AUSTRALIA'S MOBILE DECADE

mobile muster
PRODUCT STEWARDSHIP PROGRAM
KEEPING OLD MOBILES OUT OF LANDFILL

10 YEARS OF CONSUMER INSIGHTS INTO MOBILE USE AND RECYCLING: 2005-2015

Microsoft SAMSUNG MOTOROLA htc HUAWEI ZTE中兴 ALCATEL onetouch FORCE OPTUS yes vodafone Virgin mobile

PRODUCT STEWARDSHIP
Australian Government Accredited

Managed by the Australian Mobile Telecommunications Association AMTA

FOREWORD

Over the past decades, mobiles and smart phones have evolved to become a ubiquitous part of modern life; helping us speak to each other, find our way, access and share images and information for both work and leisure.

Mobile phones are enabling in so many ways, and yet as one of the symbolic products of 21st century life, they also personally connect us to the challenges for people and planet which are presented by our consumption and use of technology.

This can range from the individual need for digital down-time, to the challenge of poor labour and environmental practices along the supply chain, to the need to overcome both resource scarcity and growing rates of e-waste generation.

Effective product stewardship is an essential part of transitioning ourselves as consumers, and collectively as a society, to sustainable patterns of consumption and production. As a voluntary, not-for-profit industry initiative, MobileMuster is to be commended in this regard on a decade of leadership in product stewardship.

The importance of responsible consumption and production has been recently highlighted through its inclusion as one of the seventeen United Nation's Sustainable Development Goals. Responsible consumption and production, and indeed responsible prosperity more generally, involves not only technical and policy innovation, but also deeper insights into consumer behaviour. This spans patterns of ownership, awareness of how to recycle, to considering how to overcome hoarding behaviours which lock-up valuable resources by storing mobiles in bottom drawers instead of recycling.

Ten years of research and consumer education by AMTA presented in this report, provides a unique body of knowledge that can inform and lead the ongoing evolution of stewardship for mobile telecommunications. Customers, industry, research and government must work together to move beyond the 'buy and throw' mentality to foster a circular economy philosophy of take-make-recreate.

Managing mobile phones is complex and dynamic. It's set to become an even more exciting field as the digital economy continues to enable and disrupt. This is precisely why the reflective and transparent approach in this report is so valuable for future policy, program management and sectoral innovation.

The carriers and handset manufacturers participating in MobileMuster have invested wisely in the creation of an impressive take-back and recycling program – I commend this report to you and trust it strengthens momentum in pursuing both recycle-ready product designs and business models which showcase opportunities for Australian leadership in the circular economy.

Associate Professor Damien Giurco
Research Director
UTS Institute for Sustainable Futures
Leader, Wealth from Waste Cluster

EXECUTIVE SUMMARY

Australians have embraced mobile technology since 1987 when the first official call was made using an analogue mobile phone. The relentless growth in mobile services and evolution from bulky voice-only handsets to today's broadband-enabled smartphones represents a global phenomenon.

For the last 10 years the Australian Mobile Telecommunications Association (AMTA) has commissioned annual market research[1] into how Australian consumers use and dispose of their mobile phones and why they do or don't recycle. The research has provided critical intelligence in shaping, directing and monitoring the performance of the industry's recycling program – MobileMuster.

Established voluntarily in 1998 by the AMTA and its members, the Mobile Phone Industry Recycling Program (MPIRP) now known as MobileMuster, aims to keep old mobiles out of landfill and ensure that all components including accessories are recycled to the highest environmental standards.

In the world of product stewardship MobileMuster is a unique program. Unlike many schemes across the globe it is not governed by regulation or enforced by mandatory laws. It is a voluntary initiative of manufacturers and carriers who have chosen to work together. In May 2014 MobileMuster was accredited as the first voluntary product stewardship scheme under the Federal Government's Product Stewardship Act 2011.

[1] Consumer market research data commissioned annually by the AMTA since 2005.

Poor functional performance[2] has been the primary reason for replacing a phone for many years. However, when there is a significant change or improvement in technology, as in the case of the smartphone, a very strong desire for the latest technology becomes the overwhelming driver for consumers. This has been the case in Australia from 2010 to 2014 with the release of the iPhone 4 in July 2010 where imports peaked at 13.3 million in 2010/11.

As the rate of technology change slows however, so do consumers reasons for replacing their phone. Seeking the latest technology is now no longer the primary reason for buying a new phone. Similarly more people are starting to keep their current phone for two or more years.

In terms of what people do with their old phones, there have been some significant shifts in behaviour over the past ten years. More people are aware of how, why and where to recycle with awareness of mobile phone recycling growing from 46% to 78% peaking at 84% in 2011. More people are recycling with collections increasing from 42 tonne per annum to 74 tonne in 2014–15, peaking at 122 tonne in 2008/09 and the annual available collection rate growing from 14.1% to 53.1% peaking at 53.2% in 2012–13.

Less people are disposing of their phones into landfill, decreasing from 9% to 2%.

Similarly, with the recent growth of online cash for phone and trade-in programs, more people are selling or trading in their phones as a way of recovering some financial return, up to 6%.

Consumer desire however, to keep old phones remains unchanged (60% even if not working). As a result the number of unused phones stored away in homes has **grown from 12 million to over 22.5 million in the past decade.**

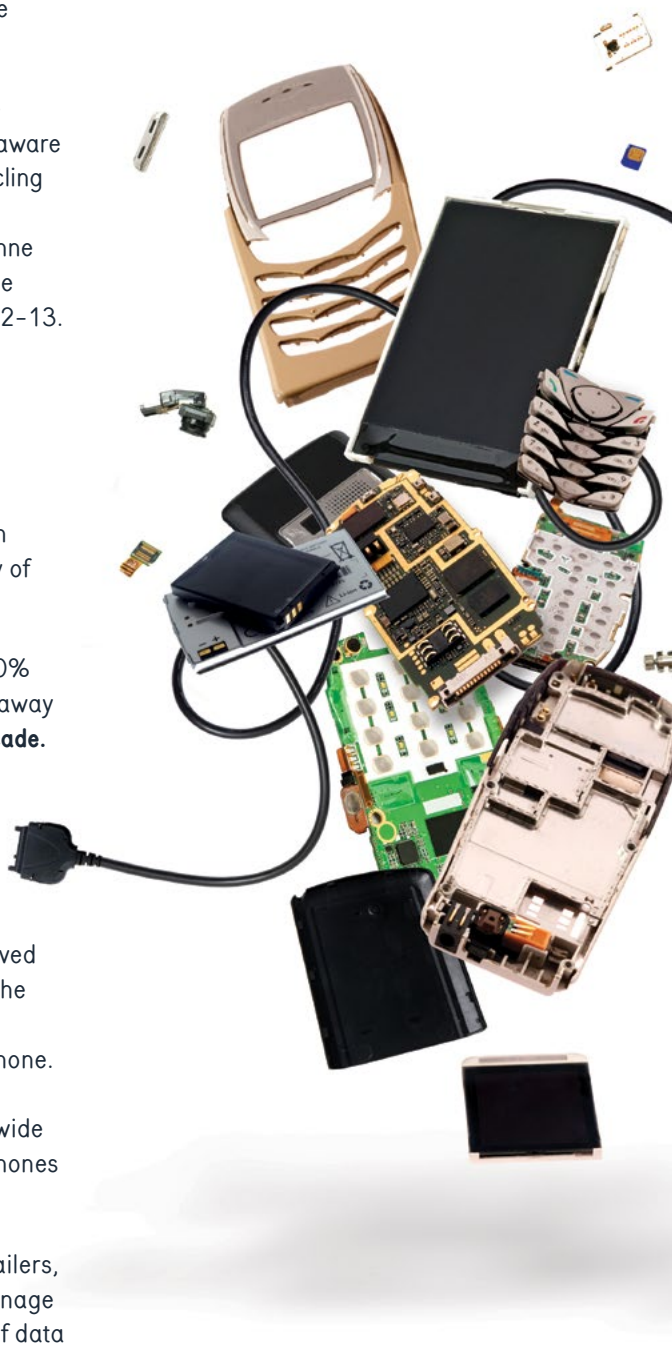
This equates to nearly one phone for every person in Australia.

For many people the reason for keeping old phones has been a perceived need to keep a backup for possible future use. But with the advent of the smartphone more people are citing having personal information on a phone and data security concerns, as their reason for keeping their phone. This pattern of behaviour also reflects the vast amount of information that can now be stored on phones. This hoarding mentality is a worldwide phenomenon and typically very common. An estimated 125 million phones languish unused in the UK alone.[3]

This trend clearly sends an important message to manufacturers, retailers, resellers and recyclers about the growing need to help consumers manage their data safely and securely. If not effectively addressed, the issue of data security could become a significant barrier to increased levels of reuse and recycling of mobile phones into the future.

Storing of phones represents a significant loss of resources, creating an unsustainable balance between the rate of consumption and the rate of reuse and recycling, with substantially more mobiles sitting dormant in homes rather than being reused or responsibly recycled.

More people are aware of how, why and where to recycle with awareness of mobile phone recycling growing from 46% to 79%



[2] Phone deteriorating/not working

[3] Green Alliance (2015) A circular economy for smart devices. Opportunities in the US, UK and India

RECYCLING PERSONALITIES

Certain social themes and factors are also relevant within the context of personal motivation and key drivers where it appears from the research that there are essentially four recycling personality types:

THOSE THAT WILL RECYCLE AS SOON AS THEY KNOW WHY, WHERE AND HOW

THOSE THAT NEED A REMINDER AND AN ADDITIONAL REASON TO RECYCLE

such as seeing something or someone benefiting from the phone being recycled – e.g. cash to a charity, planting trees, or being reused by people in need

THOSE THAT WANT A FINANCIAL REWARD

some may be happy with a voucher or discount on their mobile phone bill, others want cash

THOSE THAT WILL NEVER RECYCLE

fortunately this represents less than 5% of respondents

Financial incentives, **awareness** and **access** continue to be the three main drivers which encourage people to recycle, with personal financial rewards continuing to be the primary motivation. While MobileMuster has raised awareness and made recycling widespread and very accessible, altruistic incentives appear to be becoming less of a driver in recent years as a way of encouraging people to recycle their old phones.

The Starship Foundation in New Zealand recently decided collecting and reselling phones was no longer an effective fundraiser as more people are holding onto their smartphones for longer, selling them or passing them on to family and friends. This demonstrates the supply and value of phones received by the Foundation to resell and raise funds has diminished over time.[4]

Effective advertising and promotions has a direct impact on awareness and engagement of consumers, and if promotions are not maintained to a certain level, awareness will reduce and collection rates will drop. This is especially the case when people are purchasing a new phone, as this was the most common event or catalyst that prompted consumers to recycle. As a result it is vital that retailers and manufacturers consistently remind customers around the time of purchase as to the why, where and how they can recycle or reuse their old phones in order to maximise collection and recycling rates of unwanted or redundant phones.

Access to nearby drop-off locations (i.e. proximity), and in particular high levels of convenience is also an important factor, with most people saying they would likely recycle at the local supermarket and Australia Post stores in addition to mobile phone retailers. However, having collection points in these locations can be very challenging. Currently Australia Post only distributes MobileMuster recycling satchels.

Collecting phones at local council drop off days or with TVs and computers is least preferred. The possibility however of recycling mobile phones along with batteries, globes or other small electronics, as in the case of the City of Sydney offering integrated collection units located in libraries, does improve convenience and reflects a community-friendly approach to maximising collection opportunities.

Technological developments have had both positive and negative impacts on mobile phone recycling in Australia. They have driven rapid consumption of resources as functionality is enhanced (e.g. introduction of the smartphone) and made past technology redundant as networks are upgraded (e.g. CDMA). They have also improved resource efficiency through miniaturisation, dematerialisation and use of recycled content. Advances in product design and production methods have also reduced specific types of environmental impacts through the elimination or minimisation of hazardous substances. The avoidance of conflict minerals has also been a noteworthy achievement.

The research data also points towards several implications and opportunities for the future of mobile phone stewardship in Australia.

[4] https://www.starship.org.nz/foundation/fundraising/mobile-phone-appeal/

The storage of old mobile phones is still a significant issue, representing a lost opportunity for reuse and recycling. There are compelling reasons for industry to look more closely at how it can change or adjust consumer desire to keep a phone as a back-up by:

- Improving the product's durability and upgradability
- Streamlining repair and replacement of damaged phones
- Making data management and security a simple yet robust process
- Offering innovative and attractive contracts that encourage the return of mobiles (i.e. 1 in 1 out, trade-in, leasing, product-service ownership initiatives)
- Explore novel ways to fund the collection and recycling of phones (e.g. a consumer levy on the sale of each handset to fund financial incentives).

The potential for significant environmental advances across the mobile phone life cycle will start to emerge when greater focus is applied to monetising functionality and 'service' as opposed to just purchasing a manufactured item.

The potential for significant environmental advances across the mobile phone life cycle will start to emerge when greater focus is applied to monetising functionality and 'service' as opposed to just purchasing a manufactured item.

Greater engagement and coordination of activities and reporting by all players of the mobile phone lifecycle is also required to improve consumer awareness and access to reuse and recycling. From manufacturers, network carriers, retailers and service centres/ repairers, through to second-hand traders and recyclers, including:

NON-PARTICIPATING RETAILERS

e.g. Coles, Woolworths, Harvey Norman, Kogan, eBay, and other mass retailers who sell mobiles – to include consumer messaging on recycling, as well as offering a free collection service or providing post back alternatives

SECOND-HAND TRADERS

e.g. Mazuma Mobile, Cash A Phone, PhoneCycle, eBay, GumTree, Cash Converters, Boomerang, Bounce, Money4Mobiles and other second-hand traders to ensure product not sold is recycled responsibly and contribute to recycling schemes in markets where second hand product is sold

NON-PARTICIPATING MANUFACTURERS/ DISTRIBUTORS

e.g. Apple, Sony Mobile, LG, Blackberry, ALDI and Oppo to promote and offer recycling as well as publicly reporting on collections and recycling processes

SERVICE CENTRE/ REPAIRERS

to ensure that all mobiles and accessories that cannot be repaired are recycled as well as encouraging customers to recycle

RECYCLERS

e.g. MRI, PGM, Sims and other recyclers processing mobile phones and accessories share information on volumes processed, material recovery rates and recycling methods for handsets, batteries and accessories

Continuing research to monitor changes in consumer mobile phone use, recycling, storage, reuse and the extent of phones available for recycling. The market research to date has been a particularly useful tool in guiding the program's marketing activities and the development of its collection network. It has also provided deeper insights into the triggers and motivations behind Australian consumers, and why they choose to participate in recycling programs.

This will ensure that the program adapts to ever-changing use and disposal patterns as well as the need to accurately monitor the effectiveness of program activities on consumer behaviour and the associated impacts of technology and markets.

TABLE OF CONTENTS

INTRODUCTION

For the last 10 years the Australian Mobile Telecommunications Association (AMTA) has been researching how Australian consumers use and dispose of their mobile phones and why they do or don't recycle.

The research has provided critical intelligence in shaping and directing the industry recycling program; MobileMuster. In particular, how the program can increase consumer awareness and engagement through improved knowledge, access and incentives with the ultimate goal of increasing collections and keeping old mobiles out of landfill.

Compiling 10 years of market research into one report enables the telecommunications, waste and recycling industries, and other relevant stakeholders, to:

- Review what changes have occurred over time and how effective the program has been in driving change in consumer recycling behaviour
- Assess the impact of evolving mobile technology and markets on recycling behaviour, and
- Consider what this means for the future of mobile phone stewardship in Australia over the next 10 years.

In the world of product stewardship MobileMuster is a unique program.

Unlike many schemes across the globe it is not governed by regulation or enforced by mandatory laws. It is a voluntary initiative of manufacturers and carriers who have chosen to work together.

The program also takes a shared approach to product stewardship where manufacturers and carriers share the responsibility for the product. Many other schemes around the world see the responsibility rest primarily with the manufacturer or producer of the goods.

By publishing these results the industry hopes that the insights from the past 10 years will contribute to the ongoing development of product stewardship policy internationally.

THE EVOLUTION OF PRODUCT STEWARDSHIP

Extended Producer Responsibility (EPR) is an environmental protection strategy with the goal of reaching an environmental objective of a decreased total environmental impact of a product. This is achieved by making the manufacturer of the product responsible for the entire life cycle of the product and especially for the collection, recycling and final disposal.[5]

The introduction of EPR was an evolutionary step in environmental regulation where the producers' responsibility was broadened from just the traditional focus on the abatement of emissions and effluents from factories, and related industry facilities, to the whole life cycle of the product. Thus, the notion of EPR implies that the conventional responsibilities for facility-based pollution need to be broadened.[6]

In its simplest form EPR is about companies taking their environmental responsibility beyond the point of manufacture, sale and warranties, and effectively managing the total life cycle of their products. EPR requires manufacturers, brand owners, importers, retailers and supply-side enterprises to assume greater responsibility for their products when they are discarded or after consumers no longer have a need for them.

EPR prompts companies to place greater emphasis on responsible design and manufacturing processes in addition to integrating systems to recover, reuse and recycle products once they are discarded.[7]

Assigning producers responsibility both financially and/or physically for the treatment or disposal of post-consumer products via EPR can provide incentives to prevent wastes at the source, promote product design for the environment and support the achievement of public recycling and materials management goals.[8]

Product stewardship, as defined in the Australian Product Stewardship Act 2011[9] is a broader policy approach than EPR where it acknowledges that **those involved in producing, selling, using and disposing of products have a shared responsibility to ensure that those products or materials are managed in a way that reduces their impact, throughout their life cycle, on the environment and on human health and safety.**

---

[5] Thomas Lindhqvist, "Towards an [EPR] analysis of experiences and proposals," April 1992.

[6] Lifset, R. 'Extending Producer Responsibility in North America: Progress, Pitfalls, and Prospects', in Extended Producer Responsibility: A New Principles for a New generation of Pollution Prevention. Proceedings of the Symposium on Extended Producer Responsibility, November 14-15, 1994 Washington, D.C.

[7] Gertsakis, J. Facilitating EcoDesign and Product Stewardship in Australia. Masters Thesis, RMIT University, Melbourne 2003.

[8] http://www.oecd.org/env/tools-evaluation/extendedproducerresponsibility.htm

[9] http://www.environment.gov.au/protection/national-waste-policy/product-stewardship

AUSTRALIA'S MOBILE INDUSTRY'S RECYCLING PROGRAM: A SHORT HISTORY

In late 1998 the Australian Mobile Telecommunications Association (AMTA) voluntarily initiated its Mobile Phone Industry Recycling Program (MPIRP) in response to the need to keep potentially hazardous mobile phone nickel cadmium batteries out of landfill. Like most product stewardship schemes across the world, the need to reduce hazardous waste was a key driver for its creation.

Current members of MobileMuster:

Microsoft

SAMSUNG
TURN ON TOMORROW

MOTOROLA

htc

HUAWEI

ZTE中兴

ALCATEL onetouch

FORCE

OPTUS yes

vodafone

Virgin mobile

At that time most phones came with two nickel cadmium[10] batteries. Mobile phone imports for 1998 were approximately 4 million and growing at an average rate of 15% per annum. There were approximately 6 million mobile subscribers and the CDMA network[11] was about to be rolled out meaning this would increase further (Figure 2, page 14).

The founding members of the program were Telstra, Nokia and Motorola. The program was initially funded solely by manufacturers who each paid a levy on the number of handsets they imported into the market. In 2005 funding arrangements were reviewed and a new funding model was established with both manufacturers and network carriers contributing to the program based on their market shares.

Membership of the program has grown and changed over time as has its consumer brand from **Phones4Ark** in 2001 to **MobileMuster** since 2005. The program is currently funded by handset manufacturers Microsoft, Samsung, HTC, ZTE, Huawei, Alcatel One Touch, aftermarket battery supplier Force Technology and network carriers Telstra, Optus, Vodafone and Virgin Mobile. Each member contributes to the program by paying a levy ($0.30AUD for manufacturers and $0.12AUD for network carriers) on the number of handsets that are imported into the country by members.

