outlines AMTA and its participating members' commitments over the next five years to significantly improve community awareness and participation in mobile phone recycling.

AMTA will report annually on its performance against the key indicators listed in this document and will review and refine its strategies and indicators regularly in consultation with government and the community to ensure continual improvement in the performance of the program.

AMTA considers this national statement of commitment as the next step along the path towards the mobile phone industry achieving its long term vision of an environmentally sustainable industry, which minimises the use of resources through product stewardship, including the environmentally sound disposal of all mobile phones at the end of their useful life.

Introduction

Mobile phone use in Australia

Today there are over 21 million subscribers in Australia with an estimated mobile penetration rate of more than 90%. The Net Annual Import of mobile phone units into Australia over the past two years has been on average 8.1 million handsets¹.

Consumer behaviour - market research findings

Independent market research² conducted annually by IPSOS on behalf of the mobile phone industry into mobile phone use, consumer attitudes and behaviours since 2005 shows that most people now buy a new mobile phone every 12-24 months.

The most recent (Feb 2008) research also shows that

- over 80% of mobile phone users choose to either keep or pass on their previous mobile phone,
- seven out of 10 mobile phone users have at least one old mobile phone at home,
- three out of 10 people have 2 or more at home,
- there is an estimated 14.3 million unused handsets that are being stored in homes or at work
- 60% of people plan to keep their current phone as a spare or back up
- less than 15% of people discard their previous mobile phone by either recycling it, throwing it in the rubbish or their phone has been lost or stolen.

¹ See Definitions and formula to calculate Net Annual Import. 8.1 million units weigh about 1,620 tonnes assuming an average unit weight of 0.200g. Each unit includes a handset, battery, charger and ear piece.

² Independent online survey conducted by IPSOS on behalf of AMTA of 650 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

What's in a mobile phone?

Mobile phones contain a diversity of plastics and metals of which 90% or more can be recovered and reused by recycling.

Preliminary life cycle analysis of the recycling process by Energetics Pty Ltd showed that using materials recovered from mobile phones to create new products like plastic fence posts, stainless steel, batteries and jewellery, saves up to 90% of the greenhouse gases compared with using virgin resources in these products.

Mobile phones do contain some elements that can potentially harm the environment and human health if not handled properly. These elements include cadmium, lead, mercury and brominated plastics.

The use of these potentially hazardous materials is declining as a result of the European Union's Restriction of Hazardous Substances Directive introduced on 1 July 2007. The majority of handsets imported into Australia now comply with this directive.

Mobile phone industry's response

The Australian Mobile Telecommunications Association (AMTA) is the peak national body representing Australia's mobile telecommunications industry. AMTA's vision is to promote an environmentally, socially and economically responsible, successful and sustainable mobile telecommunications industry in Australia.

AMTA's members include mobile phone carriers and service providers, handset manufacturers, retail outlets, network equipment suppliers and associated businesses, specialised consultancy services

In late 1998 the AMTA voluntarily established its mobile phone industry recycling program to prevent mobile phones from ending up in landfill by providing a free recycling service to mobile phone users.

The program is governed by a Memorandum of Understanding between the members that outlines the responsibilities and contributions of each participating member and AMTA as the entity contracted to run the program for participating members.

Its core principles are

- voluntary participation of industry members
- free to consumers, retailers, local councils, businesses, schools, universities and government agencies
- best environmental practice
- a whole-of-industry partnership between carriers, manufacturers, retailers

The industry (i.e. handset manufacturers and service providers) funds the program by charging an advance recycling fee (i.e. levy) to each participating member³ based on the number of handsets shipped into Australia. No revenue is raised through the sale of mobile phones and their components from recycling, refurbishment or resale. The program is run on a not for profit basis. Its primary method of collection is via a network of public collection points across Australia. All recycling is to the highest international environmental standards.

