



MOBILEMUSTER'S 2013-14 ANNUAL REPORT

MOBILE AUSTRALIA: RECYCLING AND
REUSE IN A GLOBAL CONTEXT



Microsoft

SAMSUNG
TURN ON TOMORROW

MOTOROLA

htc

HUAWEI

ZTE 中兴

FORCE

T

OPTUS yes

vodafone

Virgin
mobile

ABOUT THIS REPORT

This report is the second in a series – its predecessor, Mobile Australia: A report into how we use and recycle, provides Australia's most comprehensive and publically reported data on mobile phone usage, recycling attitudes and uptake, and any major changes within mobile phone recycling both here in Australia and overseas.

KPMG and PricewaterhouseCoopers have independently audited all performance data within this report.

ABOUT MOBILEMUSTER

MobileMuster is Australia's only not-for-profit, Government accredited mobile recycling program, established and funded by the mobile phone industry since late 1998. The program adopts a product stewardship model based on circular economy principles where we promise to keep old mobiles and accessories out of landfill and recycle them in a safe, secure and ethical way, placing reusable commodities back into the supply stream.

MobileMuster is managed by the Australian Mobile Telecommunications Association (AMTA) on behalf of its members; Microsoft, Samsung, Motorola, HTC, Huawei, ZTE, Force Technology, Telstra, Optus, Vodafone, Virgin Mobile, who fund the program voluntarily.



MobileMuster aims to

- keep old mobiles out of landfill
- increase awareness of recycling
- optimise resource recovery, and
- provide a free recycling service to consumers, retailers and workplaces

The program is committed to improving the visibility, accessibility, transparency and sustainability of the service.



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KEY ACHIEVEMENTS & BENEFITS

KEY ACHIEVEMENTS

In May 2014, MobileMuster was accredited as the first voluntary product stewardship scheme under the Federal Government's Product Stewardship Act 2011. Federal Minister for the Environment, Greg Hunt, announced the accreditation as a 'green tick' for the program, recognising the significant achievements of the mobile phone industry, its investment of over \$36 million into the program and future commitments.

As part of this accreditation, MobileMuster and its members have committed to increase available collection rates of mobile phones from 50 to 55 per cent and volumes from 87 tonnes to 127 tonnes per year over the next 5 years, as well as increase consumer and industry engagement (see Appendix 1).



This is the first product stewardship scheme to be accredited by the Federal Minister of the Environment under the Product Stewardship Act.



2013

JULY

MobileMuster launched Australia's most comprehensive education kit designed to teach students about the lifecycle of mobile phones and the recycling process. The education kit has incorporated a curriculum-linked Teachers Guide, MusterKids Zone, of digital interactive resources and practical workshops.

AUGUST



We created the largest e-waste art work from mobile phones.

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

JANUARY

FEBRUARY

MARCH

APRIL

MAY

JUNE

2014



By this time we had given over \$2,000 to the Salvos Stores (southern region) over the past 12 months, where MobileMuster gives \$2 for every kilogram of mobiles and accessories collected through Salvo's Stores¹.



At the end of this year we are supporting the Salvation Army's Christmas Appeal where we will give them \$2 for every kilogram of mobiles and accessories recycled between 1 December 2014 and 31 January 2015.

1. Salvos Stores (Southern region)

BENEFITS

The mobile phone industry is committed to delivering real environmental and social benefits to the community through MobileMuster. As a result of our activities since we started the program we have:

REDUCED THE NEED TO MINE **36,295 TONNES** OF PRECIOUS METALS



WHICH HAS ENVIRONMENTAL BENEFITS EQUIVALENT TO:

PLANTING OVER **53,000 TREES**



KEEPING **2,400 CARS OFF THE ROAD**



PREVENTING **8,781 TONNES** OF CO₂ GREENHOUSE GAS EMISSIONS



DIVERTING **TONNES** OF POTENTIALLY HARMFUL SUBSTANCES FROM LANDFILL



GIVEN **\$4,100** TO THE SALVOS STORES (SOUTHERN REGION) SINCE 2010

HELPED PEOPLE IN NEED IN LAOS, AND MOZAMBIQUE THROUGH OXFAM'S UNWRAPPED PROGRAMS.



ENABLED LANDCARE GROUPS ACROSS AUSTRALIA **275,000 TREES** TO PLANT between 2007 and 2011 through our Old Phones, More Trees campaign.



PLUS OUR NEW TEACHERS GUIDE HAS BEEN DOWNLOADED BY MORE THAN **2,500 TEACHERS**



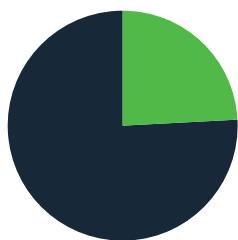
since October 2013, building on MobileMuster's schools program in which 2,000 schools and 1,000,000 students have participated.

STATE OF MOBILE PHONE RECYCLING AND USE IN AUSTRALIA

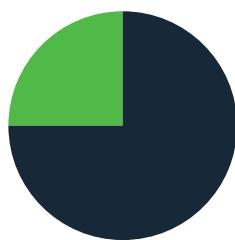
AMTA monitors the performance of MobileMuster against nine key indicators measuring changes in consumer behaviour, collection and recycling rates; diversion from landfill and industry involvement (see Appendix 2 and Definitions).

CONSUMER BEHAVIOUR

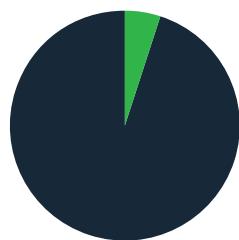
While community awareness of mobile phone recycling has dropped slightly to 80% due to a change in marketing strategy last year, people's desire to keep their old mobile phones instead of recycling them has remained steady at 37%. As a result the estimated number of handsets in storage at home or work has grown slightly from 23 million to 23.5 million. Still the percentage of people throwing their mobiles into the bin has remained low at 3%.



Only **23%** expect to keep their mobile phones less than 12 months.



Over a **QUARTER** of mobile phone users expect to keep their phone for two or more years.



The number of people who sold, traded or donated their old phone to charity is still around **5%** with many selling their phone via e-bay and friends, followed by the various online cash sites.

CONSUMER BEHAVIOUR	2011/12	2012/13	2013/14	
	Actual	Actual	Est'd	Actual
Personal Storage Rate (% users with 2 or more handsets at home)	40%	37%	37%	37%
Disposal to Landfill Rate	2%	3%	2%	3%
Awareness of Mobile Phone Recycling	82%	83%	>80%	80%

2. In people that have two or more unused mobiles at home

**MORE THAN
4,000**
PUBLIC DROP OFF POINTS
AUSTRALIA-WIDE

COLLECTIONS

With the maturity of the Australian mobile phone market, high adoption of smartphone devices and growing demand for mobiles in developing countries, we are seeing a downward trend in imports and an upward trend in exports (see Figure 1).³ Combined with high storage rates, the amount of phones available for recycling is decreasing over time, also taking into consideration people's desire to keep their old mobiles⁴.

Therefore, although the actual weight of phones collected has dropped from a peak of 97 tonnes in 2011/12 to 80 tonnes for 2013/14 the annual collection rates of available phones has grown from 42.6% to 45.6%. Similarly the number of handsets and batteries has increased to over 1 million handsets and batteries in 2013–14 (Figure 2) or just over 9% of net handset imports to Australia.