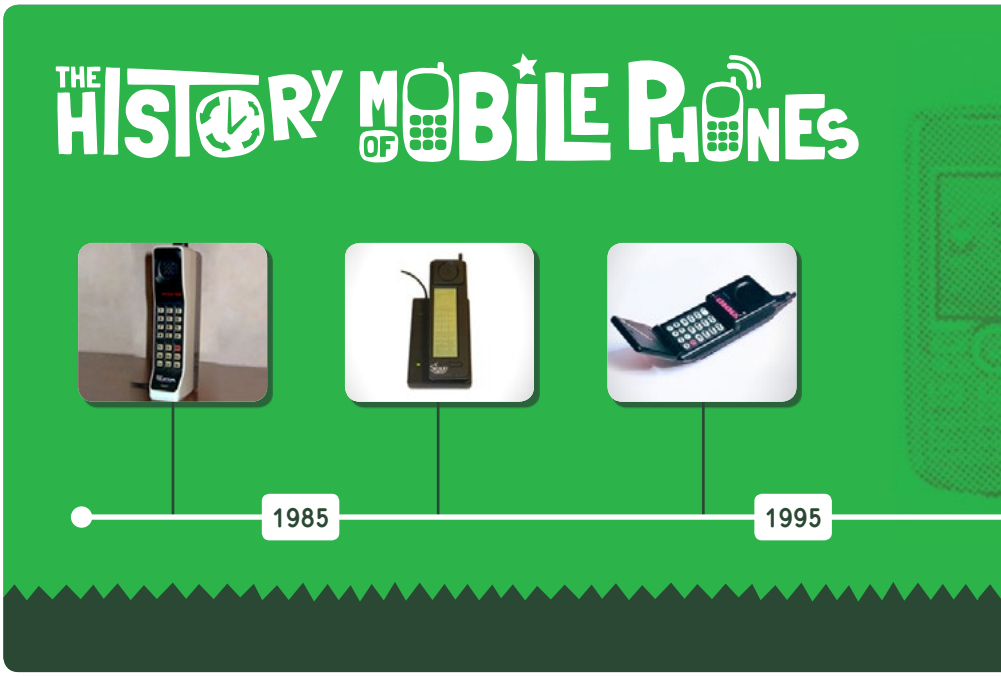
Past members of MobileMuster include:

AAPT
i-mate
LG Life's Good
Mitsubishi Electric
NEC
orange
Panasonic ideas for life
RFI
SAGEM
SHARP
Sony Ericsson

[10] Cadmium is a hazardous material that can be harmful to the environment and human health if not handled properly. Nickel cadmium batteries are very recyclable under controlled conditions where both the nickel and cadmium can be recovered separately in a closed system and then reused as raw materials for more batteries, stainless steel.

[11] CDMA (Code-Division Multiple Access) refers to any of several protocols used in second-generation (2G) and third-generation (3G) wireless communications. As the term implies, CDMA is a form of multiplexing, which allows numerous signals to occupy a single transmission channel, optimising the use of available bandwidth. The technology is used in ultra-high-frequency (UHF) cellular telephone systems in the 800-MHz and 1.9-GHz bands. http://searchtelecom.techtarget.com/definition/CDMA.

Over the years mobile phone design, technology and infrastructure has evolved rapidly. The first mobile call in Australia was made on 23 February 1987 by the then Minister for Communications, Michael Duffy using an analogue mobile phone. Over the years we have seen handsets and networks evolve becoming more sophisticated and widespread. As the networks have changed from analogue, CDMA, GSM, 2G, 3G and now 4G, handsets have evolved in size, capability and materials (Figure 2, page 14).



With the rapid uptake of mobile phones by Australians from 1998 to 2004 (imports grew from 3.9m to 7.12m and subscribers grew from 7.57m to 16.48m – see figures 1 and 2),[12] community and government concern about what was happening with all the old mobile phones and their batteries was growing raising a number of questions for the industry:

Were all these old mobiles going to landfill or being stored at homes? How often were people upgrading? Were they being exported for resale into developing countries? How many were being recycled? Should a deposit be put on handsets to ensure they are recycled?

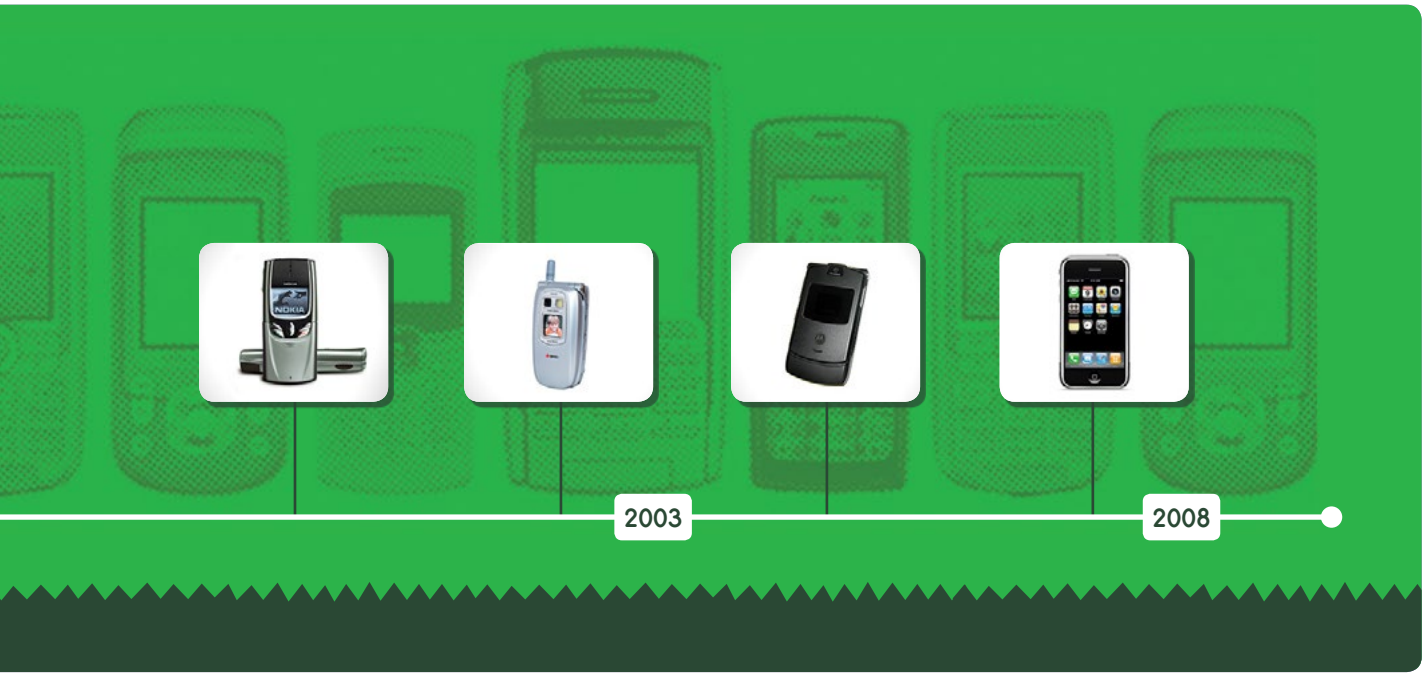
In response to these concerns AMTA in early 2005 commissioned The Klein Partnership to undertake the first widespread market research into consumer, business and stakeholder views and behaviours on mobile phone use and recycling.

It revealed that only 46% of consumers were aware that they could recycle their mobile phones, around 9% of people were throwing their mobiles into landfill and there were an estimated 12 million unused mobiles stored away in homes.

This research set the foundation and benchmark for mobile phone ownership, use and recycling in Australia and has been key to the development and success of the industry's official recycling program.

In response to this research AMTA re-launched its recycling program as **MobileMuster** in December 2005 with the **specific aim of improving its visibility, transparency and sustainability to increase collections, stop mobile phones going to landfill and ensure all components are recycled to the highest environmental standards.**

[12] (ABS/OECD) 1998–2004. Credit Suisse First Boston 2005, Australian Telecommunications 2005, Equity Research.



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, recognised the program's significant achievements and the industries $36 million investment into it.

As part of this accreditation, MobileMuster's members re-committed to increase available collection rates of mobile phones from 50% to 55% and volumes from 87 tonnes to 127 tonnes per year over the next 5 years, as well as increase consumer and industry engagement.[13]

MobileMuster is the first product stewardship scheme to be accredited by the Federal Government under the Product Stewardship Act and is the only government accredited mobile phone recycling scheme in Australia.

Ten years since the launch of MobileMuster brand, 78% of consumers are now aware that they can recycle their mobile phones, over 937 tonnes of mobiles and accessories have been collected and recycled, only 2% of people throw their mobiles into landfill, there are an estimated 22.5 million phones in storage and the annual collection rates of those phones available for recycling is 53.1%.

How has consumer mobile phone use and recycling behaviour changed over the past decade? What has driven these changes and how have they affected the performance of the program? By reviewing the 10 years of research data along with the program's activities and results we hope to answer these questions, and from this, determine the future direction of mobile phone stewardship for the next decade.

[13] See appendix 1 for MobileMuster Key Performance Indicators from 2014/15 to 2018/19

THE MOBILE PHONE MARKET 2005 TO 2015

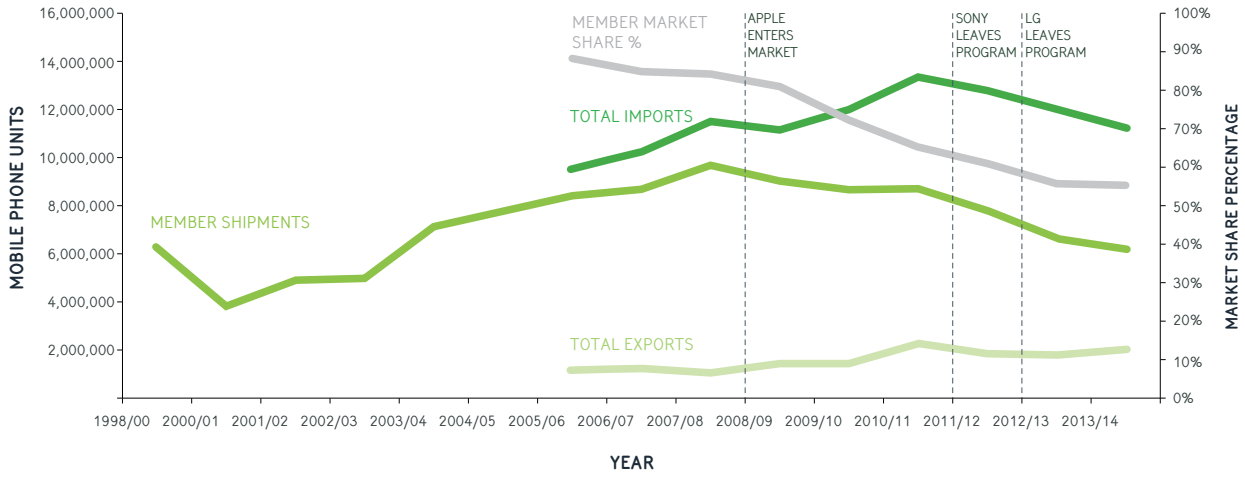
IMPORTS AND EXPORTS

Over the past 10 years imports have grown from 9.5 million in 2005/06 to 12.2 million in 2014/15, peaking in 2010/11 at 13.35 million. Exports have almost doubled over the past 10 years from 1.1 million to 2.0 million per annum, with the biggest jump in growth taking place during 2010/11 where exports represented 18% of imports.

In 2014/15 they dropped back down to 1.48 million or 12% of imports.[14]

Annual member handset shipments dropped from a peak of 9.6 million in 2007/08 to 5.8 million in 2014/15 as the market shares of participating and non-participating manufacturers have changed over time. This has reduced the program's annual revenue[15] by $1.67 million (from $4.06m in 2007/08 to $2.30m in 2014/15). In turn, investment on advertising and program promotion has dropped from 57% of total revenue to 34%, with less than $1 million per annum spent on advertising and promotion in the past three years.

FIGURE 1. MOBILE PHONE SHIPMENTS, IMPORTS, EXPORTS, MEMBER MARKET SHARE (BY UNITS) 1998–2015.[16]



[14] GfK, ABS Customs data.

[15] Revenue is generated from the levy paid on each handset imported by program members, currently at $0.42/handset

[16] See appendix 3.1 for raw data

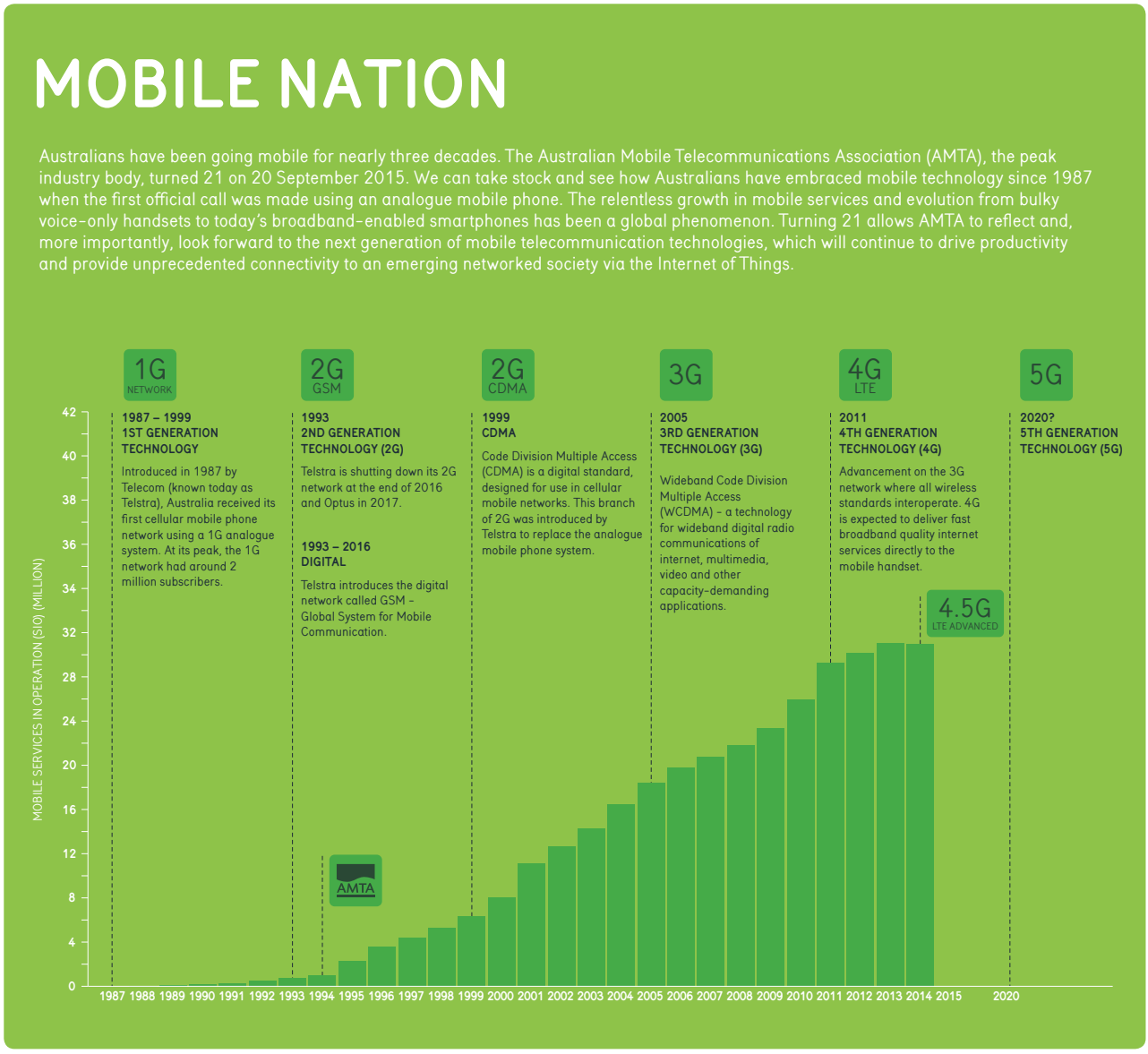
MOBILE PHONE SUBSCRIPTIONS AND TECHNOLOGY

Over the past decade Australian mobile phone ownership has grown rapidly and reached saturation levels for most age groups. In 2005 there were 16.48 million mobile phone subscribers (voice and data) representing a penetration rate of 82%.[17]

Australian Communications and Media Authority (ACMA) research shows that saturation of the Australian mobile phone market was achieved in 2011 when an estimated 92% of the adult population (those aged 18 years and over) used a mobile phone.[18] Mobile phone use ranged from a comparative low of 7% for people aged 65 years and over to a high of 99% for those aged 18 to 24 years.

In 2015 the number of mobile phone subscribers (voice and data) increased to just over 31 million, representing a 138% penetration rate (ACMA, December 2014).[19]

FIGURE 2. MOBILE PHONE SUBSCRIPTIONS AND TECHNOLOGY



[17] AMTA, 2005

[18] ACMA, 2012

[19] ACMA, 2014

RESEARCH METHODOLOGY

The data used in this report is drawn from consumer research commissioned annually by the AMTA since 2005 (see appendix 2 for market research timeline).

The overarching objective of the consumer research has been two-fold:

1. To gain insights into the current and changing behaviour of Australian mobile phone users focussing on mobile phone ownership, use and recycling behaviours including awareness, attitudes and behaviour towards mobile phone recycling
2. To assess the effectiveness and impacts of the program's promotional and advertising activities.

TARGET AUDIENCE AND SAMPLE SIZE

In total 16 surveys have been completed (see appendix 2 for list of surveys). The audience, sample size and method (I.e. telephone vs online) for the surveys have varied slightly over time. In undertaking the analysis these variations have been taken into consideration when comparing data year on year.

In the first survey conducted by The Klein Partnership[20] in 2005, the sample size was 904, demographically representative of the population with individuals 15+ nationally, with 87% being mobile phone users. Interviews were done by telephone.

From 2006 to February 2011, IPSOS[21] undertook the research. The survey respondents were randomly selected from an online panel and invited to take part in the survey. In order to qualify respondents had to be aged between 16 to 64 years, own a mobile phone and live in either Sydney, Melbourne, Adelaide or Perth. Each time 600 to 700 people were surveyed.

From November 2011, it was decided to broaden the sample size to cover a nationally representative panel of respondents throughout Australia. As in previous years the survey respondents were randomly selected from an online panel and invited to take part in the survey. In order to qualify respondents had to be aged 16 years or older and own a mobile phone. Each time 1000 to 1100 people were surveyed by IPSOS.

A number of shorter surveys using Omnibus (18+) and Newspoll (18-64) to specifically assess the effectiveness and impact of TV, radio and online advertising campaigns were also undertaken in 2008 and 2009. Data from these surveys has only been used where appropriate. The sample size was similar to the IPSOS research with 1000 to 1100 people being surveyed.

[20] The Klein Partnership, Independent market research consultancy, http://www.tkp.com.au/

[21] IPSOS, Independent market research company, ranked third in the global research industry http://ipsos.com.au/

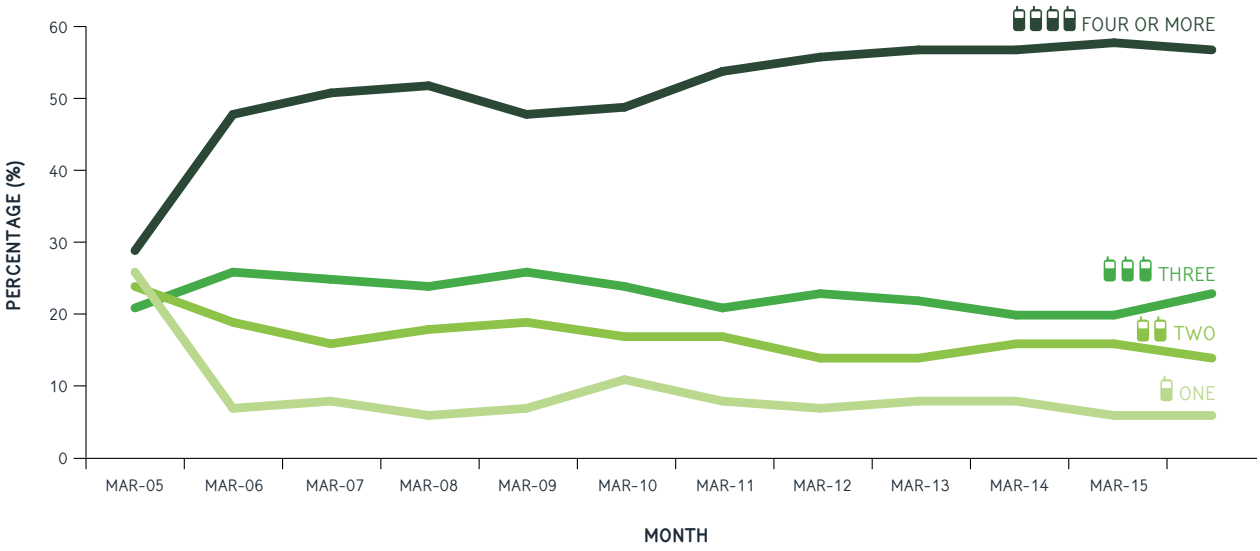
MARKET RESEARCH RESULTS

CURRENT PHONE OWNERSHIP AND USE PATTERNS

HOW MANY PHONES HAVE YOU OWNED?