³ Participating members as at 1 July 2008 - *Handset and Accessory Manufacturers* - i-Mate, LG Electronics, Motorola, Nokia, NEC, Samsung Electronics Australia, Sharp, Sony Ericsson, Force Technology, *Service Providers* - Telstra, Optus, Vodafone, Hutchison ("3"), Virgin Mobile, AAPT

In late 2004 the industry grew concerned about the lack of growth in collection rates and reviewed the program. The primary issues identified were a poor level of community awareness (46%), a strong desire for people to keep their mobile phones, an invisible collection network, lack of transparency on the recycling processes and a lack of resources to implement the program.

In response to these findings the industry launched a three year strategic action plan in December 2005 to get the recycling program back on track. Under the new brand of MobileMuster, the primary goals of the action plan were, by the end of 2008, to;

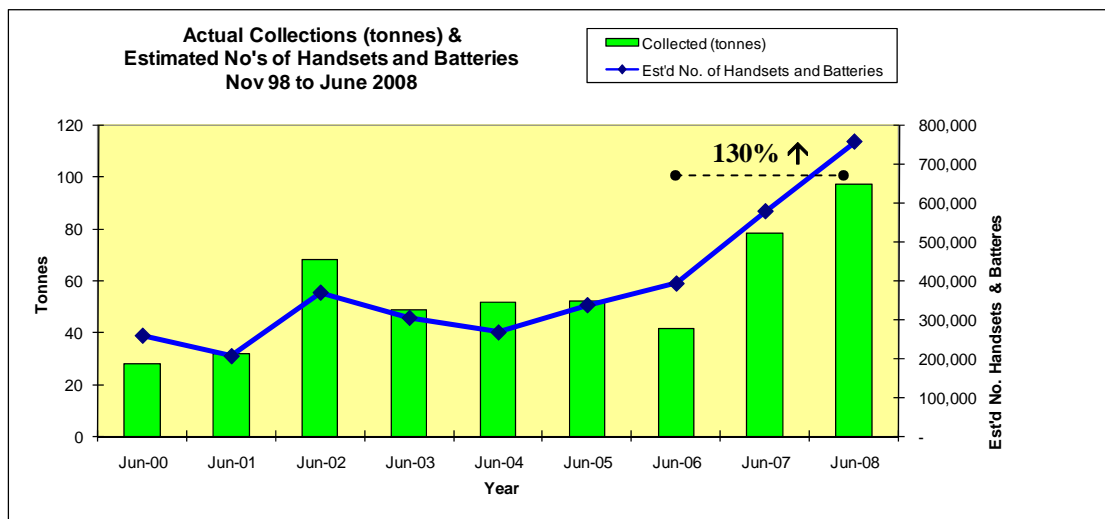
- treble collections (from 50 tonne per annum to 150 tonne per annum),
- halve the rate of disposal to landfill (from 9% to 4.5%) and to
- boost community awareness (from 46% to over 80%).

These goals are being achieved by improving the program’s transparency, accessibility, visibility and sustainability.

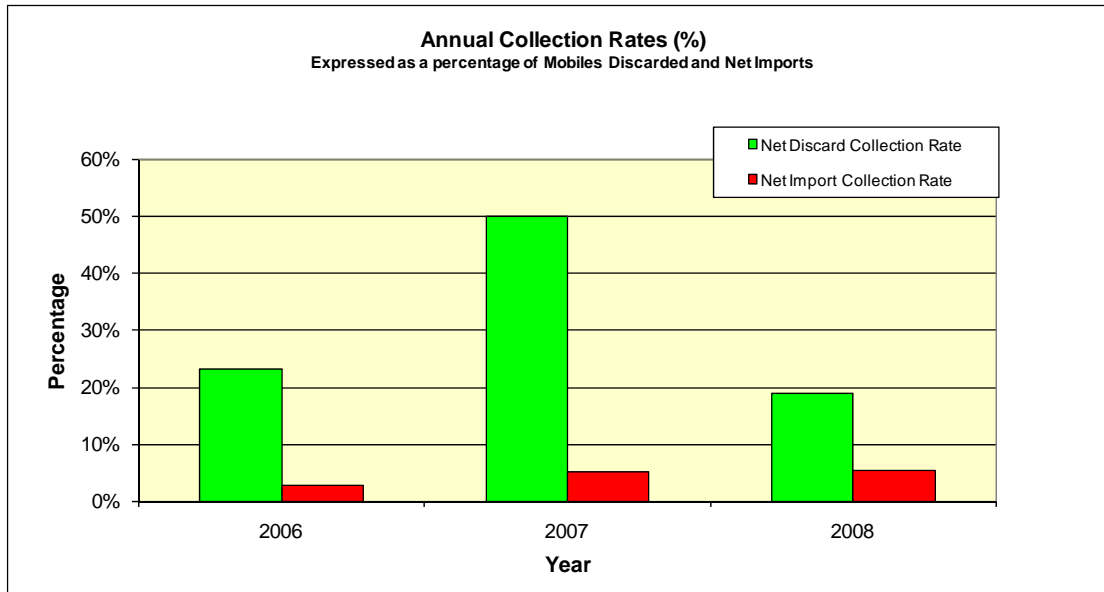
Collections and Disposal of Mobile Phones