Consumer access to recycling remains extensive and convenient with more than 4,000 public drop off points Australia-wide plus the option of free post back using either our pre paid recycling satchels available with new phones or from Australia Post outlets or by downloading a mailing label from www.moblemuster.com.au.



3. As illustrated in Figure 1
4. Members imports dropped from 8.7m to 6.2m since June 2011, and exports grew from 1.4m in June 2010 to 1.9m in June 2014 (note in June 2011 there was a peak in exports of 2.2m)

There are also a further 3,000 MobileMuster units hosted by businesses, government agencies, schools, universities, service centres, manufacturers, distributors and carriers for their staff and students to recycle.

Whilst MobileMuster is the industry's official recycling program in Australia, AMTA was advised by two other recycling programs in Australia that they recycled 1565kg of mobile phones in 2013-14.

There are also a number of reuse programs operating in Australia including trade-in programs by MobileMuster members Telstra and Optus. Any phones that these programs cannot sell for reuse are recycled by MobileMuster for free.

Nearly 5%⁵ or 3.8 tonnes of components MobileMuster recycled in the last year came from recyclers and reuse programs.

COLLECTIONS	2011/12	2012/13	2013/14	
	ACTUAL	ACTUAL	EST'D	ACTUAL
Annual Collection Rate, Available Phones (%)	42.6%	53.1%	50%	45.6%
Annual Collection Rate, Net imports (%)	8.5%	9%	10.0%	9.1%
Mobile Phone Collections (weight - tonnes)	97	87	95	80
Member Shipments (units - millions)	7.80	6.67	6.55	6.20
Net Imports (units - millions)	6.67	5.67	5.57	5.15
Net Imports (weight - estimated tonnes)	1,134	964	946	876
Adjusted Exports (units - millions)	1.12	1.00	0.98	1.05
Estimated Available Phones (weight - tonnes)			189	175
Estimated Number Handsets & Batteries (units - millions)	0.85	0.99	1.08	1.00

5. Exact figure, 4.8% which is down from 13.4% in the previous year.

Figure 1: Total annual collections by weight (tonnes) – all mobile phone components

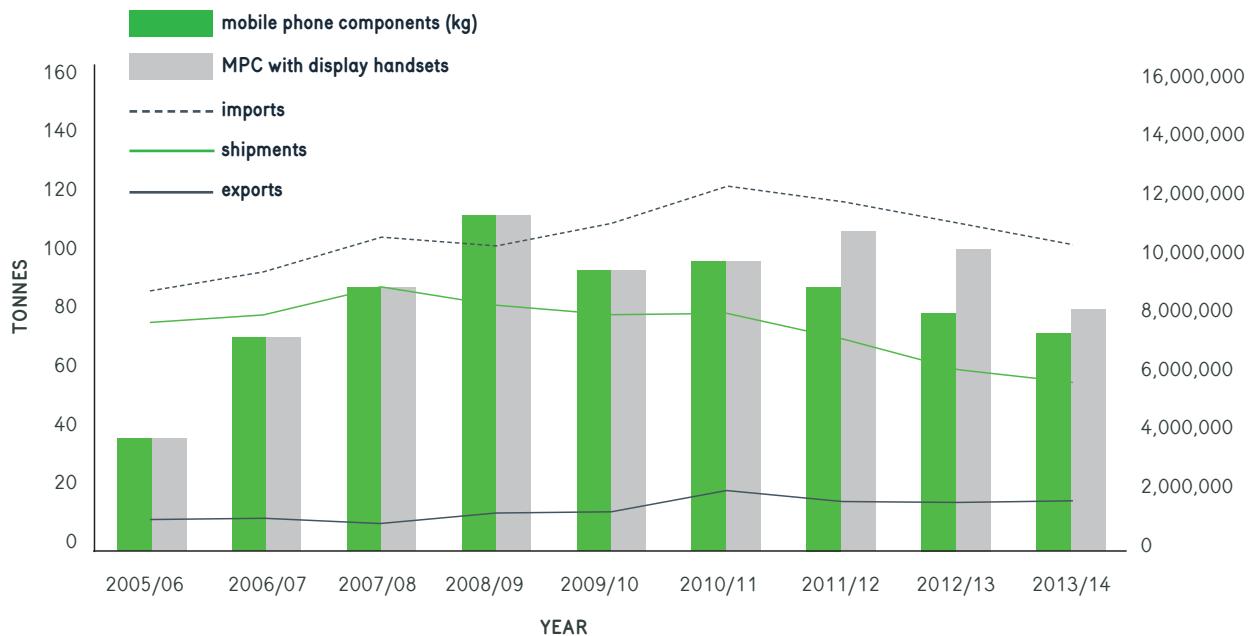
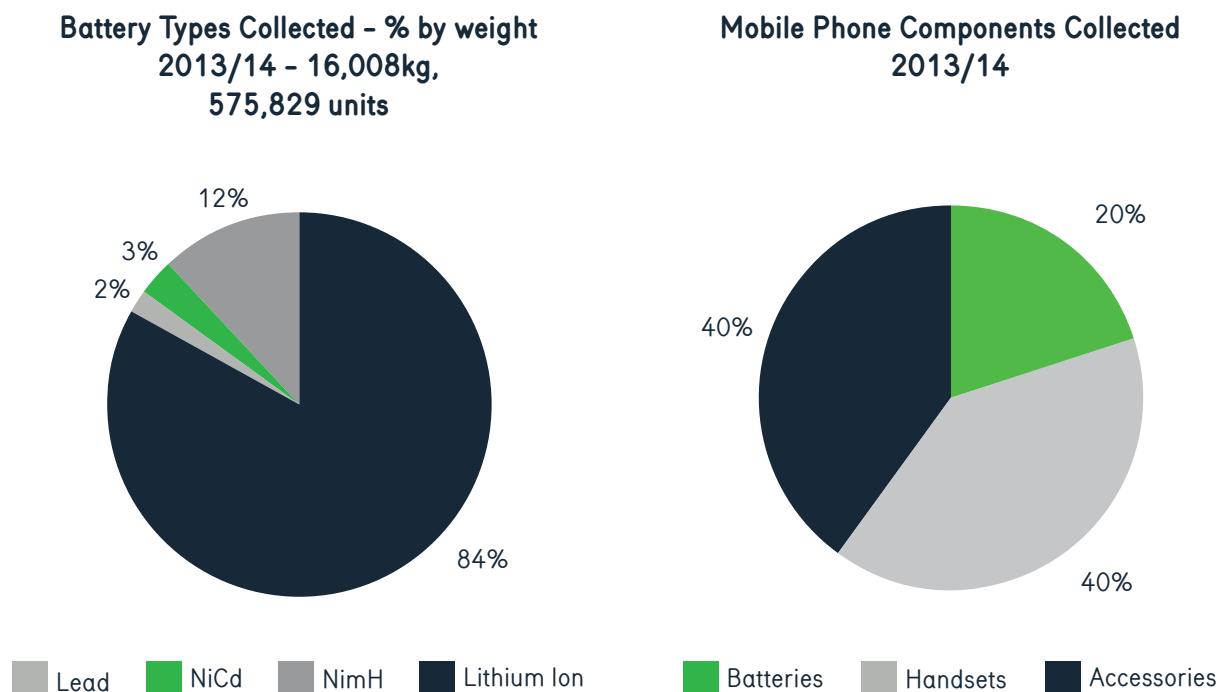


Figure 2: Total estimated number of handsets and batteries collected



The mix of mobile phone components received over the past 8 years has changed with more handsets being collected now than ever before. The amount of nickel cadmium batteries has also dropped substantially since 2005/06 with lithium ion batteries now representing 80% of batteries collected.