The vast majority of the Australian population have owned more than one mobile phone, with the number of people who have owned 4 or more mobile phones doubling since 2005 from 29% to 57%.[22] Furthermore, approximately 18% of mobile phone users currently have two mobiles.[23]

FIGURE 3. HOW MANY MOBILE PHONES HAVE YOU EVER OWNED?



[22] See appendix 3.2 for raw data

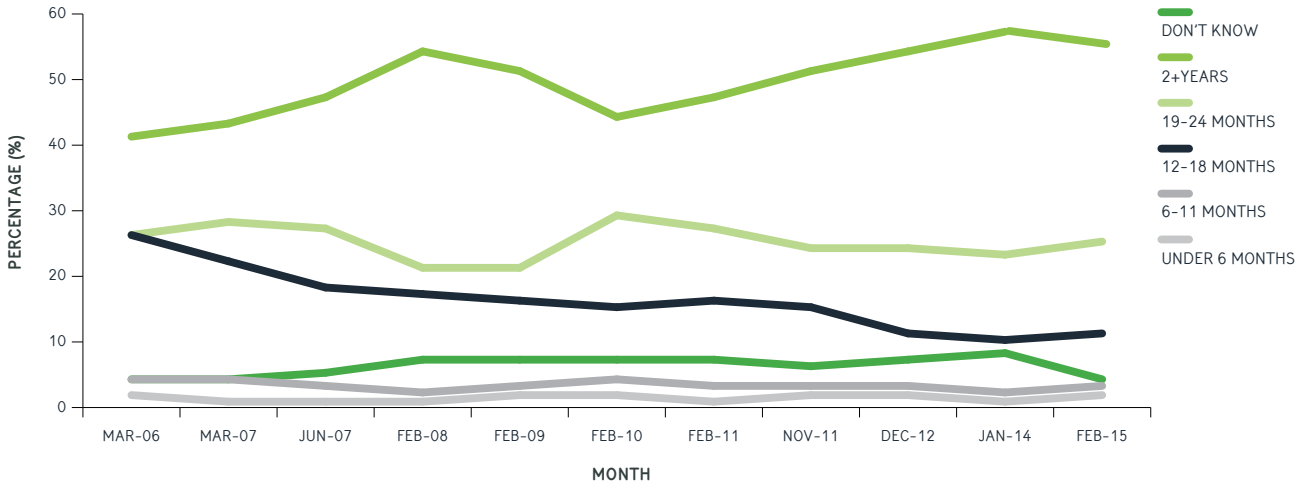
[23] See appendix 3.3 for raw data

HOW LONG DO PEOPLE USE THEIR PHONE FOR – EXPECTED VERSUS ACTUAL

In terms of expected use, on average more than **half of mobile phones users expect to keep their mobile for longer than 2 years**, around 25% for 18 to 24 months and 15% for 12 to18 months.

Over the decade this has varied by a few percentage points up or down with the expected length shortening in 2010 and 2011, but then increasing again more recently towards keeping it longer.[24]

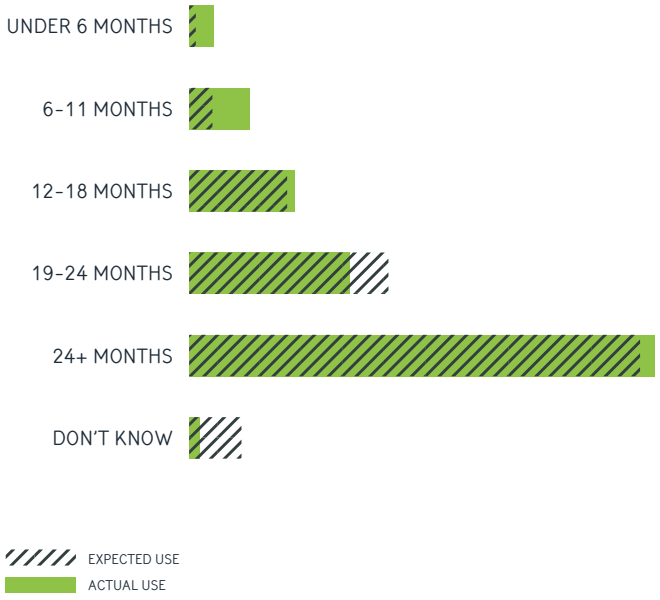
FIGURE 4. EXPECTED LENGTH OF USE FOR MOBILE PHONE



However, when comparing average expected use with average actual use, from 2011 the research revealed people didn't keep their phones as long as they expected to.

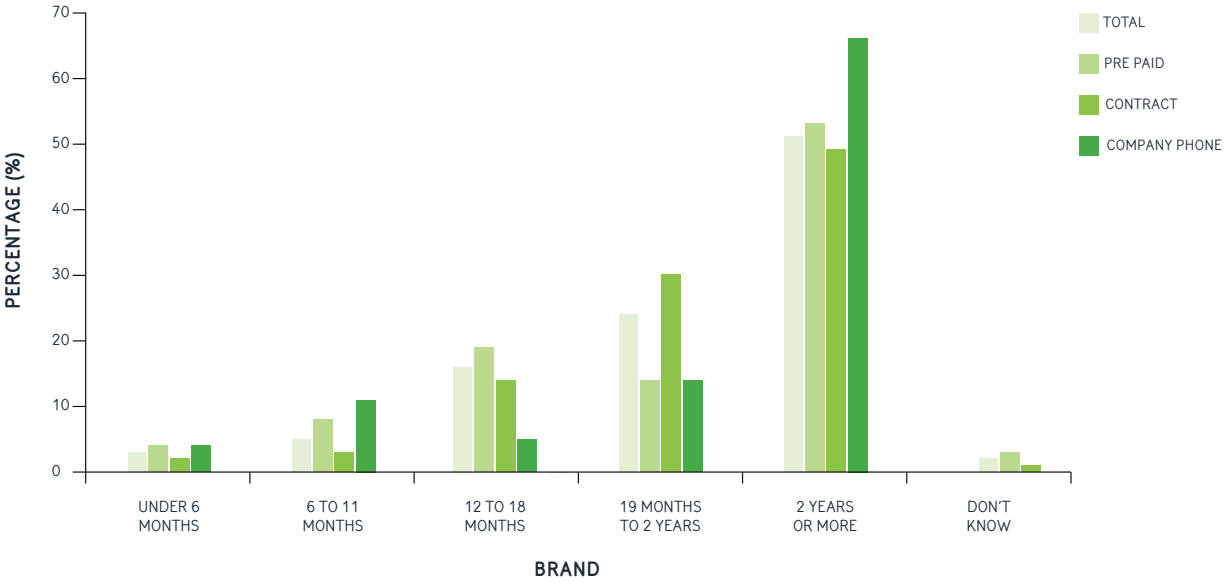
Where 54% of people expected to use their phone for 2 years or more in reality only 49% of people used their phone for 2 years or more and only 22.5% kept their phone for 19 to 24 months versus 24%. Correspondingly, the proportion of mobile phone users who kept their phone for 12 to 18 months or less increased from 11% to 17% and for those who kept their phone for less than 12 months it increased from 3.5% to 8.5%.

FIGURE 5. EXPECTED USE VS. ACTUAL USE 2011-2015



[24] See appendix 3.4 for raw data

FIGURE 6. LENGTH OF OWNERSHIP – PREVIOUS HANDSET BY PHONE PLAN TYPE 2015



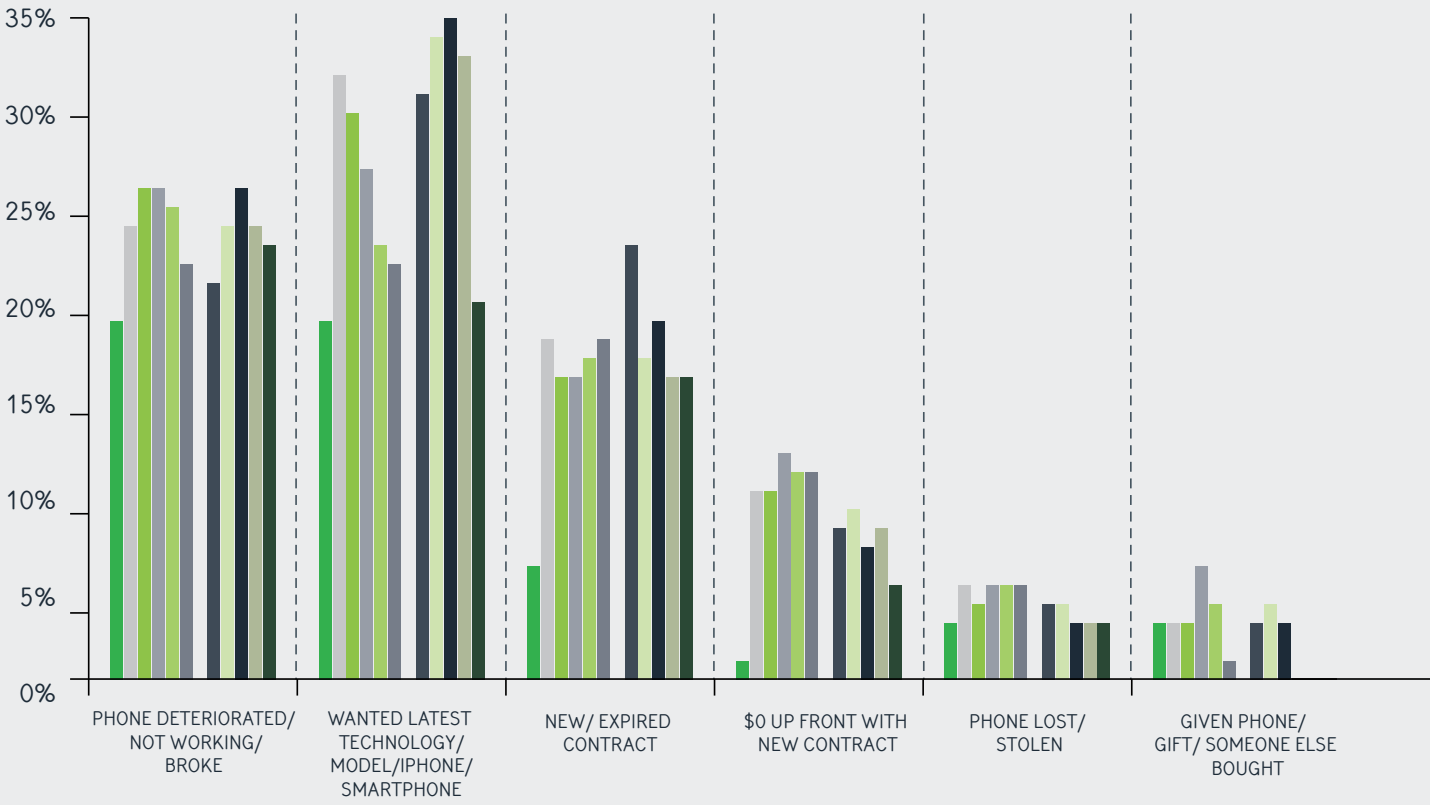
Both plan type (i.e. contract versus prepaid) and age were linked to the duration of use. Prepaid users either turned over their phone quickly (i.e. less than 19 months) or kept them for more than two years.

More contract phones are turned over in the 19 month to 2 year period. Work phones appeared to be turned over either every 12 months or every 2 years.[25]

Younger people (i.e. 18 to 24 years old) are more likely to keep their phones for a short period (i.e. 32% versus 7% – less than 19 months) with older people (50 years or older) more likely to keep their phones for more than two years.

[25] See appendix 3.5 for raw data

FIGURE 7. REASONS FOR OBTAINING CURRENT PHONE



WHY ARE PEOPLE GETTING A NEW PHONE?

The main reasons for getting a new phone haven't changed much over time[26] with the top 3 reasons up until 2011 being phone deteriorating/not working (24% on average) or **wanted latest technology/smartphones (28% on average) or existing contract expired (17% on average**). Interestingly a $0 up front with new contract and phone given by friend or work are less of a reason now than previously.

From 2011 to 2014 however the percentage of people citing the desire for new technology and smartphones as a reason for replacing their old phone jumped up to over 33% on average, which reflects the uptake of smartphones by the Australian community. As expected this is now becoming less of a reason (down to 20% in 2015) as nearly **90% of Australians own a smartphone.**[27]

With 23 million inhabitants, Australia has a much smaller population than other major mobile markets such as the United States and the United Kingdom, but it has higher rates of smart device ownership with the two major brands Apple and Samsung dominating the smartphone market.[28]

One of the top 3 reasons for getting a new phone is wanted latest technology/ smartphones.

[26] See appendix 3.6 for raw data

[27] 2014 Australian Mobile Phone Lifestyle Index (AMPLI). http://www.aimia.com.au/ampli2014

[28] See appendix 3.7 for raw data

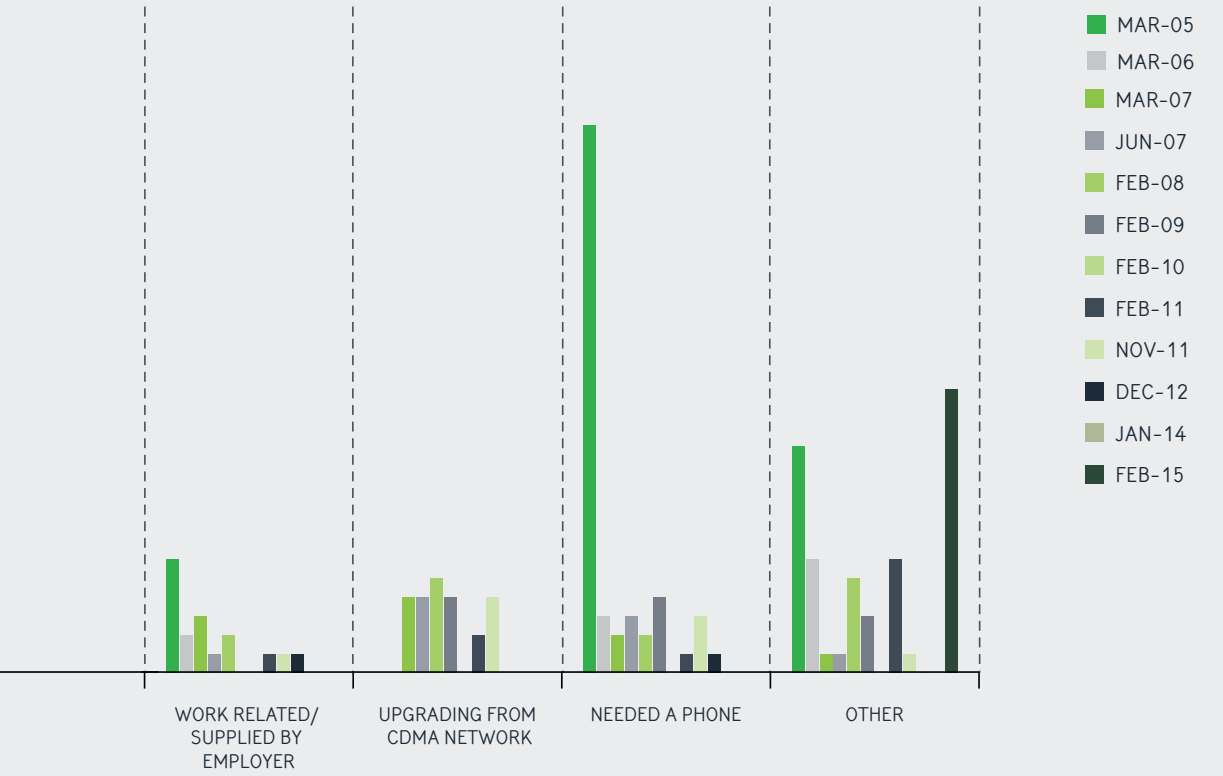
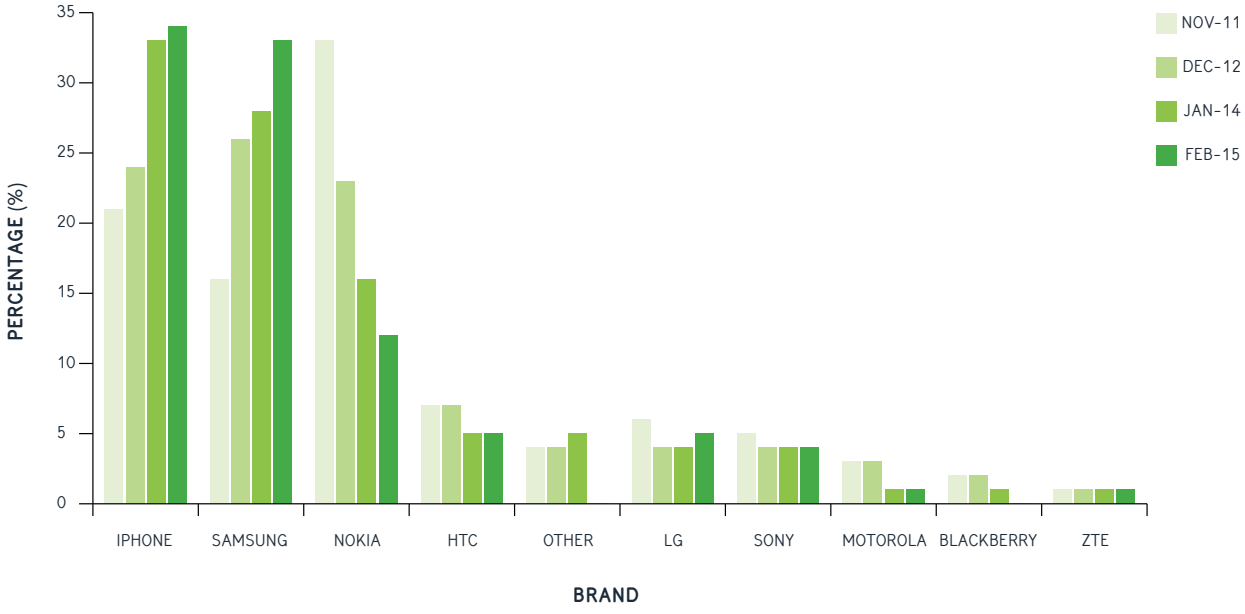


FIGURE 8. BRAND OF CURRENT MOBILE PHONE



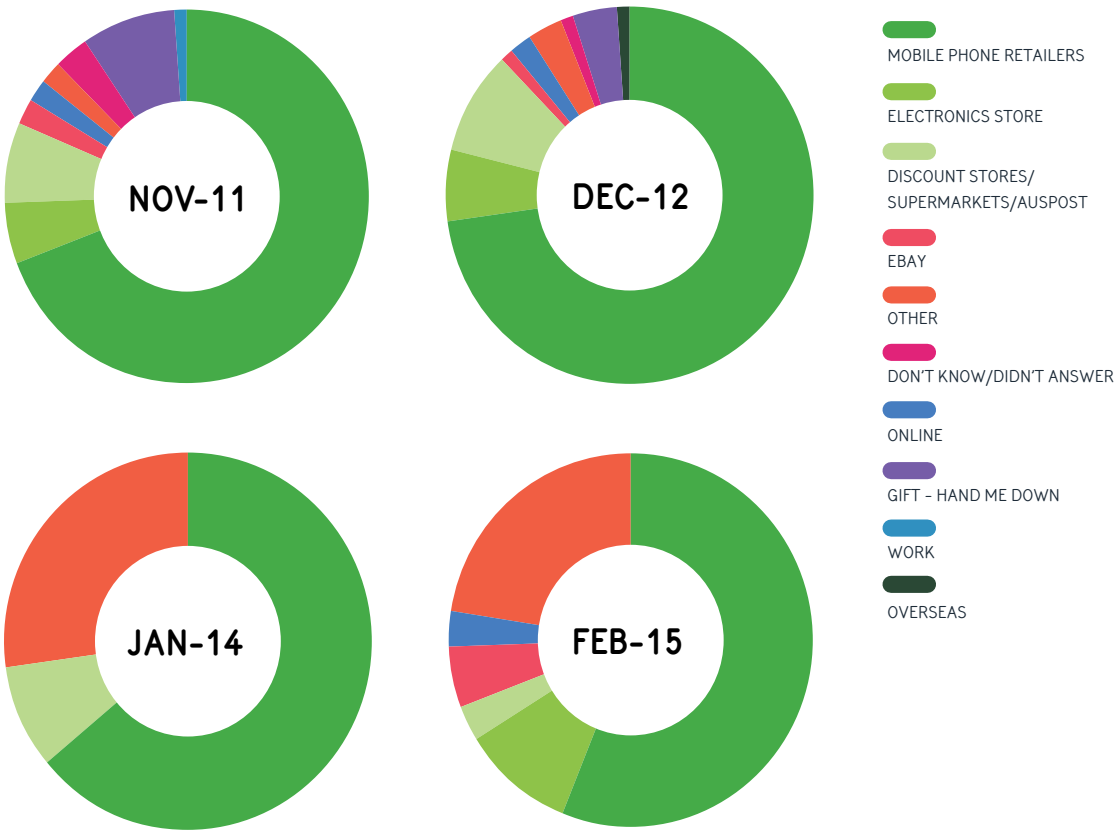
WHO ARE PEOPLE BUYING THEIR PHONES FROM?

