



MOBILE AUSTRALIA

A REPORT INTO HOW WE USE AND RECYCLE OUR MOBILES

MobileMuster is the official product stewardship program of the mobile phone industry.

























hello...

The aim of this report is to provide a comprehensive snapshot of mobile phone recycling attitudes and behaviours in Australia and how the industry is leading the effort to ensure responsibility is being taken for their products.

The mobile phone industry has operated its official recycling program MobileMuster since late 1998 and since 2005 has also conducted annual independent market research into mobile phone use and recycling attitudes and behaviours.

In the past 12 months it has also undertaken additional market research on the impacts of Christmas/Summer holiday mobile phone sales and moving home on mobile phone recycling behaviours.

From 2007-08 MobileMuster's key performance indicators have been independently audited by KPMG and PriceWaterhouseCoopers.

ABOUT MOBILEMUSTER

MobileMuster is the official product stewardship program of the mobile phone industry. It is a not for profit program. Our promise is to keep old mobiles and accessories out of landfill and recycle them in a safe, secure and ethical way. All we ask consumers is to recycle their old mobiles and accessories with us.

MobileMuster is managed by the Australian Mobile Telecommunications Association (AMTA) on behalf of its members – Nokia, Samsung, Motorola, LG Electronics (left program 30 June 2013) HTC, Huawei, ZTE, Telstra, Optus, Vodafone, Virgin Mobile and Force Technology who fund the program voluntarily.

MobileMuster aims to

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

by continually improving the visibility, accessibility, transparency and sustainability of the service.





















5 KEY ACHIEVEMENTS AND BENEFITS

The state of mobile phone recycling in Australia

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ENVIRONMENTAL BENEFITS

OF RECYCLING 1,014 TONNES OF MOBILE PHONE COMPONENTS IS EQUIVALENT TO*

> TREES PLANTED 9,400

CARS OFF THE ROAD



AVOIDING TONNES OF CO2 EQUIVALENT GREENHOUSE GASES



* SINCE STARTING THE PROGRAM IN 1998

SINCE STARTING OUT IN 1998 MOBILEMUSTER HAS COLLECTED

TONNES OF MOBILE PHONE COMPONENTS INCLUDING **AND 518 TONNES OF ACCESSORIES**

SINCE 2006 MOBILEMUSTER HAS

GROWN THE COLLECTION RATE OF AVAILABLE MOBILES FROM

18% 53%

INCREASED AWARENESS FROM

DECREASED THE DISPOSAL TO LANDFILL FROM

PUT IN PLACE A FREE POST BACK SERVICE USING EITHER

GROWN ITS PUBLIC COLLECTION NETWORK

DROP OFF SITES

999999

STATE OF MOBILE PHONE RECYCLING IN AUSTALIA

While community awareness of mobile phone recycling has remained steady at 83% people's desire to keep their old mobile phones, instead of recycling them, only dropped

slightly from 40% to 37% of people that have two or more unused mobiles at home. As a result the estimated number of handsets in storage at home or work has grown from 22 million to 23 million. On the upside the percentage of people throwing their mobiles away remained low at 3%.

In the last financial year (2012–13) MobileMuster collected 87 tonnes¹ of mobile phone components down slightly on the previous year of 97 tonnes¹. This included more than 990,000 handsets and batteries as well as over 38,400 kg of accessories.

'...handsets in storage at home or work has grown from 22 million to 23 million'

This represents a collection rate of 53.1% of mobile phones that are available for recycling or just over 9% of net handset imports to Australia.

There are also a number of for profit reuse programs operating in Australia. MobileMuster provides a free recycling service to a number of these reuse programs if they receive mobile phone components they are unable to sell. 13.5% or 5.4 tonne of components came from reuse programs up from 2.1 tonne in the previous year.