RECYCLING

MobileMuster has worked closely with its recycling partner TES-AMM Australia on the transparency of the downstream processes and accessing data at the point where the material turns from a waste to a resource. Our resource recovery rate⁶ and diversion from landfill⁷ has remained high at 94% and 98% respectively. MobileMuster is one of the only mobile phone recycling programs globally that openly reports its recovery rates and had them independently audited.

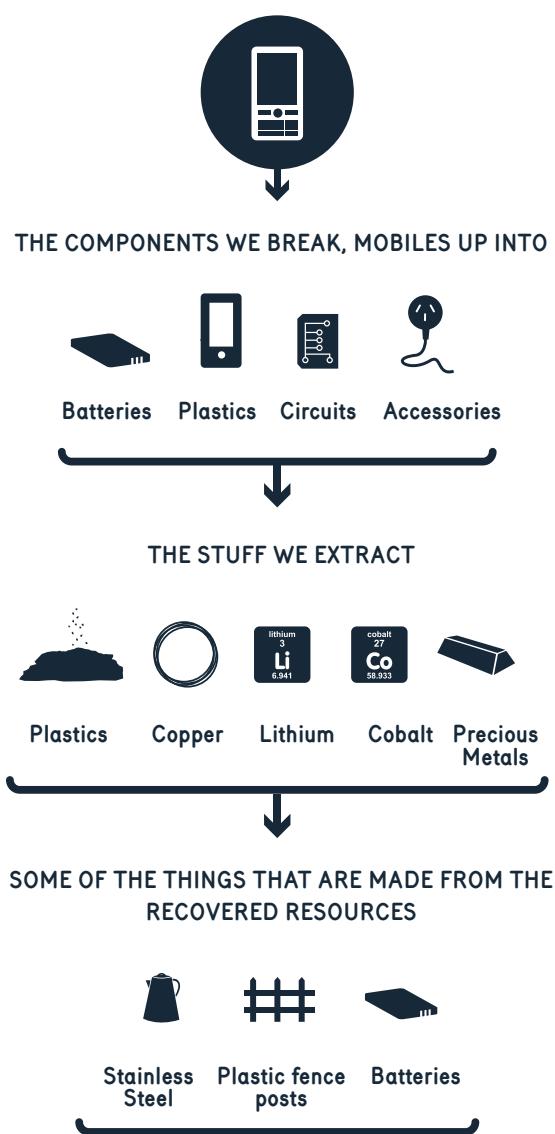
RECYCLING	2011/12	2012/13	2013/14	
	ACTUAL	ACTUAL	EST'D	ACTUAL
Diversion from Landfill	97%	99%	97%	98.3%
Recycling Rate (estimated material recovered)	93%	96%	96%	94%

6. The recycling rate or recovery rate as defined in the Australian Standard AS/NZS 5377:2013 (Appendix D3) is the percentage of the total of all output fractions, classified as sent for recycling and other material recovery or other recovery in proportion to the total of the input amount of non treated mobile phone components.
7. Diversion from landfill – measures the proportion of mobile phone components (i.e. handsets, batteries, plastics and accessories) collected by MobileMuster that, once sorted and dismantled by the primary recycler, are sent either to third party specialist recyclers for further processing or manufacturers for re-use, versus being sent to landfill. This indicator does not measure the proportion of mobile phone components recycled/materials recovered versus any residues sent to landfill by third party specialist recyclers' and manufacturers.



All mobiles, accessories and batteries collected by MobileMuster are sent to our recycler TES-AMM's facilities in Sydney or Melbourne, where they are dismantled into their core components put through further processed by its downstream recycling partners so the resources recovered can be placed back into the supply stream.

THE RECYCLE PROCESS



IN 2013-2014
80 TONNES
 OF MOBILE PHONE
 COMPONENTS DIVERTED:



7.23 TONNES	4.5 TONNES
PLASTIC	COPPER
85 KG	75 KG
CADMIUM	PRECIOUS METALS
1.67 TONNES	284 KG
ALUMINIUM	LEAD
12.68 TONNES	705 KG
STEEL	COBALT

BY RECOVERING AND REUSING
 THESE RESOURCES:

IT REDUCES THE
 NEED TO MINE
2,650 TONNES
 OF PRECIOUS METALS ORES
 (GOLD, SILVER COPPER)



OVER
640 TONNES
 OF CO₂ EQUIVALENTS IN GREEN
 HOUSE GASES WILL BE AVOIDED



WHICH IS THE SAME
 AS TAKING OVER
180 CARS
 PERMANENTLY OFF THE ROAD



OR PLANTING
3,900 TREES



INDUSTRY PARTICIPATION

Handset manufacturers that participated in the program in 2013-14 were Microsoft (Nokia), Samsung, Motorola, HTC, Huawei and ZTE. Each of these manufacturers voluntarily pays an advance recycling levy of \$0.30 per new handset shipped into Australia to fund MobileMuster.

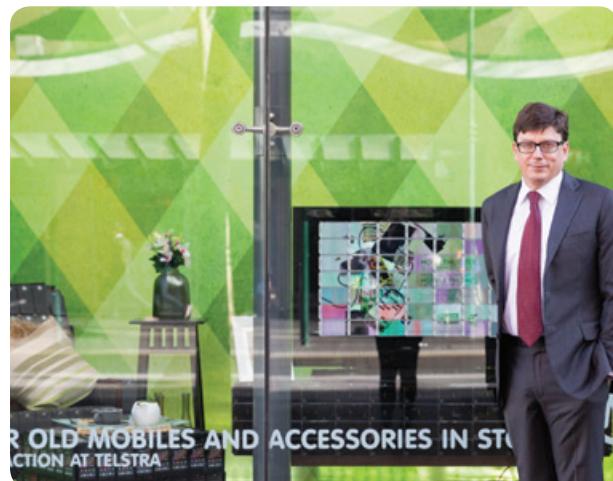
Together they represented 55% of the mobile phone handset market in Australia, down from 56% in the previous year. This drop in market share can be attributed to the growth in non-participating manufacturers such as Apple, Sony Mobile, LG Electronics and Research In Motion.

Australia's three network carriers Telstra, Optus, Vodafone Hutchison Australia and resellers Virgin Mobile continued to be actively involved and support the program, along with battery importer Force Technology.

Each of the carriers pays \$0.12 per handset of their share of new handsets shipped into the country to fund MobileMuster. Battery importer, Force Technology also contributes \$0.10 per new mobile phone battery imported into Australia.

85% of the mobile network service providers participate in the program, slightly down on previous years due to the gradual increase in other providers as a result of the introduction of VOIP.

In addition to funding the program members actively promote the program to customers and staff, both online and in-store.