While **the majority of people purchase their mobile phones from mobile phone retailers, there is a growing number of alternative places** to purchase new mobiles either through mass channels like supermarkets and discount electronic retailers or online sites like Kogan, direct from manufacturers or eBay.[29]

The more diversified retailer network makes promoting recycling at the point of sale more difficult, especially in discount stores, supermarkets and through online sites.

The majority of people purchase their mobile phones from mobile phone retailers.

FIGURE 9. WHERE DID YOU BUY YOUR LAST MOBILE?



WHEN DO PEOPLE BUY OR RECEIVE NEW PHONES?

The main time periods when **people get a new phone are either when the previous one stopped working properly or broke, when their contract was up or when an updated model was launched** with one quarter to one third of people getting a new phone at either of these times.

Around 1 in 20 people get a new phone either at Christmas, on their birthday, when they start a new job or towards the end of the financial year.[30]

[29] See appendix 3.8 for raw data

[30] See appendix 3.9 for raw data

WHAT HAPPENS TO OLD PHONES AND WHY?

WHAT ARE AUSTRALIAN MOBILE PHONE OWNERS DOING WITH THEIR OLD MOBILES?

Over the past decade some clear trends in what people are doing with their previous phone emerged:[31]

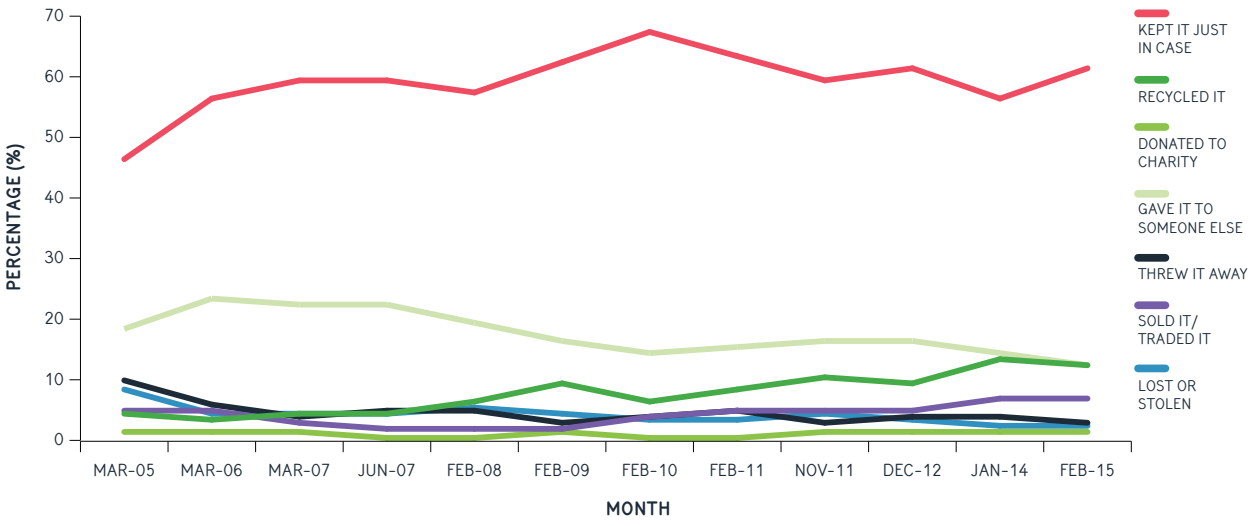
- **More people are keeping their phones**, an increase from 46% to 61%, even if they are not working (25% of those kept don't work)
- **Less people are giving their previous phone away** either to family / friend or charity, dropping from 19% to 13%
- **More people are selling/trading in their previous phone**, up from 4% to 6% (note the main increase in selling not trading 0% to 4%)
- **More people are recycling their previous phone**, up from 4% to 12%
- **Less people are throwing them in the rubbish**, down from 9% to 2%
- **Less are being stolen**, down from 8% to 2%.

LOST AND STOLEN

AMTA

The AMTA has an agreement in place with all Australian mobile phone carriers to block all lost or stolen mobile phones by letting people check the IMEI status of a mobile phone. If a mobile phone is lost or stolen, consumers can contact their service provider immediately to suspend their service and stop unauthorised calls being made. The provider will block your SIM card and IMEI number to prevent the phone from being used on any Australian mobile network.

FIGURE 10. WHAT HAPPENED TO YOUR PREVIOUS MOBILE PHONE?

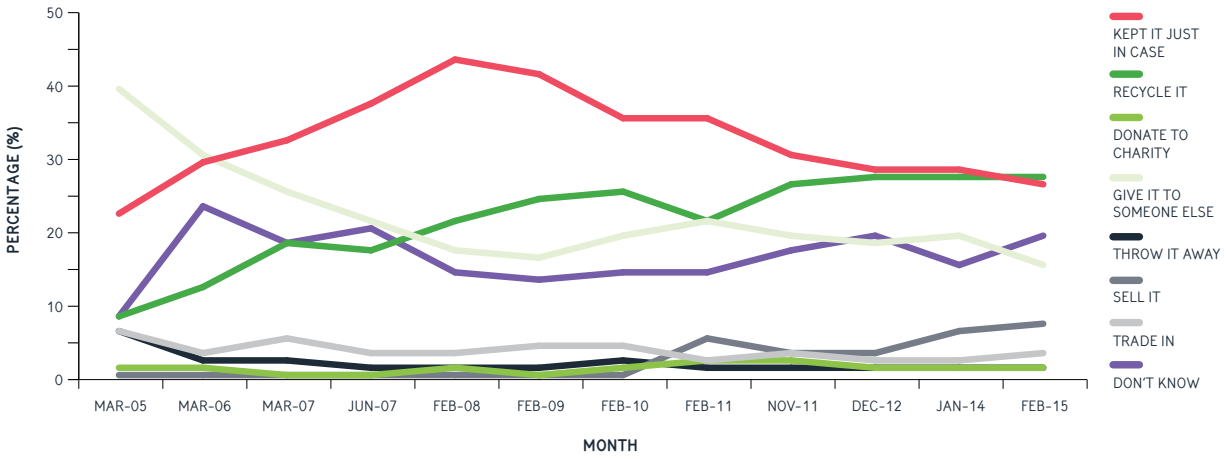


[31] See appendix 3.10 for raw data

PLANNED VERSUS ACTUAL BEHAVIOUR

While people's intention to recycle their current phone increased over the past decade to 27% in 2015 only 12% said they recycled their previous phone this year. Correspondingly more people kept their previous phone this year, 61% compared to 26% saying they will recycle their current phone.[32]

FIGURE 11. WHAT ARE YOU PLANNING TO DO WITH YOUR OLD MOBILE WHEN YOU GET A NEW ONE?



MOBILE PHONES IN STORAGE

As a result of so many people keeping their previous phone/s the estimated amount of **unused phones in storage has grown substantially over the past decade from 12 million to 22.5 million.**[33] From 2008 to 2011 there was a rapid growth in phones in storage but this started to slow in 2012 to the point where it dropped for the first time in 2015.

Unused phones in storage has grown substantially over the past decade from 12 million to 22.5 million.

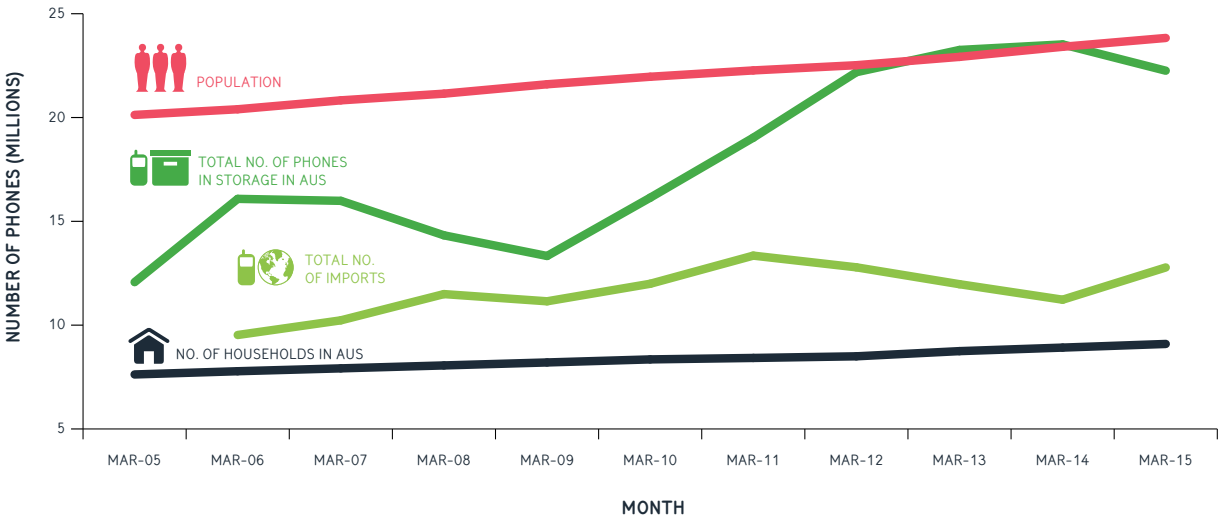
Likewise the number of people who had two or more phones in storage increased for a number of years peaking at 40% in 2011. This figure then started to reduce in 2012 to 36% in 2015.

FIGURE 12. MOBILE PHONES IN STORAGE

[32] See appendix 3.11 for raw data

[33] See appendix 3.12 for raw data

FIGURE 13. POPULATION AND HOUSEHOLD NUMBERS VS MOBILES IN STORAGE & IMPORTS



The average number of **phones in storage per household grew from 1.58 in 2005 to 2.45 in 2015, peaking at 2.66 in 2012**.[34] Likewise the average number of phones in storage per-capita grew from 0.6 in 2005 to 0.9 in 2015, peaking at 1.33 in 2014.

FIGURE 14. AVERAGE NUMBER OF PHONES PER HOUSEHOLD & PER CAPITA

According to a national study by Fear in 2008[35] on clutter, Australians say they are hanging on to the 'stuff' that clutters up their homes because they are too lazy or too busy to deal with it; or they feel guilty for getting rid of things that they invested in.[36]

[34] See appendix 3.13 for raw data

[35, 36] Josh Fear, 2008, Stuff happens: Unused things cluttering up our homes, The Australia Institute, viewed 16 July 2015, http://apo.org.au/node/603.

The majority of Australian homes accumulate clutter as people make the conscious decision to keep unwanted and unused things in their homes rather than throwing them away, recycling, selling or giving them to someone else.[37]

Naturally mobile phones, like other household clutter, tend to accumulate over a lifetime. AMTA generally accepts that most people will keep one working phone as a backup, but questions the need to keep two or more. This is why reducing the percentage of people who have two or more phones in storage is one of MobileMuster's key performance indicators.[38]

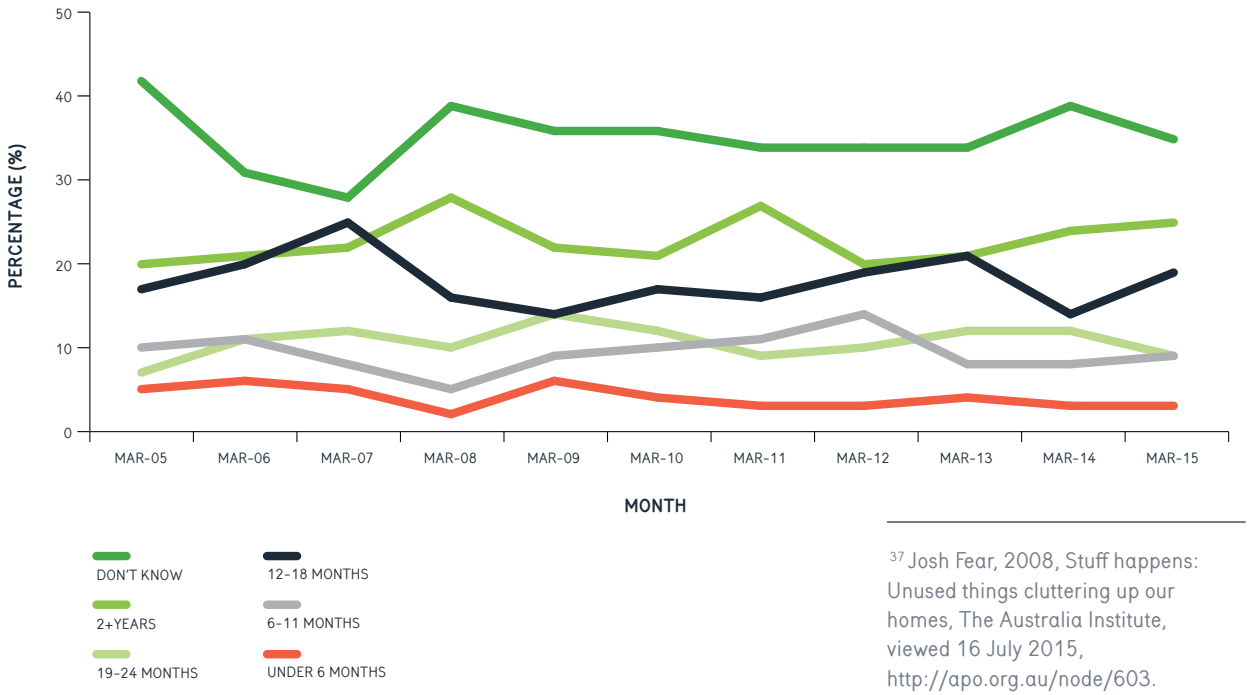
To further understand the type of phones in storage the November 2009 Omnibus survey of 1,045 people, included questions about whether the phones people had in storage were still working or not and how old they were.

Of the mobiles in storage 41% were estimated to be four or more years old and 61% believed to still be working.[39]

HOW LONG ARE PEOPLE PLANNING TO STORE THEIR PHONES?

More people are intending to hold on to their phone for two or more years now than 10 years ago, but at least a third of mobile phone users still don't really think about it.[40]

FIGURE 15. IF STORING/KEEPING YOUR PHONE, HOW LONG DO YOU EXPECT TO KEEP IT FOR?



[37] Josh Fear, 2008, Stuff happens: Unused things cluttering up our homes, The Australia Institute, viewed 16 July 2015, http://apo.org.au/node/603.

[38] See appendix 1 KPIs for raw data

[39] See appendix 3.12 for raw data

[40] See appendix 3.14 for raw data

WHY ARE PEOPLE KEEPING THEIR OLD PHONES AND NOT RECYCLING THEM?[41]

The main reason since 2007 has been that people wanted it as a spare for back up.

While initially in 2005 and 2006 the primary reason people kept their phone and didn't recycle it was that they *didn't know they could* or they *weren't sure what to do with it*. **The main reason since 2007 has been that people wanted it as a spare for back up**. This reason has continued to be the primary reason with anywhere from 40% to 60% of people listing this as a reason for not recycling their phone over the years.

The next most common reasons given are that the phone *still works, the person may need it or that it has information / numbers on it*. The percentage of people who have given one of these reasons has grown over the years from less than 10% to more than 20% in 2014, dropping to 16% in 2015.

Haven't got around to it is the next most common reason ranging from 11% to 25% over the years with no clear trend over time.

Didn't know they could recycle it as a reason given for holding onto their old handset dropped from 13% in 2007 to 5% in 2015, but *not sure what to do with it* increased from 8% in 2005 to 14% in 2015. This possibly reflects that there are now more factors to consider in deciding what to do with your old phone. Reasons given by consumers included *security concerns* or that *people may be able to sell it* or *repair it or use it overseas.*

[41] See appendix 3.15 for raw data

Handing it on to friends or family to use was more likely to be given as a reason for not recycling in 2005 and 2006 than in more recent years, *while keeping for kids to play with* continues to remain a reason for some (between 2% to 6%).

Knowing where to recycle has been a reason for not recycling for about 9% of people on average over the decade, interestingly this went up to 16% in 2015. This probably reflects the gradual drop in general awareness of mobile phone recycling over the past two years from 83% in 2013 to 79% in 2015.

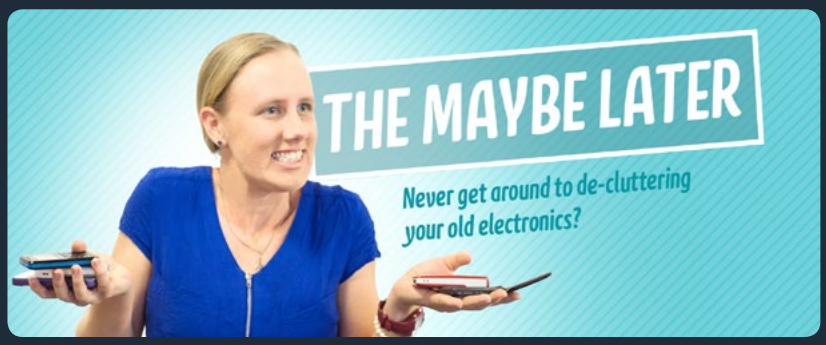
There is also a small percentage of people, around 2%, that consider it was an *expensive phone/paid good money for it.*

TAKE THE QUIZ

mobilemuster.com.au/news/quiz-what-type-of-hoarder-are-you

WHAT TYPE OF HOARDER ARE YOU?

The reasons people hoard their old mobiles can be grouped into seven personality types:



If you find yourself putting off de-cluttering and recycling all those unnecessary electronic items that are tucked away in cupboards and drawers, then you qualify as a 'Maybe Later' type

This is someone who is holding onto their old mobiles for sentimental reasons such as, it being their first mobile, were using it when they met their partner or perhaps receiving it as a gift from a parent

Would it surprise you to know that one in ten Aussies are holding onto an old mobile in case they might need it in an alien invasion?

Some people believe that one day their old mobile phone will be worth a lot of money as an antique. Like pennies, mobiles are a dime a dozen with very few of them ever becoming so rare or unique that they become a valuable collector's item

A typical technophile is someone who is often an early adopter of new technology and holds onto these phones for the enjoyment of remembering when they first got their hands on it or to have a physical reminder of how far technology has come

This person is typically concerned about the security of their data when it comes to disposing of their old electronics

Have you ever given your old mobile to someone close to you or to a child to play with? If so, then you are a typical gift-giver

THE GOLD DIGGER – THE CONCEPT OF VALUE AS A REASON FOR KEEPING A PHONE

To further understand how much people value their phones in the November 2009 Omnibus survey 1,045 people were asked if they were to sell their phones in storage how much they would expect to get for each of them.

The responses were varied, with some people estimating as much as $1,000, however the average estimated re-sale value was closer to $27. Interestingly, 35% believed their phone had no monetary value and 62% valued their phone at $10 or less and 75% at $20 or less.

To gain a more accurate understanding of market value MobileMuster also enlisted the help of eBay to see how many second-hand mobiles were available on eBay.com.au and their asking price.

In the final quarter of 2009, 4,075 used mobiles were listed on eBay.com.au with almost 40% listed for around $20. The majority of which were more than four years old, with some two to four years old.