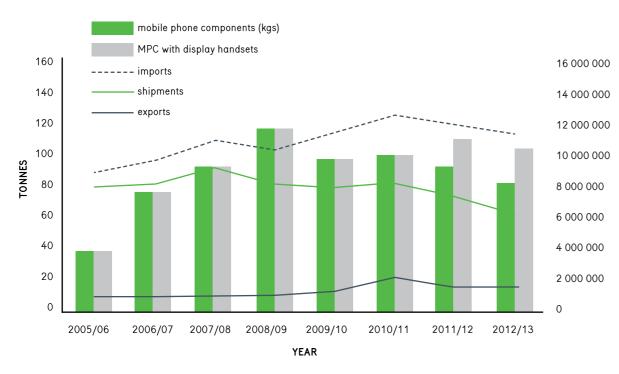


Figure 1: Total annual collections by weight (kg) - all mobile phone components

¹Since AMTA changed recyclers in June 2011 greater detail on the types of accessories received is now being provided. Specifically, separating display handsets from mobile phone accessories. As display handsets are not a mobile phone component and represent a material volume it was considered in appropriate to include them in collection weights and rates for 2012/13 figures. The 2011/12 figures have also been adjusted. As the volume of display handsets received prior to 2011/12 was not available these figures have not been adjusted.

'..non-smartphone users are more likely to keep their mobile phones for an extended period, 2 years or more.'

AUSTRALIAN CONSUMER MOBILE PHONE USAGE

As the mobile phone market in Australia continues to mature for the first time since 2005 the number of people who have ever owned 4 or more mobile phones has remained consistent at 57%.

The duration consumers are owning their mobile phone has increased again, now being at it's highest level with 25% of Australians owning their mobile for 2+ years. In fact, it has been a consistent trend over the past three years to see increases in the duration of mobile phone ownership.

Interestingly, it's the non-smartphone users that are more likely to keep their mobile phones for an extended period, 2 years or more.



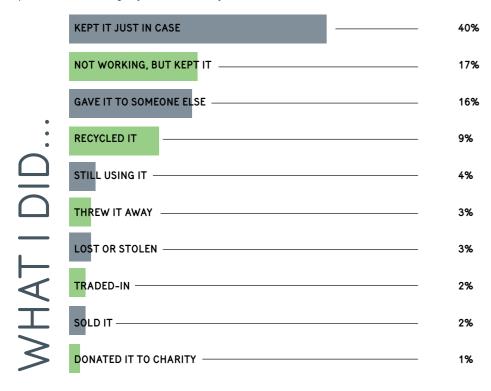
Figure 2: Total number of handsets and batteries collected for the past seven years

WHY AND WHEN DO CONSUMERS RECYCLE?

Consumers plan to do the following with their current phone when they obtain a new one. We can see from these data that intentions are more environmentally altruistic then the final behaviour.*



Reality of Australian consumers behaviour and what they did with their old mobile phone shows a slightly different story from their intentions.*



^{*} Independent online survey conducted in December 2012 by IPSOS on behalf of AMTA of 1027 mobile phone users, aged 16 years or older randomly selected from all States across Australia.

Further consumer research also shows that there are two peak times during the year that consumers may be more open to recycling messages and more likely to uptake recycling; when purchasing a new phone and when moving house.

A peak time for new mobile purchasing is during the Christmas holiday / summer sales period from November to February with 42% of Australians having purchased or are thinking of purchasing a new mobile during the Christmas period.

At this time consumers said the number one reason for purchasing a new mobile phone is because they "Just felt like it was time for a new mobile" (48%).

Additionally at this time 75% of consumers said that they would consider recycling their old mobile phone.

Another peak time that consumers consider recycling their old mobile phone is when they are moving home.

The number one item that Australians don't use or need anymore that they will move with, or moved with previously, was old files, bills and paperwork (59%), followed by clothing (49%), old mobiles chargers and batteries (35%) and old TVs, computers and printers (35%).

'...peak time for new mobile purchasing is during the Christmas holiday / summer sales period'

Nearly half of all Australians (45%) said they would move, or previously moved, with items that they didn't use or need anymore because they might still need them or use them again. One out of five (21%) said it was easier to move with items that they did not use or need anymore than get rid of them..