Since the industry program started in late 1998 through to 30 June 2008, over 499 tonnes of mobile phone components including 3.5 million handsets and batteries have been collected and recycled.

Annual collections from July 2005 increased by 130% from 42 tonnes (05-06) to 97 tonnes (07-08). With the number of batteries and handsets collected increasing by 93% from 391,000 (05-06) to 755,200 (07-08) over the last two years.



At June 2008 the Annual Collection Rate of Discarded Mobiles (i.e. mobile phones, batteries and chargers no longer retained by mobile phone users) was 18.9% and the Annual Collection Rate of Net Imports was 5.5%.



Since 2005 awareness of mobile phone recycling has jumped from 46% to 75%⁴. The percentage of people who said they threw out their old mobile phone dropped from 9% to 4% for this same period⁵.

A review of household garbage audit data in NSW and the ACT from 2004 to 2007 by APrince Consultants revealed that only 3 mobile phone items were identified in 56,000 kg of garbage, indication a very low rate of disposal of mobile phones to landfill.

⁴ Feb 2008 – independent online survey conducted by IPSOS on behalf of AMTA of 650 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

⁵ Feb 2008 - independent online survey conducted by IPSOS on behalf of AMTA of 650 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

The Next 5 years 2008 - 2013

The industry believes that its voluntary extended producer responsibility scheme, has delivered good results, particularly with the increase in awareness from 46% to 75% and the reported decrease in the disposal of old mobiles to landfill from 9% to 4%.

However the industry also recognizes that collection rates remain low and that the level of phones stored in homes and in offices needs to be addressed further.

The **primary goals** of the program remain the same, i.e.

- increase collections,
- reducing disposal to landfill,
- increase awareness, and
- recycling offered free to consumers and retailers.

The **key performance indicators** of the program are⁶.

Collection KPIs

- Annual Collection Rate of Discarded Mobiles
- Annual Collection Rate of Net Imports

Recycling KPIs

- Diversion from Landfill
- Estimated Recycling Rate (*i.e. estimated materials recovered*)

Consumer Behaviour

- Personal Storage Rate of mobile phones at home or work
- Disposal to Landfill Rate
- Awareness Rate of Mobile Phone Recycling

Industry Involvement KPIs

- Manufacturers and Mobile Network Carriers

The **targets** for the next five years are to

Collection KPIs

- Increase the annual collection for discarded phones to over 65%, up from 17%
- Increase the annual collection rate of net imports to more than 20% , up from 5.5%
- Diversify collection methods to include free postage paid recycling satchels and kerbside recycling

Recycling KPIs

- Maintain diversion from land fill rate greater than 90%
- Maintain the estimated recycling rate (*i.e. materials recovered*) greater than 75%