MobileMuster also developed its own 'watchlist'[42] in January 2010 to track the prices of a variety of used phones aged four or more years old listed for sale on eBay.com.au. (See Figure 16)

The average sale price for a phone was likely to be just over $20, with some struggling to find buyers at all. Sellers also had to wear the cost of posting their old phone on eBay.com.au, which on average would have been up to $5.

According to eBay.com.au, the most popular phones to be sold then were less than two years old, with second hand sales of some of the latest models fetching up to $500. Some of the most popular used models to sell were less than two years old which at the time were the Nokia N and 6000 series, Apple iPhone and some of the latest Samsung models.

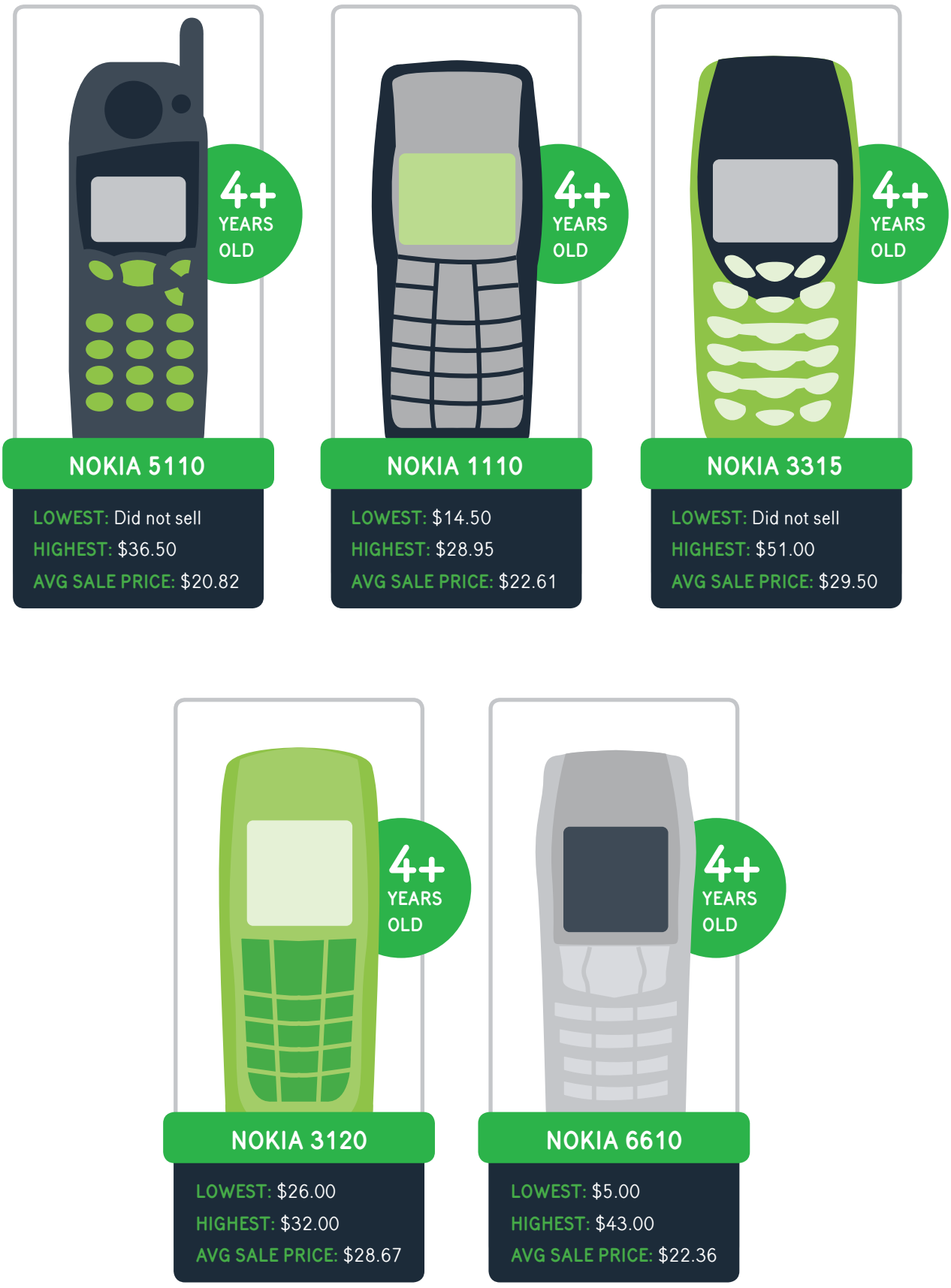
The eBay spokesperson at the time Sian Gipslis said "used mobile phones and their accessories are popular items for sale on eBay and there certainly are some bargains for buyers. However the final sale price differs significantly depending on the model, condition and most importantly, the age of the mobile phone being listed.

Looking back at the sales for the last quarter of 2009 there were some newer models that sold very well, however, older models don't tend to bring in the same amount of dollars." [43]

[42] MobileMuster eBay.com.au 'watchlist' was conducted 11–18 January 2010. Phones were mostly sold with cables, batteries and chargers

[43] MobileMuster (2010) Australia. A nation of Hoarders, http://www.mobilemuster.com.au/media/5924/mobilemuster_ebay_report_vfinal.pdf

FIGURE 16. MOBILEMUSTER EBAY.COM.AU WATCH LIST 2010 – RESALE VALUE OF PHONES



WHERE ARE PEOPLE SELLING AND/OR TRADING IN THEIR PHONES?

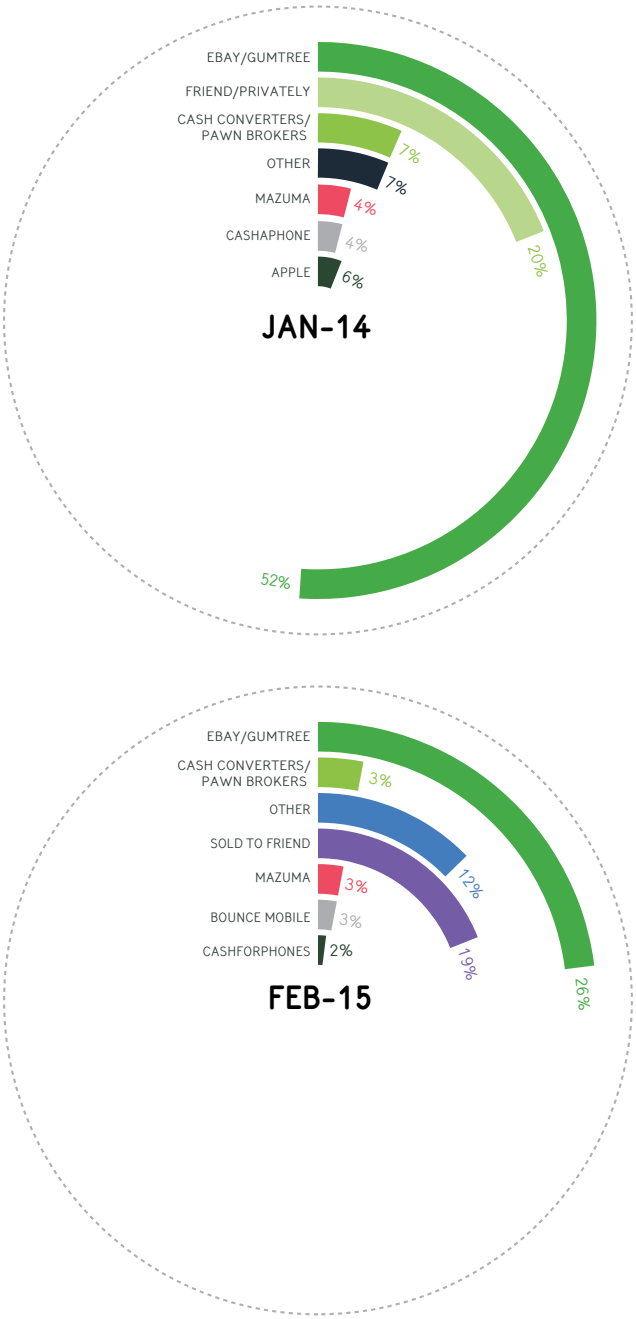
With the growth of online cash for phone programs like Mazuma Mobile, PhoneCycle, CashAPhone plus the introduction of in-store trade in programs by Telstra and Optus over the last 6 years people were asked where they sell or trade their phone.

THE SECURITY CONSCIOUS

Security concerns and *may need it*, has information/numbers on it have been two growing reasons for not recycling a phone. When asked specifically, **does information on your unused phone stop you from recycling, 19% said yes in 2015. This was up from 16% in 2011.**[44] When asked if people knew how to delete, save and/or transfer the data would you be more likely to be recycle, 79% of people said yes.[45]

In terms of why having data on a phone stops people from recycling it, the primary concern was that *someone else may access and use my information*, followed by *I might need the information later, I don't believe the information will be destroyed* with *I don't know how to delete or save and/or transfer my data to my new phone or computer*.[46]

FIGURE 17. WHERE DID YOU SELL OR TRADE IN YOUR PHONE?



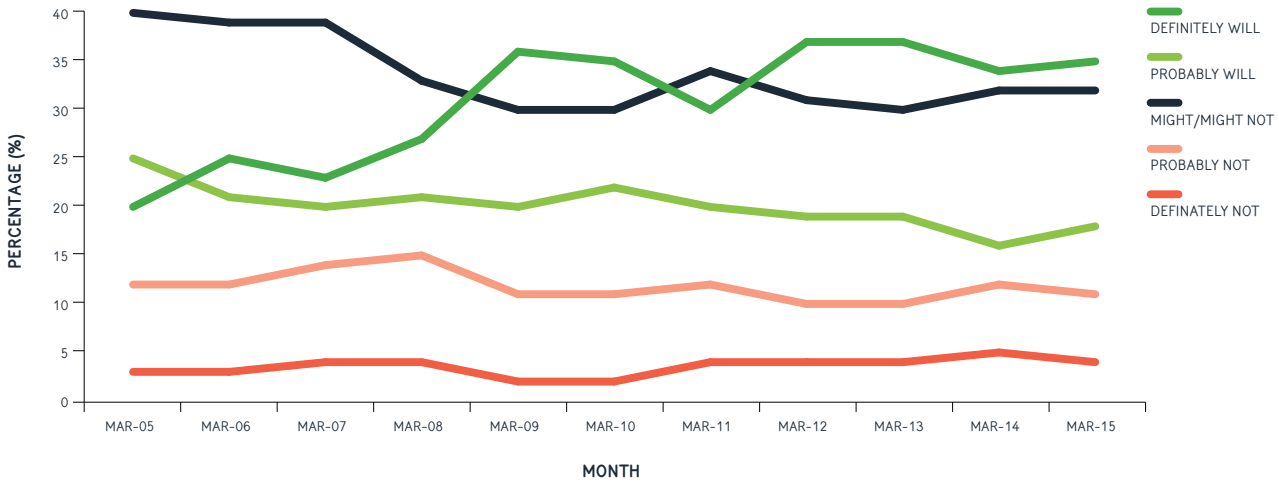
LIKELIHOOD OF RECYCLING

The percentage of **people likely to recycle their mobile phones has increased from 20% to 35% since 2006**. With 32% of people being unsure, down from 40% in 2006. However there is a small group of people who will definitely not recycle their mobile phones, around 3% to 5% and this hasn't changed over time.[47]

[44, 45, 46] See appendix 3.16 for raw data

[47] See appendix 3.17 for raw data

FIGURE 18. HOW LIKELY ARE YOU TO RECYCLE YOUR MOBILE PHONE?



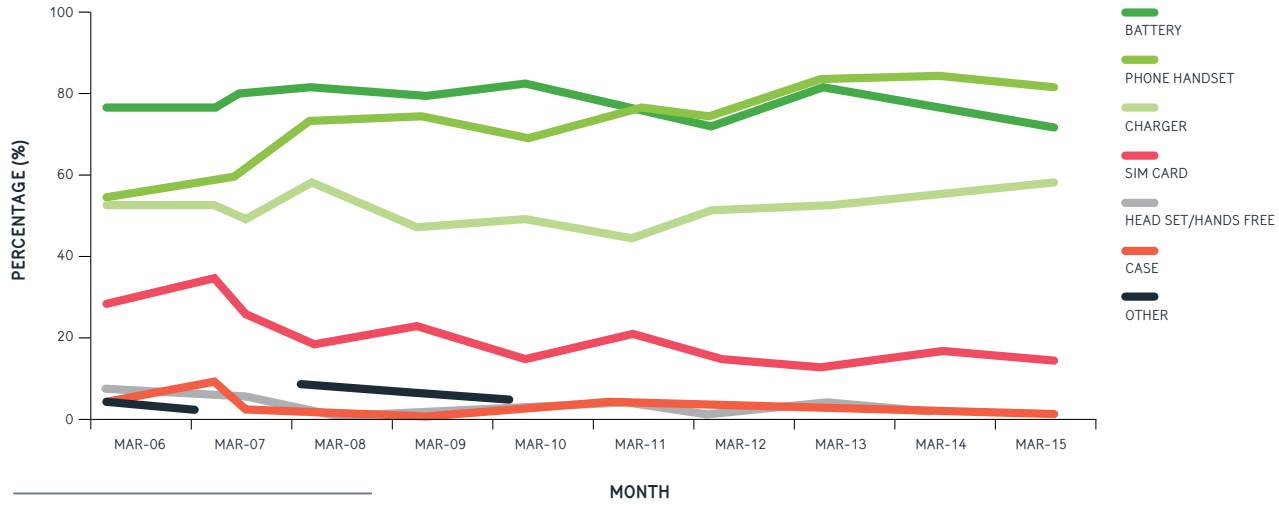
WHEN ARE PEOPLE THINKING OF RECYCLING THEIR MOBILE?

Most Australians (74% in 2015) said the event that prompts them to recycle is when they buy or receive a new handset. 16% of people listed a range of other reasons including receiving a recycling envelope with the phone, saw a collection unit in-store or at the library or it stopped working and/or battery died. 7% of people said when they were doing a spring clean.[48]

WHAT PARTS OF MOBILE PHONES ARE PEOPLE RECYCLING?

In asking people what part of a mobile phone they have recycled, most people (80%) have recycled the batteries, more people have recycled a handset as well (increased from 54% to 81%), however only half have recycled their charger (showing a slight upward trend) and less people are recycling SIM cards, headsets or cases.[49]

FIGURE 19. IF YOU HAVE RECYCLED YOUR MOBILE PHONE, WHICH COMPONENT?



[48] See appendix 3.17 for raw data

[49] See appendix 3.18 for raw data

ENCOURAGING PEOPLE TO RECYCLE

Trying to understand what will encourage people to recycle has been an important objective of the market research. It is clear there are three main drivers that encourage recycling – awareness, access and value. The research shows there has been little shift in the degree to which each of these encourages people to recycle.

There are three main drivers that encourage recycling – awareness, access and value.

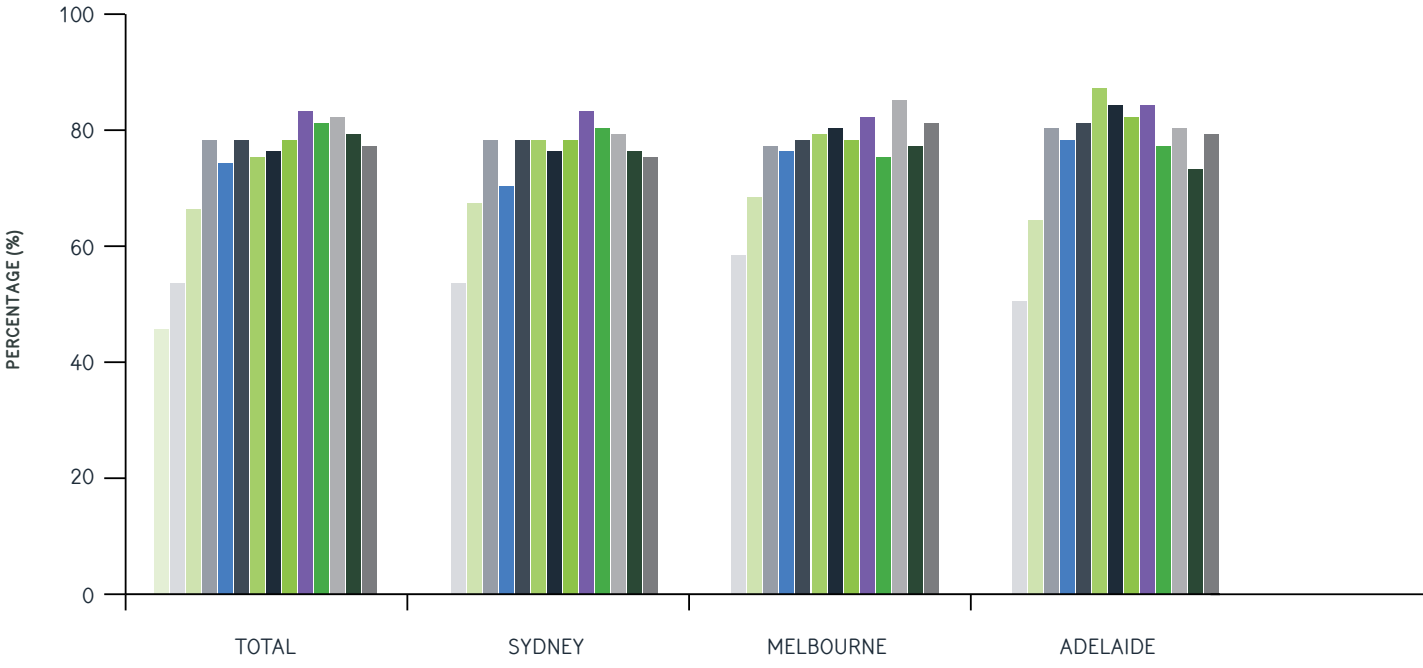
AWARENESS AND KNOWLEDGE

Knowing where to find recycling bins and promotion of the program are both important drivers to encouraging recycling (on average 77% and 73% respectively), however over time less people advised they would definitely recycle and more people stated they might recycle.[50]

Likewise being asked to recycle your old phone by a sales person and more bins in phones stores are important drivers to encouraging recycling.

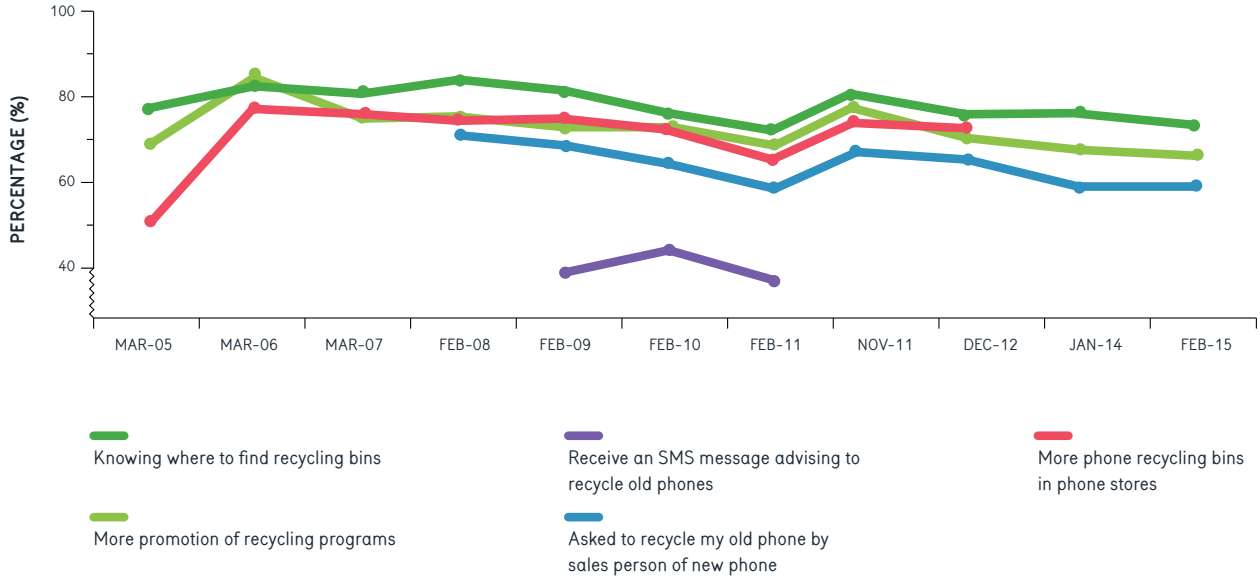
Receiving an SMS did not score high as a way to encourage recycling from 2009 to 2011. However given the increased use of smartphones, and greater consumption of information via mobile phones this may be a more effective mechanism and would be worth testing in the market to see how people respond or simply how it raises general awareness.