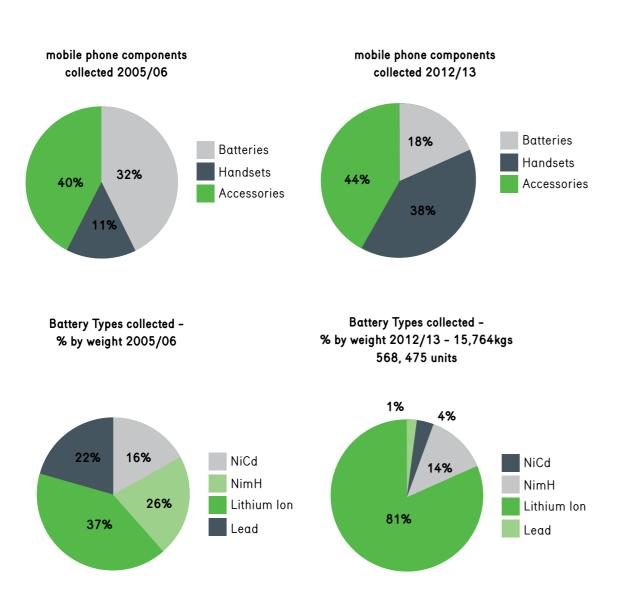
Over half of all Australians (57%) currently have, or found when they last moved, old mobiles, chargers and batteries.

These findings show that a peak time to intercept consumer behaviour may be when people are uncovering old mobiles and accessories, or considering an upgrade and provide useful insights into consumer attitudes and behaviour for recyclers.

WHAT IS THE RECYCLING PROCESS?

MobileMuster's recovery rate of collected mobile phone components was 96% which is up 3 points from the previous year of 93%.

The mix of mobile phone components received over the past eight years has changed with more handsets being collected now than ever before. The amount of nickel cadmium batteries received has also dropped substantially since 2005/06 with lithium ion batteries now representing 70% of batteries collected.



By recycling 87 tonnes of mobile phone components, MobileMuster will have diverted more than 199 kgs of cadmium and 226 kgs of lead from landfill, as well as recovered over 5.78 tonnes of plastic, 58 kgs of precious metals, 1.27 tonnes of aluminium, 1.78 tonnes of steel, 4.26 tonnes of copper and over 0.54 tonne of cobalt as raw materials to make new products like aluminium cans, batteries or plastic fence posts.

By recovering and reusing these resources

- around 2,270 less tonnes of precious metal ores (gold, silver copper) will need to be mined, and
- over 690 tonnes of CO2 equivalents in green house gases will be avoided which is the same as taking over 190 cars permanently off the road or planting 4,240 trees.



HOW DOES THE INDUSTRY **MEASURE SUCCESS?**

The majority of members of the mobile phone industry continue to actively support MobileMuster both financially and in-kind by promoting the program to their customers and staff online, through sales material and retail outlets.

Handset manufacturers that participated in the program in 2012-13 were Nokia, Samsung, LG Electronics, 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. LG Electronics ceased to participate in the program from 30 June 2013.

Together they represented 56% of the mobile phone handset market in Australia, down from 62% in the previous year. This drop in market share can be attributed to the ongoing growth in non participating manufacturers such as Apple, Sony Mobile 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.

AMTA measures the performance of MobileMuster against nine key indicators measuring changes in consumer behaviour, industry involvement, collection and recycling rates; and diversion from landfill (see Table 1).

KPI'S FOR JUNE 2013	RESULTS @ JUNE 2013
CONSUMER BEHAVIOUR	
Increase awareness to more than 85%, up from 75%	83%
Decrease disposal to landfill to less than 2%, down from 4%	3%
Decrease personal storage rate of 2 or more phones to less than 18%, down from 32%	37%
INDUSTRY INVOLVEMENT	
Maintain whole of industry participation greater than 90%	91% carriers 56% manufacturers
COLLECTIONS	
Increase the annual collection for discarded (i.e. available) phones to over 65%, up from 17%	53.1%
Increase the annual collection rate of net imports to more than 20%, up from 5.5%	9.0%
Diversify collection methods to include free postage paid recycling satchels and kerbside recycling	ACHIEVED
RECYCLING	
Maintain diversion from landfill rate greater than 90%	99%
Maintain estimated recycling rate (i.e. materials recovered) greater	96%

in the Australian mobile telecommunications market that contribute financially to the industry's mobile phone industry recycling program.