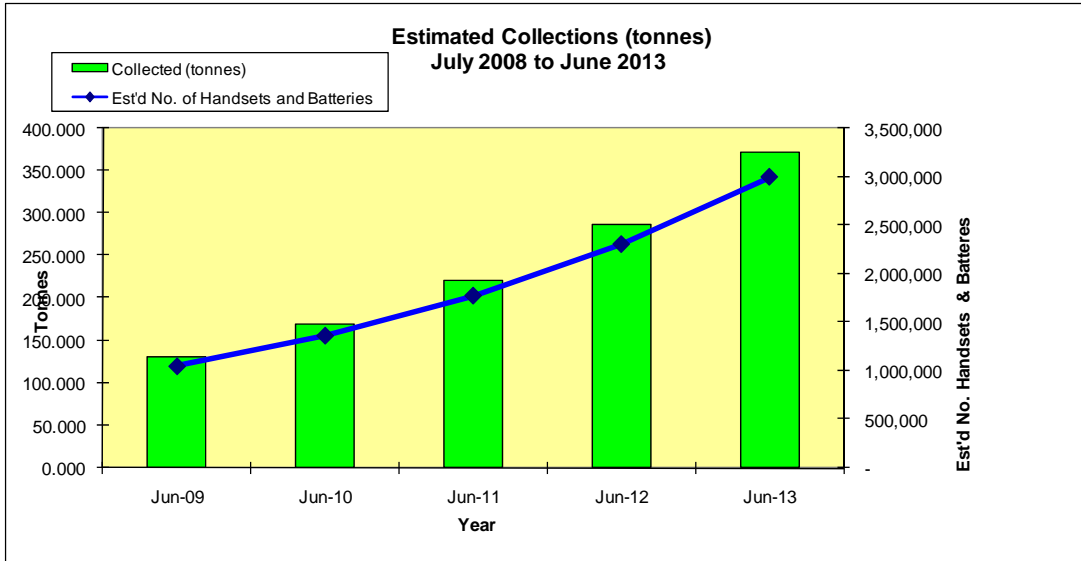
Consumer Behaviour

- Decrease personal storage rate of 2 or more phone to less than 18%, down from 32%
- Decrease disposal to landfill to less than 2%, down from 4%
- Increase awareness to more than 85%, up from 75%

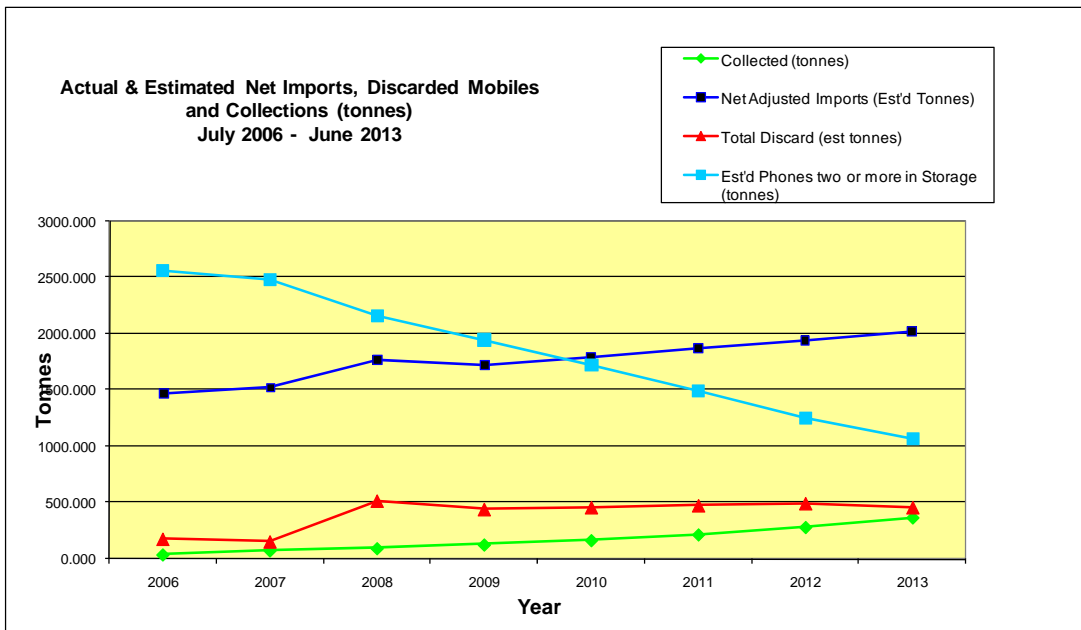
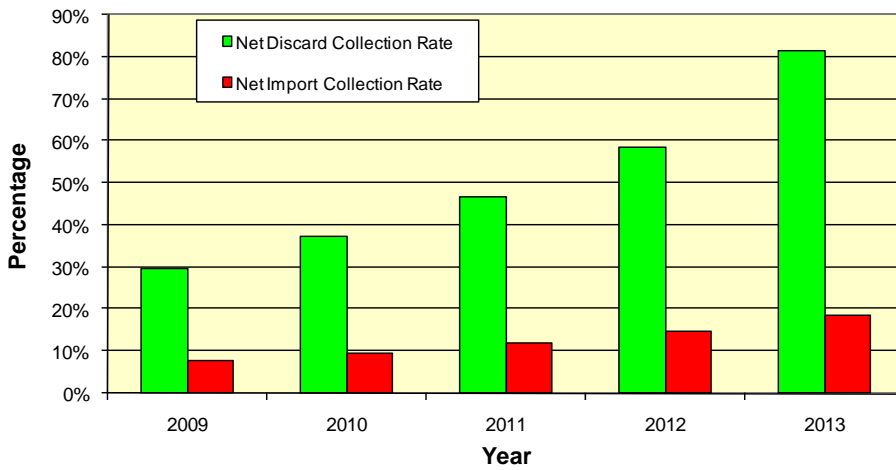
Industry Involvement KPIs