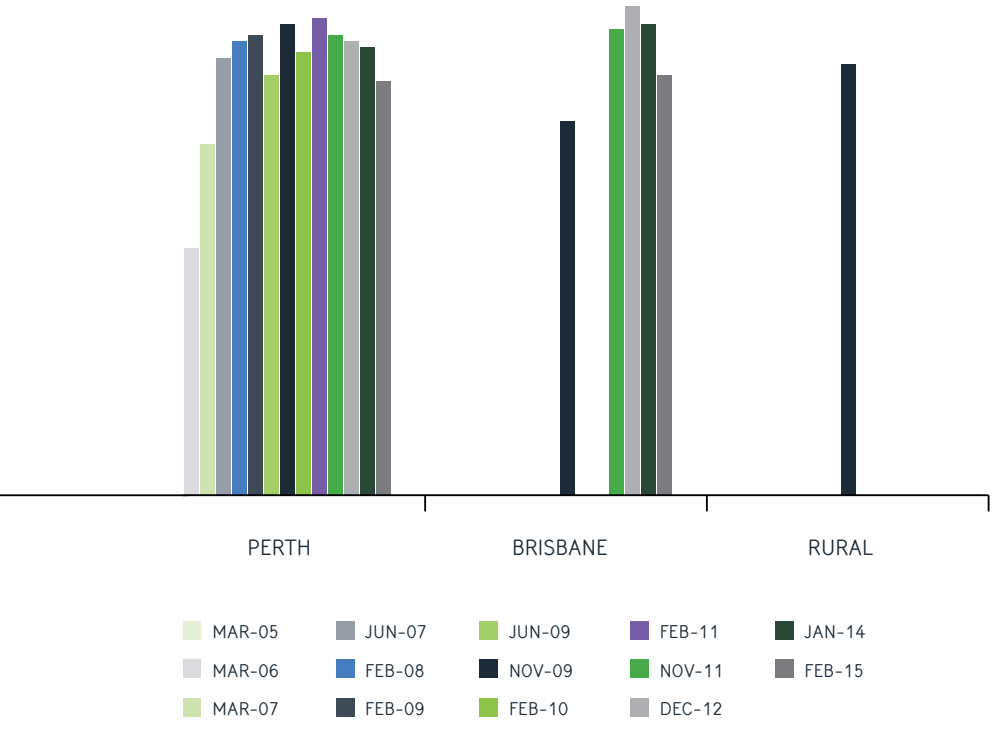
FIGURE 21. AWARENESS OF MOBILE PHONE RECYCLING PROGRAM IN AUSTRALIA – NATIONALLY AND BY STATE



[50] See appendix 3.19 for definitely and might recycle data

FIGURE 20. ENCOURAGEMENT - AWARENESS - DEFINITELY & MIGHT





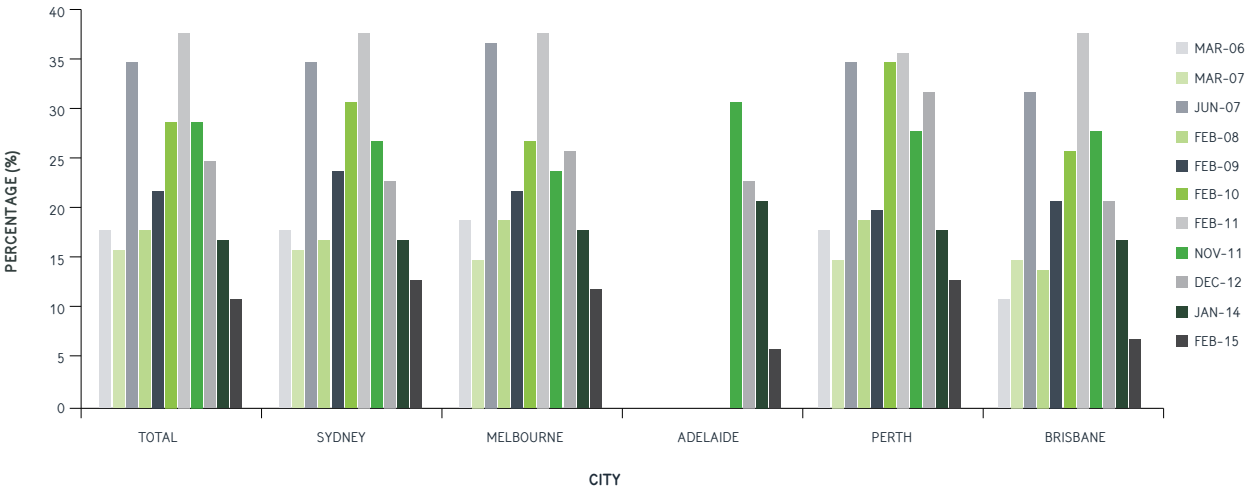
AWARENESS OF MOBILE PHONE RECYCLING AND HOW IT HAS CHANGED

Awareness of a mobile phone recycling program in Australia has grown from 46% to 78%, peaking at 84% in February 2011. Awareness across the country does vary slightly with Adelaide, Sydney and Melbourne being more aware than Brisbane and Perth.[51]

This combined with additional advertising from new resellers like Mazuma and charity based programs like YouCan entering the market in 2010 significantly boosted awareness of mobile phone recycling generally in Australia (Figure 22).

[51] See appendix 3.20 for raw data

FIGURE 22. SEEN ADVERTISING FOR MOBILE PHONE RECYCLING – UNPROMPTED

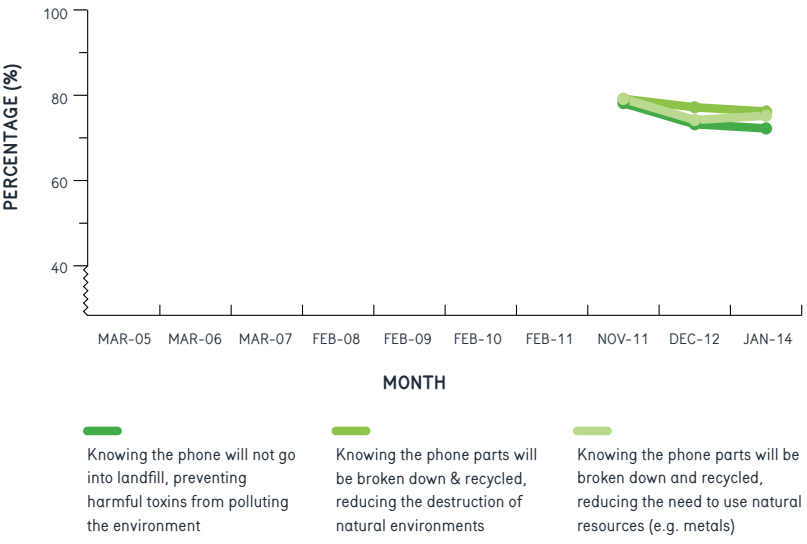


The direct relationship between consumer awareness and investment in advertising and promotional activities is very strong. With the launch of the new brand MobileMuster annual expenditure on marketing from 2006/07 to 2009/10 was just over $2.0 million per annum, of which over three quarters was spent on advertising, primarily TV.[52] With declining revenues investment on advertising and promoting however the program dropped to less than $1 million per annum in the past three years. Correspondingly, general awareness of mobile phone recycling is starting to drop off.

ENVIRONMENTAL BENEFITS

Knowing that the environment will benefit due to resource recovery, and keeping phones out of landfill encourages 70% to 80% to recycle. Environmental benefits, like support for charities and accessibility, aren't as strong as an incentive as personal financial drivers to recycle. Around 40% to 50% of people say environmental benefits will definitely encourage them to recycle and 30% to 40% say it might encourage them.[53]

FIGURE 23. ENCOURAGEMENT - ENVIRONMENTAL BENEFITS - DEFINITELY & MIGHT



[52] Since 2002/03 to 30 June 2015, AMTA has spent over $16.4 million on marketing, $11.8M of that on advertising

[53] See appendix 3.21 for definitely and might recycle data

ACCESS

Surveys show convenience is an important driver in encouraging recycling, with drop off points in supermarkets and Australia Post outlets or receiving a free recycling satchel when purchasing a new phone or being delivered at home were cited by consumers as having a similar level of encouragement.

Convenient **access to recycling is not as strong as an incentive as a personal financial driver with only 50% dropping down to 35% saying convenience will definitely encourage them to recycle** and 35% to 40% saying it might encourage them.[54]

FIGURE 24. ENCOURAGEMENT – ACCESS – DEFINITELY & MIGHT

AT WHAT LOCATIONS DO PEOPLE MOST WANT TO RECYCLE THEIR PHONES?

Convenience is essential to increasing the likelihood of recycling. The top locations that consumers have cited would encourage them to recycle continue to be supermarkets, Australia Post outlets and mobile phone retailers either by dropping off or getting a recycling satchel.[55]

[54] See appendix 3.22 for data

[55] See appendix 3.22 for definitely and might raw data

PERSONAL FINANCIAL BENEFIT

Consumers consistently cite *receiving a financial reward* as providing the highest incentive to recycle, with a cash return of at least $5, however this has declined over time from over 90% to 80%. Receiving a $5 supermarket voucher or credit on their mobile phone account is not considered as encouraging as cash but still more of an encouragement than a $5 voucher to spend at a mobile phone retailer.

While only asked once in 2005, a refundable deposit of $10 scored poorly at encouraging recycling relative to other incentives, with 58% being inclined to definitely or maybe recycle their mobile phone.[56]

FIGURE 25. ENCOURAGEMENT - FINANCIAL DRIVERS - DEFINITELY & MIGHT

CHARITY - TYPE, LOCAL VERSUS OVERSEAS, REUSE

Knowing that a charity would benefit financially does encourage people to recycle but not quite as much as a personal financial benefit with between 82% to 66% of people saying they definitely would or most likely would recycle where a charity benefits. The proportion that would definitely recycle if a charity benefited is less than those who would if a personal financial benefit of $5 or more was involved.

Charity isn't as strong of an incentive to recycle with less people saying they would definitely recycle if they know a charity will benefit and more saying they might. As with other drivers there seems to be a slight downward trend over time in the proportion of consumers saying that if a charity benefits this will provide an incentive for them to recycle.[57]

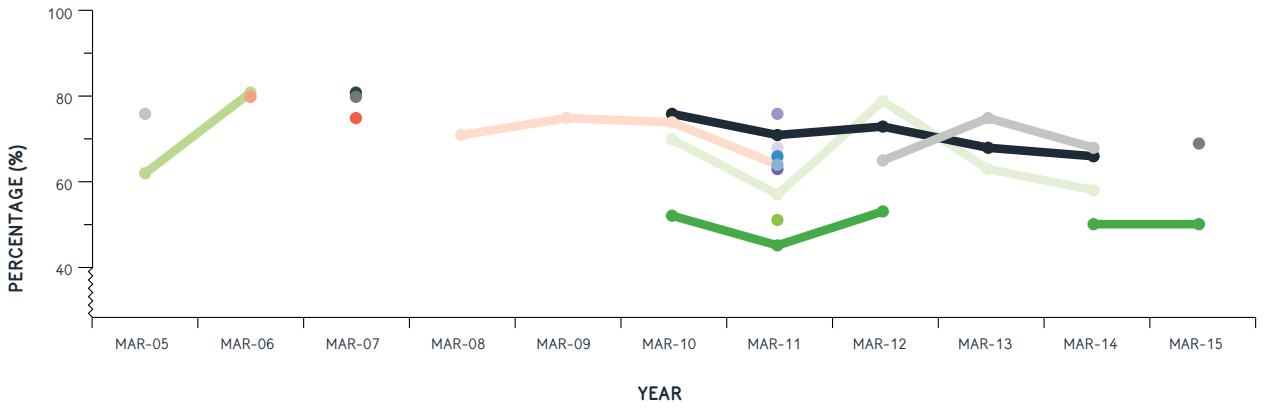
[56] See appendix 3.24 for definitely and might recycle data

[57] See appendix 3.25 for definitely and might recycle data

There isn't a lot of variation between the type of charity that benefits although there does appear to be a slight preference for cancer charities. Planting trees as an incentive to recycle was initially quite strong but after a few years started to drop off. There is less incentive to recycle where the benefit is going to support a charity overseas.

There isn't a significant differentiation between the charity benefiting financially or having the phone to reuse themselves. But once again there is greater preference of the phone to be reused by a charity in Australia than overseas.

FIGURE 26. ENCOURAGEMENT - CHARITY - DEFINITELY & AWARE



- Knowing the phone will be refurbished and sold to developing countries
- Knowing the phone will be given to a charity for reuse/funds from the sale of the phone will be donated to charity
- Funds donated to animal welfare/conservation
- $2 donation to a youth cause/charity
- Funds donated to poor people overseas
- Funds donated to schools in AU to prevent cyber bullying
- Funds donated to support cancer research
- $2 donation to an environmental cause/charity
- Phones recondition for use by low income or underprivledged community group
- Donating it to charity for them to claim a $2 rebate
- Funds donated to Guide Dogs AU
- $2 donation to a social cause/charity
- Knowing the phone will be refurbished and given to charity overseas in developing countries
- Donating it to charity for them to claim a $1 rebate
- Funds donated to the Salvation Army
- Donating phone to charity
- Knowing the phone will be refurbished and given to charity in AU
- A tree will be planted for every handset I recycle
- Funds donated to the Smith Family

COLLECTIONS

COLLECTION NETWORK – DROP OFF OR POST IN

Access to recycling in terms of number, density per population, type and geographic spread has improved dramatically. **The extent of the public drop off network has grown five-fold** with now one public collection point for every 4,700 people, down from 26,300.

Consumers can now recycle their phones by either dropping them off at one of the 1,900 mobile phone retailers, 1,200 other retail outlets like Officeworks, Battery World and Salvo Stores, 1,500 local council sites or they by posting[58] them in for free using a recycling satchel available at any of the 3,800 plus Australia Post outlets or downloading a mailing label from the MobileMuster website.

There has also been substantial growth and diversification in the private collection network expanding from just service/ repair centres and distributors to now also include workplaces, schools and second hand dealers of mobile phones (i.e. who refurbish and sell phones either locally or off shore).

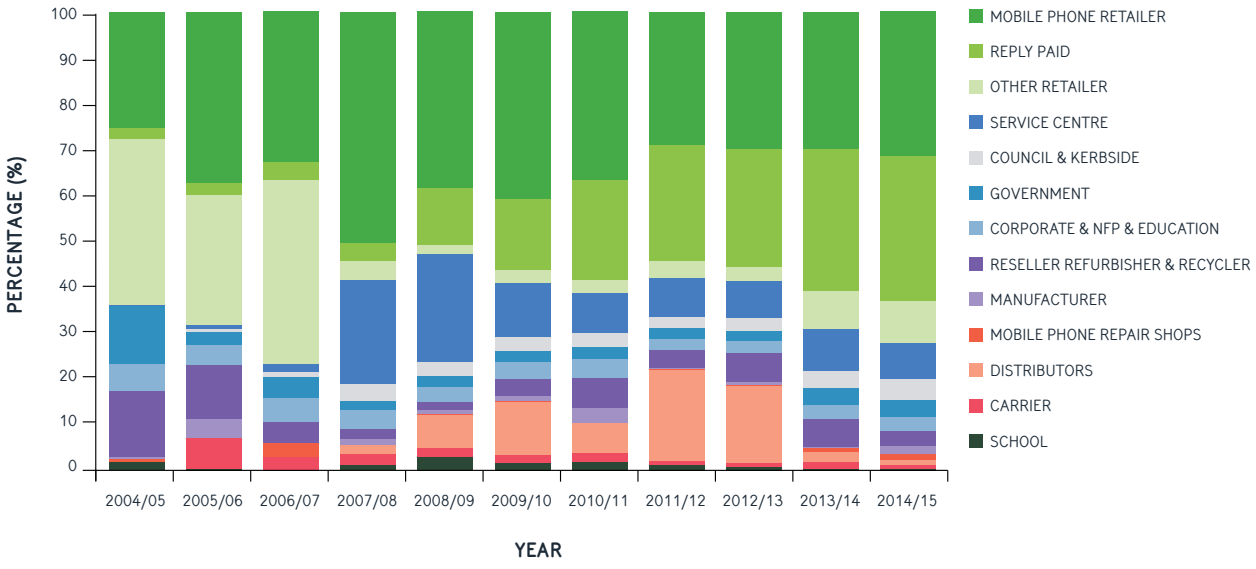
DROP OFF

Telstra · Optus · vodafone · Virgin mobile · allphones · FONE ZONE · dick smith · Officeworks · Battery World · SALVOS stores (VIC, TAS, SA, WA, NT Stores Only) · SAMSUNG TURN ON TOMORROW · STORAGE KING

POST IN

AUSTRALIA POST

FIGURE 27. COLLECTIONS BY CHANNEL



COLLECTIONS BY CHANNELS

As expected with the diversification of the collection channels we have seen a shift in collections with a third of collections now coming through the post back option. Less product comes through service centres and more through other retailers.

[58] Reply paid satchels were introduced in 2008 and are now available to the public either at over 3,800 Australian Post outlet or included with a new phone by many of MobileMuster's manufacturer members

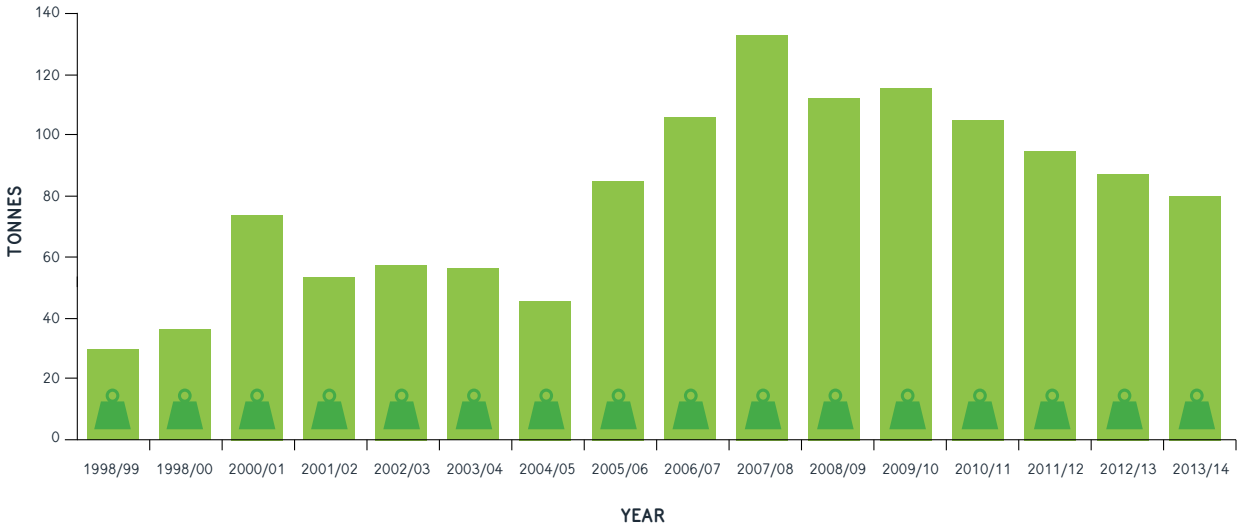
MobileMuster has diverted more than 1,168 tonnes of mobile phones and their accessories from landfill.

VOLUMES AND TYPE OF MATERIALS COLLECTED

Since the program started in late 1998, **MobileMuster has diverted more than 1,168 tonnes of mobile phones and their accessories from landfill**, including an estimated 9.95 million handsets (3.89m) and batteries (6.01m).[59]

Specifically, over the past decade annual collections have grown from 42 tonne to 74 tonne in 2014/15, peaking at 122 tonne in 2008/09. The annual collection rate of available phones has grown from 14% to 53.1%, peaking at 53.2% in 2012/13 and the annual net import collection rate has increased from 4.2% to 9.0%, peaking at 9.9% in 2011/12.