INDUSTRY PARTICIPATION	2011/12	2012/13	2013/14	
	ACTUAL	ACTUAL	EST'D	ACTUAL
Manufacturers	61%	56%	56%	55%
Mobile Network Carriers	97%	91%	91%	85%

INTERNATIONAL CONTEXT

OVERSEAS PROGRAMS

There are numerous mobile phone recycling and reuse programs across the globe, however benchmarking program performance is challenging given the lack of consistency in reporting standards. However, there are a number of common challenges and trends irrespective of country or culture.

Hoarding of old mobiles is a common challenge, with many people keeping their old phones especially in developed countries which keep collection rates down. For example, United Kingdom recently reported they estimate more than 90 million unused phones being hoarded. When comparing collection rates most programs are collecting around 10% of imports for recycling, similar to MobileMuster. Figures on the amount of mobile phones that are collected for resale are limited, however there is substantial growth in this area given the demand for mobile devices in developing countries.

RECYCLING VS REUSE

Australia over the past five years has seen a steady growth in the buying and selling of second hand phones locally and overseas, through online cash back, fundraising programs and trading sites like eBay and Gumtree.

The majority of this is being driven by the strong demand for cheap phones in developing countries, where most of the second hand mobiles end up. AMTA recognises the value of reusing mobile phones socially and environmentally, however given the commercial opportunities from reselling mobile phones it has decided that reuse is more appropriately facilitated by its members and other organisations individually rather than through MobileMuster.

AMTA also recognises that there are potential risks associated with reuse of mobile phones in developing countries. Specifically, the lack of properly managed recycling processes which have resulted in communities and the environment being exposed to harmful toxins, heavy metals and other pollutants.

To ensure that Australia's mobile phone industry is not passing on its e-waste burden to developing countries, it is working with its members offering trade-in programs (Telstra and Optus) to ensure any phones that cannot be reused are recycled by MobileMuster. Together with their trading partners they are helping to improve recycling processes, and along with manufacturers, championing recycling programs in those countries where they sell products.

AMTA also actively encourages all resellers to comply with the United Nations Environment Programme's Mobile Phone Partnership Initiative Guidelines on the Refurbishment of Used Mobile Phones, Collection of Used Mobile Phones, Awareness Raising-Design Considerations, Transboundary Movement of Collected Mobile Phones and Environmentally sound management of used and end-of-life mobile phones.

CONFLICT FREE MINERALS⁸ AND THE MOBILE PHONE INDUSTRY

WORKING TOWARDS SUSTAINABLE AND PEACEFUL SUPPLY CHAINS

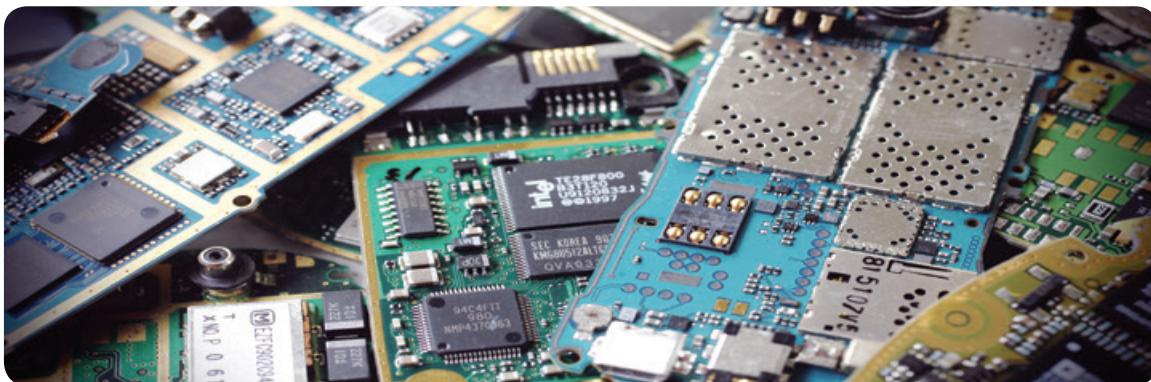
The mobile telecommunications industry shares concerns about environmental, social and economic impacts of mining in conflict regions such as the Democratic Republic of Congo (DRC). To address this issue, members of the Australian Mobile Telecommunications Association (AMTA) are actively involved in the global Conflict Free Sourcing Initiative to assist electronics manufacturing companies to source responsibly and reduce the risk of conflict minerals ending up in their products.



TO ADDRESS THIS ISSUE, MEMBERS OF THE AUSTRALIAN MOBILE TELECOMMUNICATIONS ASSOCIATION (AMTA) ARE ACTIVELY INVOLVED IN THE GLOBAL CONFLICT FREE SOURCING INITIATIVE TO ASSIST ELECTRONICS MANUFACTURING COMPANIES TO SOURCE RESPONSIBLY AND REDUCE THE RISK OF CONFLICT MINERALS ENDING UP IN THEIR PRODUCTS.

This joint global initiative promotes the responsible procurement of minerals through accountability and traceability of the status of minerals in global supply chains. Through their Conflict-Free Smelter Program companies and suppliers can identify which smelters and refiners are conflict-free in line with current global standards.

The Electronic Industry Citizenship Coalition and Global e-Sustainability Initiative partnership is working on involving industries other than electronics manufacturers to join the global initiative to use conflict-free supply chains and supporting peaceful developments in the Great Lakes region of Africa.



8. "Conflict minerals" currently include the metals tantalum, tin, tungsten and gold, which are derivatives of the minerals cassiterite, columbite-tantalite and wolframite, respectively. Each of these minerals maybe used in the manufacture of a diversity of electronic equipment including mobile phones. They can be extracted at many different locations around the world including conflict countries such as the Democratic Republic of the Congo and adjoining countries that share an internationally recognized border (i.e. Angola, Burundi, Central Africa Republic, Republic of the Congo, Rwanda, South Sudan, Tanzania, Uganda, Zambia)

Conflict-free minerals are defined as minerals that were extracted and did not directly or indirectly benefit armed groups in the covered countries.

RECYCLING ELECTRONICS – THE NEW URBAN MINE

23.5M

OLD MOBILES STORED
IN HOMES UNUSED



≈



ONE OLD
MOBILE
FOR EVERY
PERSON



RECYCLED
93%

OF MATERIAL
RECOVERED

MOBILE PHONES
CAN YIELD UP TO

60x

MORE GOLD
THAN GOLD ORE

Mobiles are a complex array of metals and plastics, of which more than 90% can be recovered. With more than 23.5 million unused mobiles across Australia, a new above ground resource saturated with deposits of precious and rare earth metals is being created. When you consider that mobile phones can yield up to 60 times more gold than that sourced from gold ore, the interest in mining these resources is increasing.

And it's changing the nature of business. Now, managing the complete lifecycle of electronic products – product stewardship – has the potential to add big dollars to the bottom line of our economy. More than \$2 billion dollars per year is said to be lost from the Australian economy via a failure to recover the metals from our waste.

In the case of MobileMuster recycling mobile phone components was a cost to the program in the past. But now we receive a small revenue stream for certain components like circuit boards, electronic accessories and lithium ion batteries. This not only offsets the cost of dismantling and sorting mobiles but enables the program to invest in education and community activities like our Online Education Kit "MusterKids", support for the Salvos and community events like the Sustainable Living Festivals in Melbourne and Hobart.