- Maintain whole of industry participation greater than 90%

⁶ See Definitions of each indicator and how it is calculated



Estimated Annual Collection Rates (%) Expressed as a percentage of Net Imports and Mobiles Discarded



These targets will be achieved by continually improving the *transparency, visibility, accessibility, awareness* and *sustainability* of the program. Specific strategic actions include:

Accessibility & Collections

- Improving mobile phone retail staff advocacy of recycling to customers, offering incentives, maintaining key points of sale and auditing 75% of mobile phone stores annually
- Distributing free postage paid recycling satchels via Australia Post's network, inside mobile phone packs and directly to householders
- Collecting mobile phones using existing kerbside recycling infrastructure
- Encouraging and supporting schools to recycle mobiles
- Maintaining and supporting other collection channels e.g. local government, service centres and businesses.

Visibility and Awareness

- promoting and advertising MobileMuster nationally
- educating mobile phone users, local councils, retailer, recyclers and students why and how they can recycle mobile phones, and
- offering incentives /rewards to those who collect and recycle

Transparency

- monitoring disposal of handsets to landfill through annual market research and biannual landfill audits in consultation with State and local government agencies
- regular (i.e. annual or biannual) independent third party verification/review of local and overseas recycling processes to ensure environmentally sound management of wastes, ISO 14000 accreditation and compliance with international environmental standards
- annual public reporting on program performance against KPIs
- publishing recycling processes on website
- annual external financial audits

Sustainability

- ongoing engagement of telecommunications industry (i.e. manufacturers, service providers and major retailers) in the program
- recruiting other potential participants including battery/accessory manufacturers, distributors, PDA manufacturers
- providing free recycling service to mobile phone retailers
- continually improving and reviewing collection strategies to ensure long term program sustainability

Critical Success Factors

Key factors to achieving the proposed targets over the next five years include

- a significant shift in consumer behaviour away from storing old mobiles to recycling them;
- consumer uptake of free reply paid recycling satchels; and to a lesser extent
- improved advocacy by retail staff of mobile phone recycling to customers, and collection of mobile phones through kerbside services.

Appendix 1: Actual and Proposed Collection Rates

Table 1: Actual and Target Annual Collection Rates of Estimated Discarded* Mobiles (*=20% of net imports + estimated phones discarded from storage) in tonnes

	Annual Collection[#] (t) (A)	Est. Discarded Mobiles^{##} (t) (B)	% (=A/B)
First 3 Years			
• 2005-06	42	187	23%
• 2006-07	78	285	27%
• 2007-08	97	492	20%
Next 5 Years			
• 2008-09	130	372	35%
• 2009-10	170	387	44%
• 2010-11	220	402	55%
• 2011-12	285	418	68%
• 2012-13	370	393	94%

mobile phone components only

Estimation only, net imports is based on an annual shipment growth rate of 4% and an average mobile phone unit weight of 0.2kg, see definitions for calculation of estimated phones discarded from storage - these are subject to change.