FIGURE 28. TOTAL WEIGHT COLLECTED



Over time the mix of components by weight has changed from a predominance of batteries and accessories to handsets and accessories. This in part is due to manufacturers replacing two NiCad batteries with one Lithium Ion batteries that are lighter and last longer and weigh a quarter the weight of a Nickel Cadmium battery.[60]

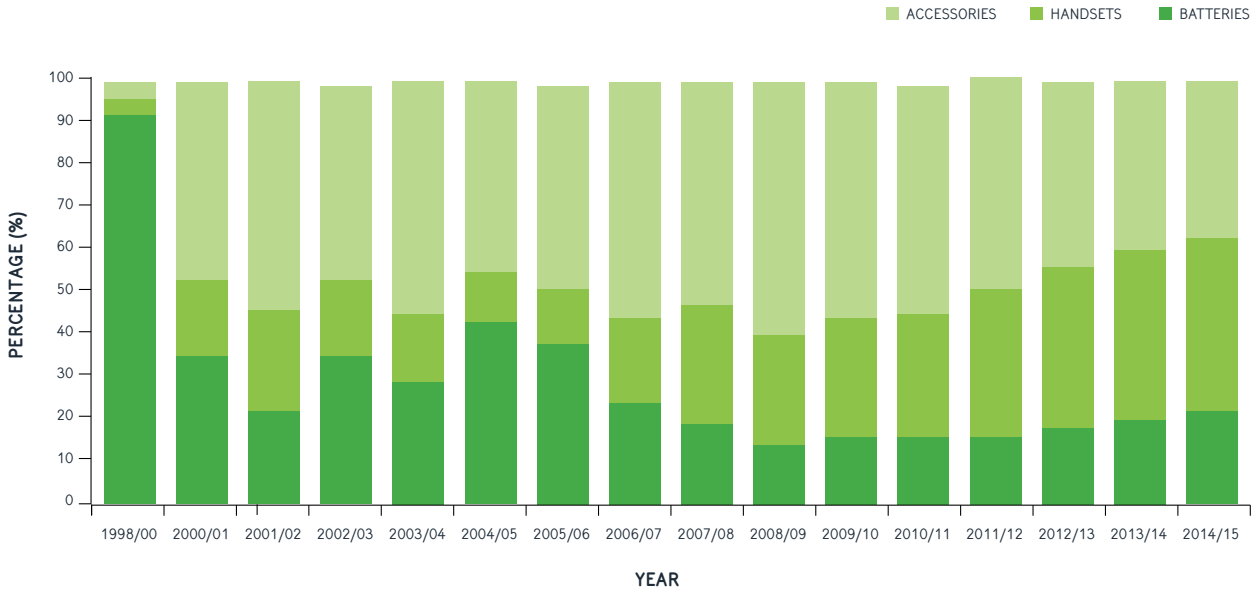
In the past five years there has also been a gradual decline in the volume of accessories received. This can be attributed to both harmonising of chargers across models to a USB plug, the decreasing size and weight of chargers and in some cases chargers no longer being sold with handsets.[61]

[59] See appendix 3.26 for raw data

[60] Nickel cadmium batteries average weight 120 gram, lithium ion average weight 27grams, see appendix 25 for raw data

[61] See appendix 3.27 for raw data

FIGURE 29. MOBILE COMPONENT COLLECTIONS



While there has been a gradual decrease in the average weight of handsets collected, this is expected to change over time as a result of the increasing size of newer handsets and the weight of imported handsets increasing.

TYPE OF HANDSETS RECEIVED

With the analogue and CDMA networks shutting down in 1999 and 2008 respectively, the number of CDMA handsets collected peaked in 2007/08 and by 2011/12 had reduced to very insignificant levels.[62] It will be interesting to see how the closing of the 2G network at the end of 2015 will impact the type and weight of handsets collected.

FIGURE 30. TYPES OF HANDSET RECYCLED

[62] See appendix 3.28 for raw data

DISCUSSION

Australians have embraced mobile technology since 1987 when the first official call was made using an analogue mobile phone. The relentless growth in mobile services and evolution from bulky voice-only handsets to today's broadband-enabled smartphones has been a global phenomenon.

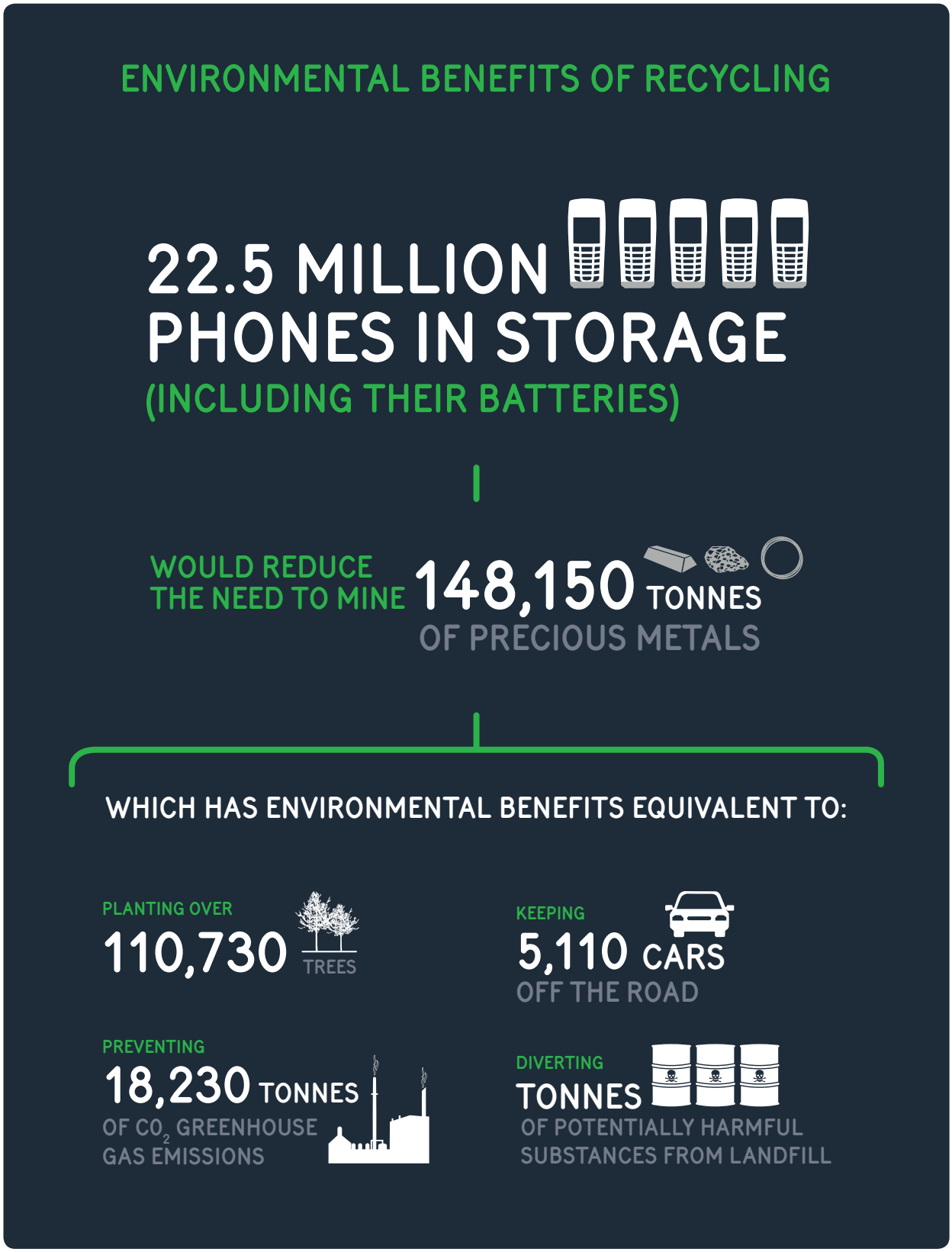
Compiling 10 years of market research on consumer mobile phone use and recycling behaviours allows the AMTA to review how consumer behaviour has changed over the past decade, what has driven these changes, how it has affected the performance of MobileMuster - the industry's official recycling program - and more importantly consider what this means for the future direction of mobile phone stewardship in Australia over the next 10 years.

HOW LONG DO PEOPLE OWN/USE THEIR PHONE?

People's use of their mobile phone is driven by a combination of contract type, age of user and technology developments. Over the past 10 years most people on contracts replace their phone every two years, this hasn't changed significantly over time. However, pre-paid users either replace them within 12 months (younger people 18 to 24 years old) or in the case of older people (50+) are starting to keep them for more than two years.

Replacing the phone however does not mean relinquishing ownership or throwing it in the bin. Quite the opposite, as in many countries across the globe, most people (60%) keep their previous phone even if it isn't working. This behaviour has not changed over the past decade and significantly restricts the volume of phones that can be collected by MobileMuster.

From a broader product stewardship perspective it also represents a less then efficient use of finite non-renewable resources. **With the equivalent of more than two years worth of imports laying idle in homes** that is a significant number of phones that could either be put to use in developing countries or a large volume of very recyclable and non-renewable resources that could be recovered and returned to the supply chain.



Taking a circular approach to resource use there is a clear imbalance between mobile use and recovery of mobiles for reuse and recycling.

To ensure non-renewable resources used in mobile phones are used more efficiently and sustainably the industry needs to either; increase the volume of phones collected for recycling and reuse and/or increase the product life span to reduce the rate of consumption.

This is possible but will require a significant change in consumers hoarding behaviours through education and incentives, technical innovations to improve the product's durability, data security and upgradability (e.g. Fairphone) and novel contractual arrangements such as leasing (i.e. Telstra's New Phone Feeling or similar plans offered by carriers in the United States and more recently by Apple).

WHY DO PEOPLE REPLACE THEIR PHONE?

Poor functional performance[63] has been the primary reason for replacing a phone for many years. However, when there is a significant change or improvement in technology, as in the case of the smartphone, a very strong desire for the latest technology becomes the overwhelming driver for consumers. This has been the case in Australia from 2010 to 2014 with the release of the iPhone 4 in July 2010 where imports peaked at 13.3 million in 2010/11.

As the rate of technology change slows however, so do a consumer's reasons for replacing their phone. Seeking the latest technology is now no longer the primary reason for buying a new phone. Similarly more people are starting to keep their current phone for two or more years.

It is not clear whether this is a reflection of a saturated market where there is an emerging consumer desire for longer life products that can be more easily repaired and upgraded or simply a reflection of the cycle of technological advancement.

WHAT ARE THE IMPACTS OF STORING PHONES?

Like in many developed[64] countries the number of mobile phones in storage has grown over the past 10 years in Australia to a point in 2014 where there were as many phones in storage as there are people in Australia. However, for the first time in 10 years the number of phones in storage in 2015 dropped by more than half a million to 22.5 million, as did the percentage of people with two or more phones in storage.[65]

While there has been no significant change in the proportion of people who keep their old phone over the past decade, there have been changes in what consumers do with those phones they don't keep. Specifically, less people throw them out in the rubbish now, more people are recycling them, and more people are starting to trade and resell their phones.

[63] Phone deteriorating/not working

[64] Green Alliance (2005)

[65] See appendix 3.12

It is too early to say if these slight changes in keeping, selling or recycling mobile phones is the start of a consumer trend towards a more sustainable use of mobile phones. Especially given that more people have indicated they will keep their phone in storage for two plus years compared to one in five people 10 years ago.

While storing mobiles represents a deferral in the phones being reused or recycled, i.e. a lost opportunity for closing the loop on material use and pursuing high levels of resource use efficiency, it does mean that they aren't being thrown into landfill.

HELPING PEOPLE RECYCLE – BARRIERS AND DRIVERS

So why are people holding onto their old mobiles and what can the industry do to shift this behaviour and increase reuse and recycling?

Storing phones primarily reflects the consumers desire to have a backup. This has been the primary reason for the past 10 years. Lesser reasons included giving it to children as a toy, it was expensive, I may be able to sell it, sentimental reasons, and I might be able to repair it or use it overseas.

With **awareness of mobile phone recycling at 80%, consumers do not see recycling a mobile phone for material recovery as its best use, especially if it is still working.**

Educating consumers to realise that recycling their mobile rather than storing it at home (when no longer in use) is a very challenging task. It works against many current beliefs that reuse is better than recycling.

Hopefully, this in part is being addressed by MobileMuster's education program for schools, where students learn about the full life cycle of a mobile phone from manufacture to recycling.

Industry also needs to look further into how it can reduce consumer desire for backup phones. While some carriers and manufacturers now provide loan phones when a phone is being repaired and others offer second hand phones to purchase if a phone cannot be repaired, the impact on keeping a backup hasn't been significant.

In addition, **more people are citing having information on a phone and data security as their reason for keeping their phone and avoiding disposal or recycling**. This was not a reason 10 years ago and is a reflection of the vast amount of information that can now be stored on phones.

It is also a reflection of people's lack of knowledge on how to save and transfer their data plus a lack of trust in the recycling process with concerns over data being accessed and used by others illegally. This suggests our phones are in essence becoming personal data storage devices.

Given the high uptake of smartphones this is not surprising and sends a message to manufacturers, retailers, resellers and recyclers about the growing need to help consumers manage their data safely and securely. If not addressed, this could become a significant barrier to increased reuse and recycling of mobile phones into the future.

Not knowing you could, or where to, recycle is less of a reason these days, but interestingly not sure what to do with it has increased, possibly suggesting people now realise they have a choice of selling, recycling or keeping.

ENCOURAGING PEOPLE TO RECYCLE

In terms of what encourages people to recycle, the three main drivers have remained the same for the past 10 years.

VALUE - THE ROLE OF INCENTIVES

People clearly value their phones and a cash incentive remains the strongest driver in encouraging people to recycle. This trend is illustrated by the **steady growth in the online cash for phones market over the past five years and the gradual increase in the number of people who are selling their phones.**

While community benefit encourages people to recycle as demonstrated by many of MobileMuster's 'old phones for good' campaigns, it is not as strong as a personal cash return and seems to becoming a weaker incentive over time.

Feedback received from Australian charities suggests the quality and type of phones received are of lower value and that the proportion of phones received for resale appear to be dropping. This in part could be due to the fact that people can sell their phones more easily now.

There is a similar example in New Zealand, where the Starship Foundation has decided after six years of raising funds through turning old unwanted phones into valuable funds that this is no longer an effective way to raise money for the foundation.

The reason given by the Foundation for making this decision was that their recent experience suggests people are holding onto new smartphones for longer, selling them or passing them on to family and friends and that the supply and value of phones for the Foundation to resell and raise funds has diminished over time.[66]

While the increased growth in selling and trading mobiles phones is positive in driving greater reuse of newer phones, **it would appear that pure altruistic or ecological drivers alone, are increasingly ineffective in driving collections for recycling** and that the value of the material in phones is still not sufficient enough to pay consumers what they expect to recycle their phones.

This gap in consumer expectation and what industry is prepared to fund is a significant challenge. **Perhaps it is time for the industry to consider more novel ways to fund the collection and recycling of phones**, such as introducing a consumer levy on the sale of each handset which would be used to fund consumer financial rewards rated highly by consumers in this research such as, credit on mobile phone credit or vouchers at supermarkets.

[66] https://www.starship.org.nz/foundation/fundraising/mobile-phone-appeal/

AWARENESS – THE ROLE OF MARKETING

It is clear that effective advertising and promotions has a direct impact on awareness and engagement of consumers and that if promotions are not maintained to a certain level awareness and collections will drop.

As evident of the past three years of MobileMuster where reduced marketing expenditure has seen a reduction in awareness and drop in collections. In particular knowing where, why and how to recycle remain important drivers to encourage recycling.

With most people citing that purchasing a new phone was the event that prompted them to recycle it is crucial retailers consistently remind customers around the time of purchase why, where and how they can recycle or reuse their old phones to maximise collection and recycling rates of unwanted or redundant phones.

Manufacturers are also optimally placed to positively intervene through increased and timely consumer communications to raise awareness and engagement.

ACCESS – THE ROLE OF COLLECTION NETWORKS

In terms of access with more than 4,800 public drop off points and a free post back option using either a recycling satchel or downloading a label from the MobileMuster website, it could be argued the public have very good access.

But is this most preferred and cost effective collection network? Can people recycle their phones from the places they buy them? From the market research people say they are most likely to recycle at the local supermarket and Australia Post stores, i.e. places that are visited frequently.

While all major mobile phone retailers host collection points and assist in encouraging their customers to recycle in store, Australia Post has elected to distribute free recycling satchels to customers rather than host collection points.

On the other hand, local supermarkets, who also retail mobile phones have been very be reluctant to host collection points or offer satchels to customers, even though many of their overseas counterparts, like Tesco's for example, offer mobile phone recycling to their customers.

While Australian supermarkets have been active players on some environmental measures such as packaging and energy efficiency, the breadth of initiatives related to phone recycling and handheld batteries is embryonic at best.

Collecting phones at local council drop off days or with TVs and computers is least preferred. The possibility however of recycling mobile phones along with batteries, globes or other small electronics, as in the case of the City of Sydney offering integrated collection units located in libraries, improve convenience.

CONCLUSION

There have been some significant shifts in behaviour over the past ten years. More people are aware of how, why and where to recycle with awareness of mobile phone recycling growing from 46% to 79%. More people are recycling with collections increasing from 42 tonne per annum to 74 tonne in 2014-15, peaking at 122 tonne in 2008/09 and the annual available collection rate growing from 14.1% to 53.1% peaking at 53.2% in 2012-13.

Less people are disposing their phones into landfill, decreasing from 9% to 2%. Similarly, with the recent growth of online cash for phone and trade-in programs, more people are selling or trading in their phones as a way of recovering some financial return, up to 6%.

Consumer desire however to keep old phones remains unchanged (60% even if not working). As a result the number of unused phones stored away in homes has grown from 12 million to over 22.5 million in the past decade. This equates to nearly one phone for every person in Australia.

Storing of phones represents a significant loss of resources, creating an unsustainable balance between the rate of consumption and the rate of reuse and recycling, with substantially more mobiles sitting dormant in homes rather than being reused or responsibly recycled.

Financial incentives, awareness and **access** continue to be the three main drivers which encourage people to recycle, with personal financial rewards continuing to be the primary motivation. While MobileMuster has raised awareness and made recycling widespread and very accessible, altruistic incentives appear to becoming less of a driver in recent years as a way of encouraging people to recycle their old phones.

Certain social themes and factors are also relevant within the context of personal motivation and key drivers where it appears from the research that there are essentially four recycling personality types:

THOSE THAT WILL RECYCLE AS SOON AS THEY KNOW WHY, WHERE AND HOW

THOSE THAT NEED A REMINDER AND AN ADDITIONAL REASON TO RECYCLE

such as seeing something or someone benefiting from the phone being recycled – e.g. cash to a charity, planting trees, or being reused by people in need

THOSE THAT WANT A FINANCIAL REWARD

some may be happy with a voucher or discount on their mobile phone bill, others want cash

THOSE THAT WILL NEVER RECYCLE

fortunately this represents less than 5% of respondents

Technological developments have had both positive and negative impacts on mobile phone recycling in Australia. They have driven rapid consumption of resources as functionality is enhanced (e.g. introduction of the smartphone) and made past technology redundant as networks are upgraded (e.g. CDMA). They have also improved resource efficiency through miniaturisation, dematerialisation and use of recycled content. Advances in product design and production methods have also reduced specific types of environmental impacts through the elimination or minimisation of hazardous substances. The avoidance of conflict minerals has also been a noteworthy achievement.

The research data also points towards several implications and opportunities for the future of mobile phone stewardship in Australia.

The storage of old mobile phones is still a significant issue, representing a lost opportunity for reuse and recycling. There are compelling reasons for industry to look more closely at how it can change or adjust consumer desire to keep a phone as a back-up by:

- Improving the product's durability and upgradability
- Streamlining repair and replacement of damaged phones
- Making data management and security a simple yet robust process
- Offering innovative and attractive contracts that encourage the return of mobiles (i.e. 1 in 1 out, trade-in, leasing, product-service ownership initiatives)
- Explore novel ways to fund the collection and recycling of phones (e.g. a consumer levy on the sale of each handset to fund financial incentives).

The potential for significant environmental advances across the mobile phone life cycle will start to emerge when greater focus is applied to monetising functionality and 'service' as opposed to just purchasing a manufactured item.