The next challenge for MobileMuster is returning the materials it recovers to mobile phone manufacturers and closing the loop on material use. While recycled materials like aluminium and plastics may be used in the manufacture of some mobile phones, there is very little evidence of materials recovered from mobiles being directly used back into mobiles.

There are also many elements that are still not being recovered through the current recycling process, in particular many of the rare earths and conflict minerals like tantalum. However, the recent Dodd-Frank Legislation introduced into the USA that requires reporting on use of conflict minerals is increasing the demand for recycled sources of minerals like tantalum.

Creating a true circular economy is now on the agenda of many countries and producers, as reflected by the recent statements by the European Union and the Wealth from Waste Project in Australia where the focus is moving away from the traditional 'take-make-dispose' model to closed loop systems that return materials back into the production cycle, replacing the need to mine raw materials. This will not only create economic opportunities but deliver substantial social and environmental benefits.

MUSTERKIDS

This year has seen MobileMuster develop Australia's most comprehensive education kit designed to teach students about the lifecycle of mobile phones and the recycling process. The education kit has incorporated a curriculum linked Teachers Guide, MusterKids Zone, digital interactive resources and practical workshops.

The education kit was developed in consultation with industry and education representatives including members of the MobileMuster recycling committee, sustainability educators in the New South Wales and Victorian Department of Education, and sustainability curriculum experts, as a behaviour change and awareness campaign targeting schools, councils and environmental educators across Australia. The kit needed to provide educators with original, practical, accessible and engaging learning resources, and be aligned to the Australian Curriculum.

The kit has three complementary components:

1. Online Teachers Guide
2. MusterKids Zone ([link to mobilemuster.com.au/schools](http://mobilemuster.com.au/schools))
3. Workshops and talks

SINCE THE LAUNCH OF THE TEACHERS GUIDE AND MUSTERKIDS ZONE IN OCTOBER 2013:

THE WEBSITE HAS RECEIVED OVER 13,500 VIEWS⁹

DISTRIBUTED TO
100 TEACHERS & EDUCATORS VIA USB



 DOWNLOADED
OVER 2,500 TIMES
BY TEACHERS AND EDUCATORS

ACCESSED BY
OVER 490
TEACHERS
ON THE TEACHERS PAGES, INCLUDING INDIVIDUAL LEARNING MODULES

9. Figures accessed from Google Analytics as of 17 September 2014.

The Teachers Guides and MusterKids Zone resources have also been shared with Cool Australia¹⁰, who in turn have shared MobileMuster's learning resources with their 15,000 registered teachers enabling a broad distribution of our resources. The learning modules have been accessed nearly 6,320 times since they were uploaded to the Cool Australia website.¹¹ MobileMuster's education kit has also been distributed through Planet Ark and was sent to over 800 teachers and schools participating in their Schools Right Challenge during National Recycling Week in November 2013.



The MobileMuster workshops had more than 600 students participating in the last year alone at three events; the What's Inside A Phone workshop (Youth Eco Summit, Sydney, Oct 2013), Sustainable Living Festival (Melbourne, Feb 2014) and National Science Week (Aug 2014).

This year also saw international e-waste artist, Chris Jordan, come to Australia on behalf of MobileMuster and create Australia's largest artwork made out of e-waste.



THE LEARNING MODULES
HAVE BEEN ACCESSED NEARLY
**6,320
TIMES**

MOBILEMUSTER
WORKSHOPS
HAD OVER
**600
STUDENTS
PARTICIPATING**

SHARED WITH
**15,000
TEACHERS**

10. www.coolaustralia.org

11. Statistics gathered between 1 April 2014 to 2 July 2014. Awaiting update from Cool Australia for the more recent period.

APPENDIX 1: TARGETS FOR 2014-15 TO 2018-19

KEY PERFORMANCE INDICATORS	2014/15	2015/16	2016/17	2017/18	2018/19
	EST'D	EST'D	EST'D	EST'D	EST'D
COLLECTIONS					
Mobile Phone Collections (weight - tonnes)	100	106	113	120	127
Annual Collection Rate, Available Phones (%)	51%	52%	53%	54%	55%
Annual Collection Rate, Net imports (%)	10.2%	10.4%	10.6%	10.8%	11.0%
Reported Shipments (units - millions)	6.80	7.05	7.40	7.70	8.00
Net Imports (units -millions)	5.78	5.99	6.29	6.55	6.80
Net Imports (weight - estimated tonnes)	983	1,019	1,069	1,113	1,156
Adjusted Exports (units - millions)	1.02	1.06	1.11	1.16	1.20
Estimated Available Phones (weight - tonnes)	197	204	214	223	231
Estimated Number Handsets & Batteries (units - millions)	1.11	1.21	1.30	1.38	1.46
RECYCLING					
Diversion from Landfill	97%	97%	97%	97%	97%
Recycling Rate (estimated material recovered)	96%	96%	96%	96%	96%
CONSUMER BEHAVIOUR					
Personal Storage Rate (% users with 2 or more handsets at home)	37%	37%	37%	37%	37%
Disposal to Landfill Rate	2%	2%	2%	2%	2%
Awareness of Mobile Phone Recycling	>80%	>80%	>80%	>80%	>80%
INDUSTRY PARTICIPATION					
Manufacturers	56%	56%	56%	56%	56%
Mobile Network Carriers	91%	91%	91%	91%	91%

APPENDIX 2: PROGRAM PERFORMANCE OVER PAST 5 YEARS

KEY PERFORMANCE INDICATORS	2013-14	2012-13	2011/12
	ACTUAL •	ACTUAL • (includes display handsets)	ACTUAL • (13 months Jun 11- Jun 12)
			(excludes display phones)
COLLECTIONS			
Mobile Phone Collections (tonnes)	80 •	87 • (110)	123 • (106)
Annual Collection Rate, Available Phones	45.6% •	53.1% • (66.8%)	49.5% • (42.5%)
Annual Collection Rate, Net imports	9.1% •	9% • (11.4%)	9.9% • (8.5%)
Estimated Number Handsets & Batteries	1,003,562	996,874	912,274
Reported Shipments	6.20M	6.67 M	8.55 M
Exports (adjusted)	1.05M	1.00 M	1.2 3 M
Net Imports (units)	5.15M	5.67 M	7.31 M
Net Imports (estimated tonnes)	876	964	1,243
RECYCLING			
Diversion from Landfill	98% •	99% •	97% •
Recycling Rate (estimated material recovered)	94% •	96% •	93% •
CONSUMER BEHAVIOUR			
Personal Storage Rate (% users with 2 or more handsets at home)	37% •	37% •	40%
Disposal to Landfill Rate	3% •	3% •	2%
Awareness of Mobile Phone Recycling	80% •	83% •	82%
INDUSTRY PARTICIPATION			
Manufacturers	55% •	56% •	62% •
Mobile Network Carriers	85% •	91% •	97% •