Table 2: Actual and Target Annual Collection Rates expressed as a percentage of Net Imports in tonnes

	Annual Collection[#] (t) (A)	Net Imports^{##} (t) (B)	% (= A/B)
First 3 Years			
• 2005-06	42	1,474	2.8%
• 2006-07	78	1,526	5.1%
• 2007-08	97	1,775	5.5%
•			
Next 5 Years			
• 2008-09	130	1,729	8%
• 2009-10	170	1,798	9%
• 2010-11	220	1,870	12%
• 2011-12	290	1,945	15%
• 2012-13	370	2,023	19%

mobile phone components only

Estimation only, based on an annual shipment growth rate of 4% and an average mobile phone unit weight of 0.2kg, these are subject to change.

Definitions

Annual Collection Rate of Discarded Mobiles

$$\text{ACRDM} = \frac{\text{Annual Collection}}{\text{Discarded Phones}} \times 100$$

Annual Collection = Weight received by recycler measured in kg and converted to tonnes

Discarded Phones = Manufacturer Reported Imports – Estimated Manufacturer Exports - (Kept + Given Away) + estimated phones discarded from storage

Manufacturer Reported Imports = measured in units⁷ (i.e. mobile phone unit = handset, battery, charger and accessory) and converted⁸ to weight. .

Estimated Manufacturer Exports = measured in units and converted to weight⁹. The figure has been calculated to reflect the proportion of manufacturer shipments that have been exported and not total Exports as reported by Informark, i.e. Exports¹⁰ divided by Imports¹¹ – about 9% is applied to the number of Manufacturer Reported Imports to determine estimate the number of Manufacturer Reported Imports would be exported.

Kept – calculated estimate based on annual market research¹² on proportion of people who keep their previous phones for further use including “kept it just in case”, “not working but kept it anyway” and “still using it” – would be % of Manufacturer Reported Imports - measured as units and converted to weight¹³.

Given Away – calculated estimate based on annual market research¹⁴ on proportion of people who pass on their previous phones for further use including charity, traded in, or gave it to someone else – would be % of annual handset shipments - measured as units and converted to weight¹⁵.

Estimated phones discarded from storage – calculated by subtracting the *estimated number of phones in storage in current year* from the *estimated number of phones in storage in the previous year*. Where the *estimated number of phones in storage* in any year is calculated from the percentage of people in the annual market research who say they have one or more phones in storage multiplied by the number of phones they say they have in storage (i.e. 2, 3, 4 or more)¹⁶.

⁷ Data sourced from Informark - Manufacturer Shipments.

⁸ It is assumed a mobile phone unit weighs 0.2kg

⁹ It is assumed a mobile phone unit weighs 0.2kg

¹⁰ Data sourced from Informark - Manufacturer Shipments.

¹¹ Data sourced from Informark - Manufacturer Shipments.

¹² Independent online survey conducted annually by IPSOS on behalf of AMTA of 670 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

¹³ It is assumed a mobile phone unit weighs 0.2kg

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¹⁵ It is assumed a mobile phone unit weighs 0.2kg

¹⁶ Data sourced from ABS population statistics and independent online survey conducted annually by IPSOS on behalf of AMTA of 670 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

Annual Collection Rate of Net Imports

$$\text{ACRNI} = \frac{\text{Annual Collection}}{\text{Net Imports}} \times 100$$

Annual Collection = Weight received by recycler measured in kilograms and converted to tonnes

Net Imports = Manufacturer Reported Imports – Estimated Manufacturer Exports

See previous indicator for definitions of Manufacturer Reported Imports and Estimated Manufacturer Exports.