KEY PERFORMANCE INDICATORS	2012-13 Actual*	2011/12 Actual*	2011/12 Actual	2010/11 Actual**	2010/11 Actual#*	2009/10 Actual*	2008/09 Actual*	2007/08 Actual*
	(includes display handsets)	(13 months Jun 11- Jun 12) (excludes display phones)	(excludes display phones)		(11 mths)			
COLLECTIONS								
Mobile Phone Collections	87 * (110)	123*	117 (97)	106	100*	103*	122*	97*
(tonnes)		(106)						
Annual Collection Rate, Available Phones	53.1% * (66.8%)	49.5%* (42.5%)	51.4% (42.6%)	48%	52.3% *	50.6%*	35%*	18.9%*
Annual Collection Rate, Net imports	9% * (11.4%)	9.9% * (8.5%)	10.3% (8.5%)	8.6%	8.9% *	7.9%*	7.8%*	5.5%*
Estimated Number Handsets & Batteries	996,874	912,274	847,240	797,105	744,816	845,919	806,812	755,196
Reported Shipments	6.67 M	8.55 M	7.80 M	8.70 M	7.95 M	8.66 M	9.02 M	9.77 M
Exports (adjusted)	1.00 M	1.23 M	1.12 M	1.45 M	1.34 M	1.41 M	1.43 M	1.05 M
Net Imports (units)	5.67 M	7.31 M	6.67 M	7.25 M	6.61 M	7.63 M	7.90 M	8.87 M
Net Imports (estimated tonnes)	964	1,243	1,134	1,232	1,123	1,297	1,581	1,775
RECYCLING								
Diversion from Landfill	99%*	97%*	97%	100%	100%*	100%*	90%*	90% *
Recycling Rate (estimated material recovered)	96%*	93%*		>75%	>75%	>75%	> 75%	>75%
CONSUMER BEHAVIOUR								
Personal Storage Rate (% users with 2 or more handsets at home)	37%*	40%	40%	40%	40%	38%*	32%*	32%*
Disposal to Landfill Rate	3%*	2%	2%	4%	4%	3%*	2%*	4%*
Awareness of Mobile Phone Recycling	83%*	82%	82%	84%	84%	79%*	79%*	75% *
INDUSTRY PARTICIPATION								
Manufacturers	56%*	62%*	61%	64%	63%*	72%*	78%*	85%*
Mobile Network Carriers	91%*	97%*	97%	97%	97%*	100%*	95%*	95% *

As at 30 June 2011

APPENDIX

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 MOBILES)

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 units (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 Exports divided by All Industry Imports multiplied by Participating Manufacturer Reported Imports.

^{**} Full 12 months 1 July 2010 to 30 June 2011

^{*} Externally audited

⁶Data sourced from Informark - Participating Manufacturer Shipments.

⁷All 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.

⁸ 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.

⁹Independent online survey conducted in December 2012 by IPSOS on behalf of AMTA of 1027 mobile phone users, aged 16 years or older randomly selected from all States across Australia.

¹¹Data sourced from Informark – Participating Manufacturer Shipments/Imports.

Kept – Estimate based on market research 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 research 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.

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 discarded 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)

Annual Collection (tonnes) ACRNI = _____ 100 Net Imports (tonnes)

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 units (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 Exports / All Industry Imports x by Participating Manufacturer Reported Imports.

Data sourced from Informark - Participating Manufacturer Shipments/Imports.

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.

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.

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.

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:

Total weight of mobile phone components collected by MobileMuster and sent to third party specialist recyclers or manufacturers (kg) DFLR = 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.

Total of all output fractions (kg) Recycling Rate = --- x 100 Input amount of non treated mobile phone components (kg).

Independent online survey conducted in December 2012 by IPSOS on behalf of AMTA of 650 mobile phone users, aged 16 years or older randomly selected from all States across Australia.

Independent online survey conducted in December 2012 by IPSOS on behalf of AMTA of 1027 mobile phone users, aged 16 years or older randomly selectead from all States across Australia.

Independent online survey conducted in December 2012 by IPSOS on behalf of AMTA of 1027 mobile phone users, aged 16 years or older randomly selected from all States across Australia.

STORAGE RATE OF MOBILE PHONES AT HOME AND WORK

Derived from annual market research¹ 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 research 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 research that measures the percentage of mobile phone users that are aware of mobile phone recycling.

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.