* As at 30 June 2011

** Full 12 months 1 July 2010 to 30 June 2011

• Externally audited

2011/12 ACTUAL (excludes display phones)	2010/11 ACTUAL**	2010/11 ACTUAL*● (11 mths)	2009/10 ACTUAL ●
117 (97)	106	100 ●	103 ●
51.4% (42.6%)	48%	52.3% ●	50.6% ●
10.3% (8.5%)	8.6%	8.9% ●	7.9% ●
847,240	797,105	744,816	845,919
7.80 M	8.70 M	7.95 M	8.66 M
1.12 M	1.45 M	1.34 M	1.41 M
6.67 M	7.25 M	6.61 M	7.63 M
1,134	1,232	1,123	1,297
97%	100%	100% ●	100% ●
	>75%	>75%	>75%
40%	40%	40%	38% ●
2%	4%	4%	3% ●
82%	84%	84%	79% ●
61%	64%	63% ●	72% ●
97%	97%	97% ●	100% ●

APPENDIX 3: ARRANGEMENT OPERATIONS AND PERFORMANCE

(IN ACCORDANCE WITH PRODUCT STEWARDSHIP (VOLUNTARY ARRANGEMENTS) INSTRUMENT 2012)

CLASS OF PRODUCTS COVERED UNDER ARRANGEMENT

Mobile phones, batteries, chargers and accessories

PERFORMANCE OF THE ARRANGEMENT

Logo use

As the public announcement of the accreditation was not until mid July the following was undertaken between 1 July to 31 October 2014

- All print and online collateral updated to include product stewardship logo as per conditions of accreditation
- MobileMuster Brand guidelines incorporating use of Product Stewardship Logo updated and circulated to members

Monitoring and evaluating the performance of the arrangement in achieving the outcomes of the arrangement. If an outcome was not achieved – explain why and the measures proposed to be taken to rectify the failure to achieve the outcome

Consumer behaviour

- For results see page 6 and Appendix 2
- Overall consumer awareness of mobile phone recycling and awareness of MobileMuster dropped slightly from previous year as a result of reduced marketing activity and focus on digital advertising
- To ensure that awareness remains greater than 80% AMTA has increased its investment in marketing and revised its advertising strategy to include greater investment in traditional TV and radio advertising to increase frequency and reach of messaging
- To monitor the impact of the revised strategy AMTA will conduct its Annual Market Research in late January 2015
- AMTA has also reintroduced an incentive where MobileMuster will provide \$2 to the Salvation Army Christmas Appeal for every kilo of mobiles and accessories recycled between 1 Dec 2014 and 31 January 2015. This is in addition to the year round incentive where AMTA provides \$2 to the Salvos Stores for every kilo collected by the Salvos Stores (southern region)

Collection of mobile phones

- For results see page 8 and Appendix 2
- Collections by weight were down on target but the number of units received was up on target. This is due in part to a change in the proportion of handsets vs batteries vs accessories collected with the proportion of accessories (by weight) decreasing from 50% in 2011-12 to 40% in 2013-14 and also that accessories are getting lighter
- The collection rate was also down due to the reduced weight of product collected than estimated. The calculation of the collection rate is influenced substantially by the average unit weight of product imported and the percentage of people who keep or give away their phone for reuse (e.g. if average unit weight of product imported was dropped to 140g the available collection rate would have been 55%)
- The reduced collections could also be a result of a revised and reduced marketing spend on previous years and no offer of incentives to recycle (e.g. plant a tree, donation to charity as has been done in previous years)
- In response to this result, AMTA has increased its investment in marketing for the coming year and has reintroduced an incentive where MobileMuster will provide \$2 to the Salvation Army Christmas Appeal for every kilo of mobiles recycled between 1 Dec 2014 and 31 January 2015
- Likewise AMTA, in association with its members will undertake a detailed analysis of the weight of new product entering the market as it appears from preliminary data that this is decreasing and that the assumption of 170grams needs to be revised downward. Depending on the outcome of this study AMTA may need to revise its forward estimates

Recycling

- For results refer to pages 10 & 11 and Appendix 2
 - Recovery rate while still greater than 90% was two percentage points down on the estimate of 96%. The recovery rates are very much determined by the mix of components recycled due to varying recovery rates for the various components (see table below). In 2013-14 AMTA collected 3.3 tonnes of accessories that are non-recyclable i.e. Leather cases. This can affect the overall recovery rate
 - AMTA proposes to revise the recovery rate to >90% through to 2018-19 and will also look for ways to recycle items like leather cases
-

RECOVERY RATES OF MOBILE PHONE COMPONENTS - 2013-14

COMPONENTS	NET WEIGHT (KG)	LANDFILL (KG)	RECOVERED (KG)	RECYCLING RATE (%)
Accessories – electronic	25,832	207	25,625	99.2%
Accessories – electronic & plastics	8,503	12	8,491	99.9%
Accessories – Metals	1,170	0	1,170	100.0%
Accessories – Non Recyclable	3,348	3,348	0	0.0%
Access – Plastics	4,834	19	4,815	99.6%
Batteries – Lead	295	0	295	100.0%
Batteries – Lithium Ion	6,298	442	5,856	93.0%
Batteries – Nickel Metal Hydride	715	50	665	93.0%
Batteries – Nickel Cadmium	546	182	364	66.6%
Handsets	35,258	993	34,265	97.2%
Phones & Accessories	1,037	13	1,024	98.8%
TOTAL	87,835	5,267	82,568	94.0%

Industry participation

- See page 12 and Appendix 2
 - There was a minor shift in manufacturer market share. This is the nature of the markets and hard to predict. While there was a very small drop (i.e. 1 percentage point) there was no change in the number of manufacturer members
 - While carrier participation by % has dropped there has been no change in the number of carriers participating. The change in % reflects the growth of VOIP providers in the market who are not involved in the sale of mobile phones
-

ACTIVITIES UNDERTAKEN IN RELATION TO HOW THE ARRANGEMENT DEALS ADEQUATELY WITH:

Governance and organisational matters including procedures for decision making and dispute resolution

- 2013-14 Workplan, budget and program targets signed off by Recycling Committee and AMTA Board in June 2013
- Recycling committee met monthly to review / monitor financial and program performance
- Recycling Committee held quarterly meetings with logistics, recycling, marketing and communications suppliers to review performance
- Program Performance audited externally by PwC
- Financial statements audited externally by RSM Bird Cameron

Financial arrangements and funding to achieve the outcomes of the arrangement

- No change in membership or funding levy for 2013-14, i.e. manufacturers contribute \$0.30 per handset shipped into Australia and carriers \$0.12c per handset shipped into Australia
- Manufacturers report shipments monthly and are invoiced monthly
- Carriers are invoiced quarterly in arrears
- Cost recovery for collection and recycling of display handsets and packaging implemented
- No changes in recycling rebates for selected components

Assessing the adequacy of the environmental, health and safety policies and practices in relation to the activities undertaken under the arrangement

- Logistics supplier and recycler report monthly on collections and compliance with EHS policies and procedures
- No Incidences reported

The use of the product stewardship logo in relation to the arrangement

- As the announcement of the accreditation was not until July the following was undertaken between 1 July to 31 October 2014
 - All print and online collateral updated to include product stewardship logo as per conditions of accreditation and approved by the Department
 - Brand guidelines updated and circulated to members on use of product stewardship logo

Managing risk in relation to the operation of the arrangement

- Procedure put in place July 2014 for members and suppliers to review risk management plan every 6 months, next review January 2015

Financial statements setting out the revenue and expenditure of the arrangement

- 2013-14 AMTA financial report and audited statements provided to Department of Environment
-

DEFINITIONS

AVERAGE UNIT WEIGHT

The average weight of a mobile phone unit (i.e. a new handset, battery and charger imported into Australia) is currently estimated to be 170 grams based on advice from manufacturers.