Diversion from Landfill

This indicator measures the weight of mobile phone components (i.e. handsets, batteries, plastics and accessories) received by the recycler that have not gone to landfill through the initial recycling process at MRI. It will be expressed as a percentage which is calculated by dividing the *total weight of mobile phone components diverted from landfill* by the *annual collection*.

Estimated Recycling Rate

Due to lack of specific data on the processing of mobile phone components from third party recyclers this KPI can only be an estimate of the proportion of materials recovered for reuse from mobile phone components recycled based on industry reported recovery rates for particular materials or components where data is available.

$$\text{Estimated Recycling Rate} = \frac{\text{Estimated Weight of Materials Recovered for Reuse}}{\text{AMTA Annual Collection Wt}} \times 100$$

Estimated Weight of Materials Recovered for Reuse = Estimated weight of all materials recovered from mobile phone components accepted for recycling by all recyclers involved in the processing of mobile phone components for further productive use. This estimate is based on industry reported recovery rates for particular materials or components where data is available.

Storage Rate of Mobile Phones at home and work

Derived from annual market research¹⁷ that measures the percentage of mobile phone users having two or more mobiles in storage.

Disposal to Landfill Rate

This is currently measured through annual market research¹⁸.

¹⁷ Independent online survey conducted annually by IPSOS on behalf of AMTA of 670 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

¹⁸ Independent online survey conducted annually by IPSOS on behalf of AMTA of 670 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

Awareness Rate of Mobile Phone Recycling

This is currently measured through annual market research¹⁹.

Industry Participation Rate

Industry participation is defined as the proportion of mobile phone handset manufacturers and mobile network carriers operating in the Australian mobile telecommunications market that contribute financially to the industry's mobile phone industry recycling program.

This is measured in two parts.

$$\text{Manufacturers}^{20} = \frac{\text{Manufacturer Shipments}}{\text{Imports}}$$

&

$$\text{Mobile Network Carriers}^{21} = \text{Total Market Share (by revenue) of each Mobile Network Carrier contributing financially to MobileMuster}$$

Participating members as at 1 July 2008

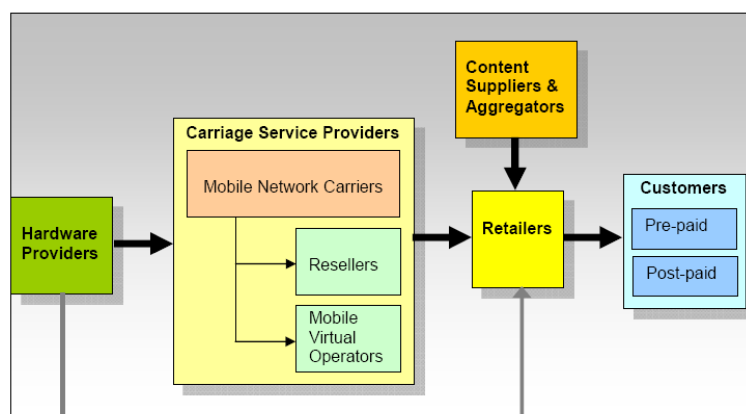
Handset Manufacturers- i-Mate, LG Electronics, Motorola, Nokia, NEC, Samsung Electronics Australia, Sharp, Sony Ericsson

Battery importers - Force Technology

Carriage Service Providers – Mobile Network Carriers- Telstra, Optus, Vodafone, Hutchison (“3”)

Resellers/Mobile Virtual Network Operators - Virgin Mobile, AAPT

FIGURE 2-1: THE MOBILE TELECOMMUNICATIONS INDUSTRY



Source – Access Economics 2008 *Australian Mobile Telecommunications Industry, Economic Significance and contribution*

¹⁹ Independent online survey conducted annually by IPSOS on behalf of AMTA of 670 mobile phone users, aged between 16 and 64 years old randomly selected across Sydney, Melbourne, Adelaide and Perth.

²⁰ Data sourced from Informark

²¹ Data quoted is for 2006/07 and sourced from IBISWorld Report J7122 February 2008 as referenced in the Access Economics 2008 “Australian Mobile Telecommunications Industry Report.