Participating Manufacturer Shipments Manufacturers = Industry Imports & Mobile Network Carriers = 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, Nokia, Samsung Electronics Australia, ZTE

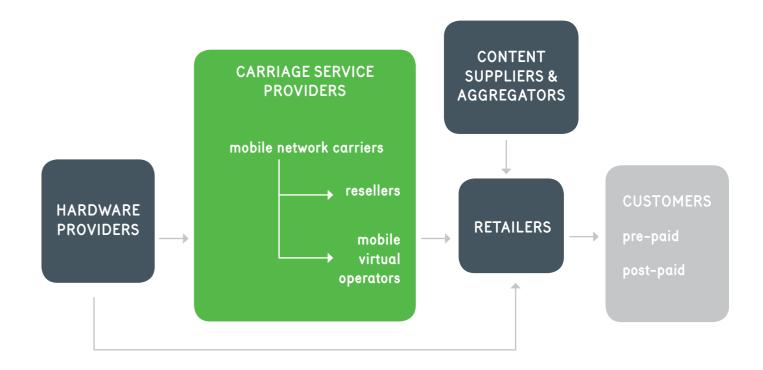
Battery importers - Force Technology

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

Resellers/Mobile Virtual Network Operators - Virgin Mobile

Data quoted is sourced from IBISWorld Industry Report J5802 Wireless Telecommunications Carriers in Australia, September 2013

THE MOBILE TELECOMMUNICATIONS INDUSTRY



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

¹Data sourced from Informark



Independent assurance report to the Directors of the Australian Mobile Telecommunications Association on selected sustainability performance data reported in the MobileMuster Annual Report for the year ended 30 June 2013

Scope

In accordance with the terms of our engagement letter dated 13 August 2013, we were engaged by the Australian Mobile Telecommunications Association (AMTA) to perform an independent limited assurance engagement in respect of selected sustainability performance data relating to the MobileMuster national mobile phone recycling program, reported in the table titled "Summary of Key Performance Indicators" within the MobileMuster Annual Report (the Subject Matter) for the period 1 July 2012 to 30 June 2013 (the **Period**).

The subject matter (selected by AMTA) consists of the following sustainability performance data:

- 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

The criteria (the Criteria) against which we assessed the Subject Matter is contained within the Definitions included within the MobileMuster Annual Report.

Respective responsibilities

AMTA is responsible for the Subject Matter and for preparing the Subject Matter in accordance with the Criteria.

Our responsibility is to express a conclusion based on our limited assurance procedures, on whether anything has come to our attention to indicate that the Subject Matter has not been prepared, in all material respects, in accordance with the Criteria, for the Period.

Our review has been conducted in accordance with the Australian Standard on Assurance Engagements (ASAE 3000) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information". The work performed was designed to enable us to express the conclusion below. Accordingly, we have conducted such tests and procedures as we considered appropriate, including:

· updating our understanding of the processes and controls in place to manage and report the performance data;

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- confirming that calculation methodologies used to calculate the performance data were consistent with the Criteria;
- re-performing calculations to check arithmetic accuracy;
- testing, on a selective basis, the preparation and collation of performance data prepared by
- conducting a site visit to the contractor recycling facility.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement under ASAE 3000. Consequently, the nature, timing and extent of procedures for gathering sufficient appropriate evidence are deliberately limited relative to a reasonable assurance engagement.

Use of report

This report was prepared for the Directors of AMTA. We disclaim any assumption of responsibility for any reliance on this report to any persons or users other than the Directors of AMTA, 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. Readers of this report on the MobileMuster website (who may read it for their information only) should bear in mind the inherent risks arising from the electronic communication of

Inherent limitations

Because of the inherent limitations in performing assurance—for example, assurance engagements are based on selective testing of the information being examined—it is possible that fraud, error or noncompliance may occur and not be detected. A review is not designed to detect all instances of noncompliance of the Subject Matter with the Criteria, as it is limited primarily to making enquiries, primarily of AMTA, and applying analytical and other review procedures. The limited assurance conclusion expressed in this report has been formed on the above basis.

Conclusion

Based on our review, which is not an audit, nothing has come to our attention that causes us to believe that the Subject Matter has not been prepared, in all material respects, in accordance with the Criteria for the period 1 July 2012 to 30 June 2013.

Price water hoose Coopers

John Tomar

Partner

11 October 2013



CONTACT US

MobileMuster — The official recycling program of the mobile phone industry. An initiative of the Australian Mobile T Telecommunications Association (AMTA)

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