ANNUAL COLLECTIONS

The annual collection data is the weight of mobile phone components collected by MobileMuster measured in kilograms and then converted to tonnes. Mobile phone components include handsets, batteries, chargers, accessories and plastic coverings covered by the MobileMuster program.

ANNUAL COLLECTION RATE (AVAILABLE PHONES)

$$\text{ACRDM} = \frac{\text{Annual Collection (tonnes)}}{\text{Available Phones (tonnes)}} \times 100$$

Annual Collection = Weight of mobile phone components (i.e. handsets, batteries, chargers, accessories and associated plastics) received by recycler measured in kg and converted to tonnes

Available Phones = Participating Manufacturer Reported Imports – Estimated Participating Manufacturer Exports – (Kept + Given Away)

Participating Manufacturer Reported Imports = measured in units¹² (i.e. mobile phone unit = handset, battery, charger and accessory) and converted to weight using the average unit weight.

Estimated Participating Manufacturer Exports = measured in units and converted to weight using the average unit weight. The figure has been calculated to reflect the proportion of participating manufacturer reported imports that have been exported and is estimated as the All Industry Exports¹³ divided by All Industry Imports¹⁴ multiplied by Participating Manufacturer Reported Imports.

Kept – Estimate based on market research¹⁵ on the 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” multiplied by Net Imports. Measured as units and converted to weight using the average unit weight.

Given Away – Estimated based on market research¹⁶ on the proportion of people who pass on their previous phones for further use including “gave it to someone else”, “traded it”, “sold it” and “donated to charity” multiplied by Net Imports. Measured as units and converted to weight using the average unit weight.

Net Imports = Participating Manufacturer Reported Imports – Estimated Participating Manufacturer Exports

12. Data sourced from Informark – Participating Manufacturer Shipments.
13. All Industry Exports (i.e. includes non participating manufacturers exports) sourced from Australian Customs Data that has been reported by Australian Bureau of Statistics and provided to AMTA by Informark.
14. All Industry Imports (i.e. includes non participating manufacturers imports) sourced from Australian Customs Data that has been reported by Australian Bureau of Statistics and provided to AMTA by Informark.
15. Independent online survey conducted in January 2014 by IPSOS on behalf of AMTA of 1029 mobile phone users, aged 16 years or older randomly selected from all States across Australia.

The following assumptions have been made in calculating the amount of available (previously described as discarded) mobiles and may be subject to review in future years as more data becomes available:

- The majority of mobile phones being available are manufactured by participating manufacturers and that the number of non participating manufacturers is minimal / insignificant.
 - The amount of unsold mobile phones held in stock is relatively low and remains constant through out the year.
 - The IPSOS market research results used in the calculations are an accurate and consistent representation of what the general population do with their mobile phones when no longer in use.
-

ANNUAL COLLECTION RATE (NET IMPORTS)

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

Annual Collection = Weight of mobile phone components (i.e. handsets, batteries, chargers, accessories and associated plastics) received by recycler measured in kg and converted to tonnes

Net Imports = Participating Manufacturer Reported Imports – Estimated Participating Manufacturer Exports

Participating Manufacturer Reported Imports = measured in units¹⁷ (i.e. mobile phone unit = handset, battery, charger and accessory) and converted to weight using the average unit weight.

Estimated Participating Manufacturer Exports = measured in units and converted to weight using the average unit weight. The figure has been calculated to reflect the proportion of participating manufacturer shipments that have been exported and is calculated by using the following formula All Industry Exports¹⁸ / All Industry Imports¹⁹ x by Participating Manufacturer Reported Imports.

The following assumptions have been made in calculating the annual collection rate based on net imports and may be subject to review in future years as more data becomes available:

- There is no material difference between the quantity of mobile phones being exported that are manufactured by participating manufacturers versus the estimated participating manufacturers exports which has been generated by applying the ratio of Participating Manufacturer Imports and All Industry Imports to All Industry Exports;
 - There is no material difference between the average unit weight of imported mobile phones versus the estimated average unit weight used that is based on manufacturer data.
-

16. Independent online survey conducted in January 2014 by IPSOS on behalf of AMTA of 1029 mobile phone users, aged 16 years or older randomly selected from all States across Australia.
17. All Industry Exports (i.e. includes non participating manufacturers exports) sourced from Australian Customs Data that has been reported by Australian Bureau of Statistics and provided to AMTA by Informark.
18. All Industry Imports (i.e. includes non participating manufacturers imports) sourced from Australian Customs Data that has been reported by Australian Bureau of Statistics and provided to AMTA by Informark.
19. Independent online survey conducted in January 2014 by IPSOS on behalf of AMTA of 1029 mobile phone users, aged 16 years or older randomly selected from all States across Australia.

DIVERSION FROM LANDFILL OF MOBILEMUSTER COLLECTIONS

This indicator measures the proportion of mobile phone components (i.e. handsets, batteries, plastics and accessories) collected by MobileMuster that, once sorted and dismantled by the primary recycler, are sent either to third party specialist recyclers for further processing or manufacturers for re-use, versus being sent to landfill.

This indicator does not measure the proportion of mobile phone components recycled/materials recovered versus any residues sent to landfill by third party specialist recyclers' and manufacturers.

The indicator expressed as a percentage and calculated using the formula below:

$$\text{DFLR} = \frac{\text{Total weight of mobile phone components collected by MobileMuster and sent to third party specialist recyclers or manufacturers (kg)}}{\text{Annual Collections (kg)}}$$

RECOVERY RATE

(as defined in the Australian Standard AS/NZS 5377:2013 – Appendix D3)

The percentage of the total of all output fractions, classified as sent for recycling and other material recovery or other recovery in proportion to the total of the input amount of non treated mobile phone components.

$$\text{Recycling Rate} = \frac{\text{Total of all output fractions (kg)}}{\text{Input amount of non treated mobile phone components (kg)}} \times 100$$

STORAGE RATE OF MOBILE PHONES AT HOME AND WORK

Derived from annual market research²⁰ that measures the percentage of mobile phone users having two or more mobiles in storage.

DISPOSAL TO LANDFILL RATE

This is currently measured through market research²¹ that measures the percentage of mobile phone users that dispose of their mobile phones to landfill.

AWARENESS RATE OF MOBILE PHONE RECYCLING

This is currently measured through market research²² that measures the percentage of mobile phone users that are aware of mobile phone recycling.

-
20. Independent online survey conducted in December 2014 by IPSOS on behalf of AMTA of 1029 mobile phone users, aged 16 years or older randomly selected from all States across Australia.
 21. Independent online survey conducted in December 2014 by IPSOS on behalf of AMTA of 1029 mobile phone users, aged 16 years or older randomly selected from all States across Australia.
 22. Independent online survey conducted in December 2014 by IPSOS on behalf of AMTA of 1029 mobile phone users, aged 16 years or older randomly selected from all States across Australia.

INDUSTRY PARTICIPATION RATE

Industry participation is defined as the proportion of shipments of mobile phone handset manufacturers and revenue of 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.

Manufacturers²³ =	$\frac{\text{Participating Manufacturer Shipments}}{\text{Industry Imports}}$
&	
Mobile Network Carriers²⁴ =	Total Market Share (by revenue) of each Mobile Network Carrier contributing financially to MobileMuster

PARTICIPATING MEMBERS AS AT 30 JUNE 2013

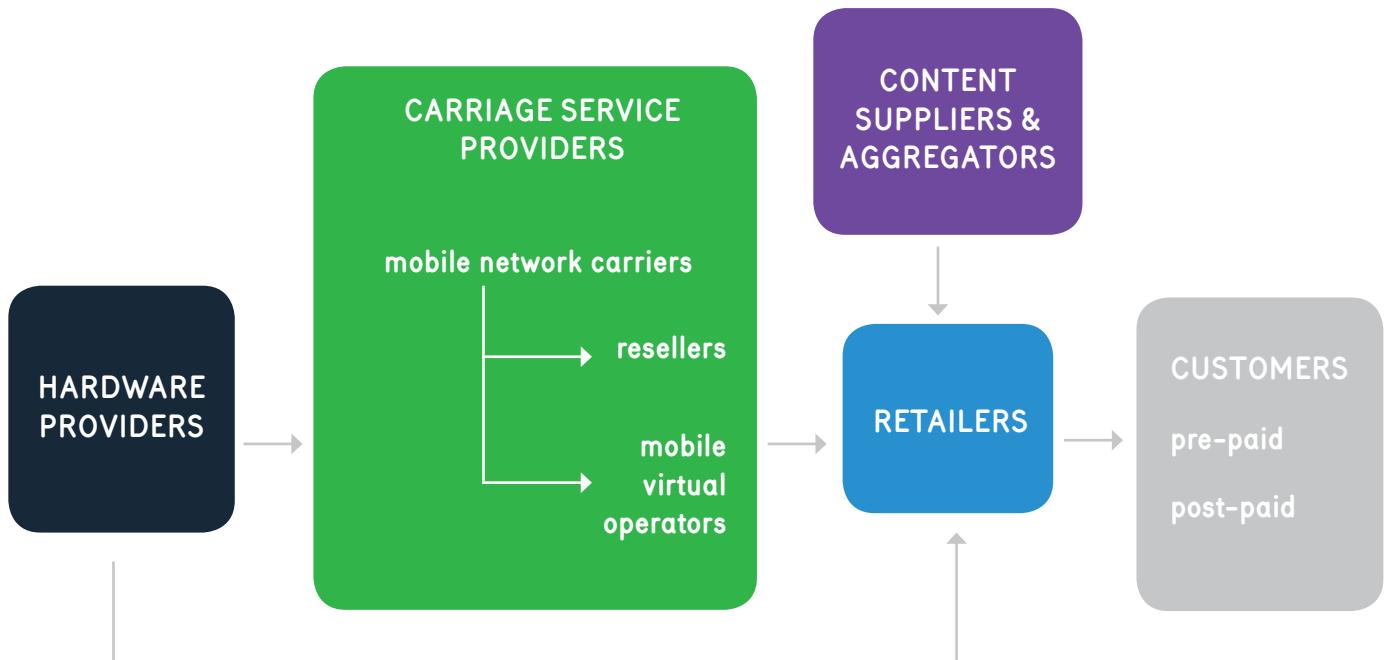
Handset Manufacturers – HTC, Huawei, LG Electronics, Motorola, Microsoft (Nokia), Samsung Electronics Australia, ZTE

Battery importers – Force Technology

Carriage Service Providers – Mobile Network Carriers – Telstra, Optus, Vodafone Hutchison Australia

Resellers/Mobile Virtual Network Operators – Virgin Mobile

THE MOBILE TELECOMMUNICATIONS INDUSTRY



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

23. Data sourced from Informark.

24. Data quoted is sourced from IBISWorld Industry Report J5802 Wireless Telecommunications Carriers in Australia, July 2014.



Independent Assurance Report to the Board of Directors of the Australian Mobile Telecommunications Association

What we found

Based on the work described below, nothing has come to our attention that causes us to believe that the subject matter for the year ended 30 June 2014 has not been prepared, in all material respects, in accordance with the reporting criteria.

What we did

The Australian Mobile Telecommunications Association (AMTA) engaged us to perform a limited assurance engagement on the preparation of selected performance data relating to its MobileMuster mobile phone recycling program for the year ended 30 June 2014.

Subject matter

The subject matter comprises the following indicators contained within the 'Summary of Key Performance Indicators' table within the MobileMuster Annual Report for the year ended 30 June 2014.

- Mobile phone collection (tonnes)
- Annual collection rate: Available phones (%)
- Annual collection rate: Net imports (%)
- Diversion from landfill (%)
- Recycling rate (%)
- Personal storage rate (%)
- Disposal to landfill rate (%)
- Awareness of mobile phone recycling (%)
- Industry participation: Manufacturers (%)
- Industry participation: Mobile network carriers (%)

Reporting criteria

The criteria against which we have assessed the subject matter are contained within the "Definitions" included within the MobileMuster Annual Report.

Inherent limitations

Inherent limitations exist in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, error or non-compliance may occur and not be detected. Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and estimating such data.

Limited assurance

This engagement is aimed at obtaining limited assurance for our conclusions. As a limited assurance engagement is restricted primarily to enquiries and analytical procedures and the work is substantially less detailed than that undertaken for a reasonable assurance engagement, the level of assurance is lower than would be obtained in a reasonable assurance engagement.

Professional standards require us to use negative wording in the conclusion of a limited assurance report.

Responsibilities

PwC

Our responsibility is to express a conclusion based on the work we performed.

Management of AMTA

Management of AMTA are responsible for the preparation and presentation of the subject matter in accordance with the Reporting Criteria.

Restriction on use

Our report is intended solely for the Directors of the Australian Mobile Telecommunications Association. We disclaim any assumption of responsibility for any reliance on this report to any persons or users other than the Directors, or for any purpose other than that for which it was prepared.

We consent to this report being included in the MobileMuster Annual Report and understand that a copy of the Annual Report will be made available on the MobileMuster website. We accept no responsibility for the integrity and security of the MobileMuster website and this report is not intended to relate to, or to be read in conjunction with, any other information that may appear on the MobileMuster website.

What our work involved

We conducted our work in accordance with the Australian Standard on Assurance Engagements (ASAE) 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*. This Standard requires that we comply with independence and ethical requirements and plan the engagement so that it will be performed effectively.

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Liability limited by a scheme approved under Professional Standards Legislation.



Main procedures performed

Our procedures included:

- updating our understanding of data collection and reporting processes
- re-performing calculations to check arithmetic accuracy and consistency with the reporting criteria
- testing, on a selective basis, the preparation and collation of performance data prepared by AMTA; and
- conducting a site visit to one of the contractor recycling facilities relied upon by AMTA

We believe that the information we have obtained is sufficient and appropriate to provide a basis for our conclusion.

PricewaterhouseCoopers

PricewaterhouseCoopers

John Tomac

John Tomac
Partner

Sydney
31 October 2014



CONTACT US

MobileMuster – The official not-for-profit Government accredited recycling program of the mobile phone industry

An initiative of the
Australian Mobile Telecommunications Association (AMTA)

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