Greater engagement and coordination of activities and reporting by all players of the mobile phone lifecycle is also required to improve consumer awareness and access to recycling. From manufacturers, network carriers, retailers and service centres/repairers, through to second-hand traders and recyclers, including:

NON-PARTICIPATING MANUFACTURERS/ DISTRIBUTORS

e.g. Apple, Sony Mobile, LG, Blackberry, ALDI and Oppo to promote and offer recycling as well as publicly reporting on collections and recycling processes

NON-PARTICIPATING RETAILERS

e.g. Coles, Woolworths, Harvey Normans, Kogan, eBay, and other mass retailers who sell mobiles – to include consumer messaging on recycling, as well as offering a free collection service or providing post back alternatives

SERVICE CENTRE/ REPAIRERS

to ensure that all mobiles and accessories that cannot be repaired are recycled as well as encouraging customers to recycle

SECOND-HAND TRADERS

e.g. Mazuma Mobile, Cash A Phone, PhoneCycle, eBay, GumTree, Cash Converters, Boomerang and Bounce to ensure product not sold is recycled responsibly and contribute to recycling schemes in markets where second hand product is sold

RECYCLERS

e.g.MRI, PGM, Sims to ensure that all mobiles and accessories are recycled responsibly and report publicly on volumes processed and material recovery rates

Continuing research to monitor changes in consumer mobile phone use, recycling, storage, reuse and the extent of phones available for recycling is required. The market research to date has been a particularly useful tool in guiding the program's marketing activities and the development of its collection network. It has also provided deeper insights into the triggers and motivations behind Australian consumers, and why they choose to participate in recycling programs.

This will ensure that the program adapts to ever-changing use and disposal patterns as well as the need to accurately monitor the effectiveness of program activities on consumer behaviour and the associated impacts of technology and markets.

REFERENCES

Australian Mobile Telecommunication Association (AMTA) 2005 Australian Mobile Telecommunications industry: Economic Significance - The Allen Consulting Group.

ACMA, December 2014, Communications report 2013–14.

Credit Suisse First Boston, 2005, Australian Telecommunications 2005, Equity Research.

Gertsakis, J. Facilitating EcoDesign and Product Stewardship in Australia. Masters Thesis, RMIT University, Melbourne 2003.

Green Alliance, 2015, A circular economy for smart devices. Opportunities in the US, UK and India.

International Data Corporation (IDC), 2005, No Strings Attached: Australian Cellular Forecast and Analysis, 2004-2009.

Fear, J., 2008, Stuff happens: Unused things cluttering up our homes, The Australia Institute, viewed 16 July 2015, http://apo.org.au/node/603.

Tanskanen, Pia, 2009, Electronics Waste: Recycling of Mobile Phones.

Randy O. Frost, Veselina Hristova, Gail Steketee, David F. Tolin, 2013, Activities of daily living scale in hoarding disorder, Journal of Obsessive-Compulsive and Related Disorders, Volume 2, Issue 2, Pages 85-90.

Telstra/Nielsen, 2014, Cross-platform Consumers: Media Multitasking and Multi Screening in Today's Mobile Landscapte, Whitepaper.

APPENDICES

APPENDIX 1.0: KEY PERFORMANCE INDICATORS

KEY PERFORMANCE INDICATORS	2014/15 Est'd	2015/16 Est'd	2016/17 Est'd	2017/18 Est'd	2018/19 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 (%)	10.20%	10.40%	10.60%	10.80%	11.00%
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 2.0: MARKET RESEARCH SURVEY TIMELINE

- **March 2005** – Consumer (900, age 15+) and business (200) telephone interviews and 20 stakeholder face-to-face interviews conducted by The Klien Partnership Demographically representative of population, 87% owned mobiles 13% didn't own mobiles
- **March 2006** – online consumer (n=650, 16-64 years) survey by IPSOS – Syd, Melb, Adel, Perth, 100% owned mobiles
- **March 2007** – online consumer (n=665. 16-64 years) survey by IPSOS – Syd, Melb, Adel, Perth , 100% owned mobiles
- **July 2007** - online consumer (n=658, 16-64 years) survey by IPSOS – Syd, Melb, Adel, Perth , 100% owned mobiles
- **February 2008** - online consumer (n=670, 16-64 years) survey by IPSOS – Syd, Melb, Adel, Perth. , 100% owned mobiles
- **June 2008** – online consumer survey (n=704, 18-64 years) Newspoll Sydney, Melbourne, Brisbane, Adelaide and Perth , 100% owned mobiles, Assessing the effectiveness Old phones for Trees advertisement on driving behaviour
- **November 2008** – online consumers survey (N=1048, 18+) Omnibus, IPSOS Assessing the effectiveness of advertising campaign on driving behaviour
- **February 2009** – online consumer (n=665, 16-64 years) survey by IPSOS. Syd, Melb, Adel, Perth , 100% owned mobiles
- **June 2009** – online consumers survey (N=1045 18+) Omnibus, IPSOS Assessing the effectiveness of "Old phones more trees" advertising campaign on driving behaviour
- **November 2009** – online consumers survey (N=1045 18+) Omnibus, IPSOS Assessing the effectiveness of "Dive In" advertising campaign on driving behaviour and looking at value and age of mobiles in storage
- **February 2010** – online consumer (n=680, 16-64 years) survey by IPSOS. Syd, Melb, Adel, Perth , 100% owned mobiles
- **February 2011** - online consumer (n=679, 16-64 years) survey by IPSOS. Syd, Melb, Adel, Perth , 100% owned mobiles
- **November 2011** - online consumer (n=1000, 16+, nationally representative sample – metro and regional) survey by IPSOS. Due to a need to profile those who are aware of mobile recycling and those who are not, a change to a more nationally representative sample was necessary. Any major changes in the data were looked at filtered by the previous sample specs to ensure changes were real and not as a result of altered sample definition.
- **December 2012** - online consumer (n=1027, 16+, nationally representative sample – metro and regional) survey by IPSOS.
- **January 2014** - online consumer (n=1029, 16+, nationally representative sample – metro and regional) survey by IPSOS.
- **February 2015** - online consumer (n=1050, 16+, nationally representative sample – metro and regional) survey by IPSOS.

APPENDIX 3.0: MARKET RESEARCH RAW DATA

3.1 SHIPMENTS, IMPORTS, EXPORTS, MARKET SHARE

Year	Shipments	Imports	Exports	Member market shares
1998/99	3,907,832			
1999/00	4,288,786			
2000/01	3,822,544			
2001/02	4,900,000			
2002/03	4,977,613			
2003/04	7,122,832			
2004/05	7,827,531			
2005/06	8,406,642	9,525,714	1,175,045	88%
2006/07	8,679,094	10,231,520	1,239,540	85%
2007/08	9,675,482	11,495,358	1,050,141	84%
2008/09	9,026,572	11,148,806	1,437,921	81%
2009/10	8,664,111	11,992,400	1,432,945	72%
2010/11	8,703,384	13,348,294	2,276,995	65%
2011/12	7,796,532	12,784,881	1,844,143	61%
2012/13	6,667,937	11,971,921	1,788,383	56%
2013/14	6,204,913	11,225,341	2,022,293	55%
2014/15v	5,564,751	12,265,096	1,484,431	45%
TOTAL 05-15	**79,389,418**	**115,989,331**	**15,751,837**	

3.2 HOW MANY MOBILE PHONES HAVE YOU EVER OWNED?

Date	One	Two	Three	4 Or more
Mar-05	26.0%	24.0%	21.0%	29.0%
Mar-06	7.0%	19.0%	26.0%	48.0%
Mar-07	8.0%	16.0%	25.0%	51.0%
Jun-07	6.0%	18.0%	24.0%	52.0%
Feb-08	7.0%	19.0%	26.0%	48.0%
Feb-09	11.0%	17.0%	24.0%	49.0%
Feb-10	8.0%	17.0%	21.0%	54.0%
Feb-11	7.0%	14.0%4	23.0%	56.0%
Nov-11	8.0%	14.0%	22.0%	57.0%
Dec-12	8.0%	16.0%	20.0%	57.0%
Jan-14	6.0%	16.0%	20.0%	58.0%
Feb-15	6.0%	14.0%	23.0%	57.0%

3.3 NUMBER OF PHONES IN CURRENT USE

Date	One	Two	Three	4 Or more
Feb-08	79.0%	17.0%	3.0%	1.0%
Feb-09	77.0%	19.0%	4.0%	1.0%
Feb-10	77.0%	19.0%	3.0%	1.0%
Feb-11	78.0%	18.0%	3.0%	2.0%
Nov-11	76.0%	18.0%	3.0%	1.0%
Dec-12	79.0%	18.0%	2.0%	1.0%
Jan-14	80.0%	17.0%	2.0%	0.0%
Feb-15	79.0%	18.0%	2.0%	1.0%

3.4 HOW LONG WOULD YOU EXPECT TO USE YOUR NEW PHONE FOR?

Date	Under 6 months	6 - 11 Months	12 - 18 Months	19 - 24 Months	2+ Years	Don't know
Mar-06	0.6%	3.5%	25.5%	25.8%	40.7%	3.8%
Mar-07	0.2%	3.8%	21.8%	28.0%	42.6%	3.7%
Jun-07	0.4%	3.1%	18.2%	26.5%	46.9%	4.9%
Feb-08	0.0%	2.0%	17.0%	21.0%	54.0%	7.0%
Feb-09	1.0%	3.0%	16.0%	21.0%	51.0%	7.0%
Feb-10	1.0%	4.0%	15.0%	29.0%	44.0%	7.0%
Feb-11	0.0%	3.0%	16.0%	27.0%	47.0%	7.0%
Nov-11	1.0%	3.0%	15.0%	24.0%	51.0%	6.0%
Dec-12	1.0%	3.0%	11.0%	24.0%	54.0%	7.0%
Jan-14	0.0%	2.0%	10.0%	23.0%	57.0%	8.0%
Feb-15	1.0%	3.0%	11.0%	25.0%	55.0%	4.0%

3.5 LENGTH OF OWNERSHIP BY PLAN TYPE

Date	Under 6 months	6 - 11 months	12 - 18 months	19 - 24 months	2+ years	Don't know
Mar-05	6.0%	8.0%	17.0%	8.0%	60%	2.0%
Nov-11	3.0%	8.0%	20.0%	21.0%	46.0%	2.0%
Dec-12	3.0%	5.0%	18.0%	22.0%	50.0%	2.0%
Jan-14	2.0%	5.0%	14.0%	23.0%	52.0%	3.0%
Feb-15	3.0%	5.0%	16.0%	24.0%	51.0%	2.0%
Average 1	**2.8%**	**5.8%**	**17.0%**	**22.5%**	**49.8%**	**2.3%**

3.6 REASON FOR OBTAINING CURRENT PHONE

Date	Phone Deteriorated/ not working/ broke	Wanted latest technology/ Model/ iPhone/ smartphone	New/ expired contract	$0 up front with new contract	Phone lost/ stolen	Given phone/ gift/ someone else bought	Work related/ supplied by employer	Upgrading from CDMA network	Needed a phone	Other
Mar-05	19.0%	19.0%	6.0%	1.0%	3.0%	3.0%	6.0%		29.0%	12.0%
Mar-06	24.3%	31.6%	17.7%	10.3%	4.6%	2.6%	2.3%		2.8%	5.7%
Mar-07	25.8%	30.0%	15.8%	10.1%	4.3%	3.3%	3.0%	4.3%	2.3%	1.0%
Jun-07	26.0%	27.4%	16.0%	11.9%	4.6%	5.6%	1.2%	3.5%	2.6%	1.4%
Feb-08	25.0%	23.0%	17.0%	11.0%	5.0%	4.0%	2.0%	5.0%	2.0%	5.0%
Feb-09	22.0%	22.0%	18.0%	11.0%	5.0%	1.0%		4.0%	4.0%	3.0%
Feb-10	26.0%	29.0%	19.0%	12.0%	4.0%	2.0%	1.0%	3.0%	1.0%	3.0%
Feb-11	21.0%	31.0%	23.0%	8.0%	4.0%	3.0%	1.0%	2.0%	1.0%	6.0%
Nov-11	24.0%	34.0%	17.0%	9.0%	4.0%	4.0%	1.0%	4.0%	3.0%	1.0%
Dec-12	26.0%	35.0%	19.0%	7.0%	3.0%	3.0%	1.0%		1.0%	0.0%
Jan-14	24.0%	33.0%	16.0%	8.0%	3.0%					0.0%
Feb-15	23.0%	20.0%	16.0%	5.0%	3.0%					15.0%

3.7 BRAND OF CURRENT MOBILE PHONE

Date	iPhone	Samsung	Nokia	HTC	Other	LG	Sony	Huawei	Motorola	Blackberry	ZTE
Nov-11	21.0%	16.0%	33.0%	7.0%	4.0%	6.0%	5.0%	1.0%	3.0%	2.0%	1.0%
Dec-12	24.0%	26.0%	23.0%	7.0%	4.0%	4.0%	4.0%	2.0%	3.0%	2.0%	1.0%
Jan-14	33.0%	28.0%	16.0%	5.0%	5.0%	4.0%	4.0%	2.0%	1.0%	1.0%	1.0%
Feb-15	34.0%	33.0%	12.0%	5.0%	0.0%	5.0%	4.0%	2.0%	1.0%	0.0%	1.0%

3.8 WHERE ARE PEOPLE BUYING THEIR PHONES FROM?

Date	Mobile phone retailers	Electronics Store i.e. Dick Smith, JB Hi Fi Apple	Discount stores/ supermarkets auspos	ebay	Online	Other	Don't know/ didn't answer	gift - hand me down	Work	Overseas	TOTAL
Nov-11	68.00%	5.0%	7.0%	2.0%	2.0%	2.0%	3.0%	8.0%	1.0%	0.0%	98.00%
Dec-12	73.00%	6.0%	9.0%	1.0%	2.0%	3.0%	1.0%	4.0%	0.0%	1.0%	100.00%
Jan-14	64.00%	0.0%	9.0%	0.0%	0.0%	27.0%	0.0%	0.0%	0.0%	0.0%	100.00%
Feb-15	55.00%	10.0%	3.0%	5.0%	3.0%	22.0%	0.0%	0.0%	0.0%	0.0%	98.00%

3.9 WHEN DO PEOPLE BUY / RECEIVE THEIR NEW PHONE?

Date	Other	When I went travelling overseas for work or leisure	In the Summer or Boxing Day sales	Towards the end of the financial year	When previous phone was lost or stolen	When I started a new job	On your birthday	At Christmas	When an updated model was launched (new technology)	When my contract was up	When previous phone stopped working properly/ broke
Jan-14	30.0%	2.0%	2.0%	5.0%	0.0%	3.0%	5.0%	6.0%	20.0%	31.0%	0.0%
Feb-15	14.0%	1.0%	2.0%	3.0%	3.0%	5.0%	6.0%	7.0%	12.0%	25.0%	31.0%

3.10 WHAT HAPPENED TO YOUR PREVIOUS MOBILE PHONE?

Date	Threw it away	Not working, but kept it	Lost or stolen	Traded-in	Donated it to Charity	Sold it	Recycled it	Kept it 'just in case'	Gave it to someone else	Ot Still using it
Mar-05	9.0%	16.0%	8.0%	4.0%	1.0%	0.0%	4.0%	26.0%	18.0%	4.0%
Mar-06	5.0%	13.0%	4.0%	4.0%	1.0%	0.0%	3.0%	39.0%	23.0%	4.0%
Mar-07	3.0%	16.0%	4.0%	2.0%	1.0%	0.0%	4.0%	38.0%	22.0%	6.0%
Jun-07	4.0%	14.0%	4.0%	1.0%	0.0%	0.0%	4.0%	41.0%	22.0%	3.0%
Feb-08	4.0%	12.0%	5.0%	1.0%	0.0%	0.0%	6.0%	38.0%	19.0%	7.0%
Feb-09	2.0%	16.0%	4.0%	1.0%	1.0%	0.0%	9.0%	37.0%	16.0%	9.0%
Feb-10	3.0%	15.0%	3.0%	2.0%	0.0%	1.0%	6.0%	40.0%	14.0%	12.0%
Feb-11	4.0%	17.0%	3.0%	2.0%	0.0%	2.0%	8.0%	37.0%	15.0%	9.0%
Nov-11	2.0%	15.0%	4.0%	2.0%	1.0%	2.0%	10.0%	39.0%	16.0%	5.0%
Dec-12	3.0%	17.0%	3.0%	2.0%	1.0%	2.0%	9.0%	40.0%	16.0%	4.0%
Jan-14	3.0%	14.0%	2.0%	2.0%	1.0%	4.0%	13.0%	37.0%	14.0%	5.0%
Feb-15	2.0%	15.0%	2.0%	2.0%	1.0%	4.0%	12.0%	38.0%	12.0%	8.0%

3.11 WHAT ARE YOU PLANNING TO DO WITH YOUR CURRENT PHONE WHEN YOU GET A NEW PHONE?

Date	Keep it just in case	Give it to someone else	Recycle it	Traded-in	Donated it to Charity	Sell it	Throw it away	Don't know
Mar-05	22.0%	39.0%	8.0%	6.0%	1.0%	0.0%	6.0%	8.0%
Mar-06	28.9%	30.1%	11.5%	3.4%	0.9%	0.0%	2.3%	22.9%
Mar-07	32.2%	24.5%	17.8%	5.1%	0.4%	0.0%	1.5%	18.4%
Jun-07	36.7%	21.2%	17.0%	3.0%	0.0%	0.0%	1.3%	19.9%
Feb-08	43.0%	17.0%	21.0%	3.0%	1.0%	0.0%	1.0%	14.0%
Feb-09	41.0%	16.0%	24.0%	4.0%	0.0%	0.0%	1.0%	13.0%
Feb-10	35.0%	19.0%	25.0%	4.0%	1.0%	0.0%	2.0%	14.0%
Feb-11	35.0%	21.0%	21.0%	2.0%	2.0%	5.0%	1.0%	14.0%
Nov-11	30.0%	19.0%	26.0%	3.0%	2.0%	3.0%	1.0%	17.0%
Dec-12	28.0%	18.0%	27.0%	2.0%	1.0%	3.0%	1.0%	19.0%
Jan-14	28.0%	19.0%	27.0%	2.0%	1.0%	6.0%	1.0%	15.0%
Feb-15	26.0%	15.0%	27.0%	3.0%	1.0%	7.0%	1.0%	19.0%

3.12 NUMBER OF PHONES NOT IN CURRENT USE

Date	None	One	% Two or more	Est. no. of phones in storage
Mar-05	59.0%	22.0%	19.0%	12,069,891
Mar-06	33.0%	30.0%	38.0%	16,082,686
Mar-07	31.0%	33.0%	37.0%	15,685,512
Jun-07	31.0%	34.0%	36.0%	15,987,541
Feb-08	33.0%	35.0%	32.0%	14,326,756
Feb-09	36.0%	33.0%	32.0%	13,331,456
Feb-10	33.0%	29.0%	38.0%	16,138,079
Feb-11	32.0%	27.0%	40.0%	19,029,148
Nov-11	33.0%	27.0%	40.0%	22,183,395
Dec-12	34.0%	29.0%	37.0%	23,254,888
Jan-14	35.0%	28.0%	37.0%	23,522,505
Feb-15	35.0%	29.0%	36.0%	22,255,662

3.12 NUMBER OF PHONES NOT IN CURRENT USE (CONTINUED)

Age of phones in storage – Nov	%
1 year old	12%
2 year old	23%
3 year old	24%
4 year old	41%

Phones in storage – working or not?	%
Yes, still working	61%
No, not working	22%
Unsure	17%

3.13 NUMBER OF PHONES IN AUSTRALIA HOUSEHOLDS

Date	No. Households in Aus	Population	Total no. of phones in storage in Aus	Phones in storage per household	Average no. of phones in storage per capita	Shipments – no. of MM member imports	Total no. mobile imports
Mar-05	7,624,589	20,126,600	12,069,891	1.58	0.60		
Mar-06	7,780,193	20,398,100	16,082,686	2.07	0.79	8406642	9525714
Jun-07	7,918,131	20,827,600	15,987,541	2.02	0.77	8679094	10231520
Feb-08	8,059,394	21,148,900	14,326,756	1.78	0.68	9675482	11495358
Feb-09	8,202,886	21,601,700	13,331,456	1.63	0.62	9026572	11148806
Feb-10	8,349,896	21,964,100	16,138,079	1.93	0.73	8664111	11992400
Feb-11	8,419,972	22,268,800	19,029,148	2.26	0.85	8703384	13348293.85
Nov-11	8,498,668	22,520,300	22,183,395	2.61	0.99	7796532	12784881
Dec-12	8,748,410	22,920,800	23,254,888	2.66	1.01	6667937	11971921
Jan-14	8,918,310	23,406,900	23,522,505	2.64	1.00	6204913	11225341
Feb-15	9,093,668	23,832,271	22,255,662	2.45	0.93	5615312	12777973.52
	From ABS	From Ipsos	From Ipsos			From MPIRP	From MPIRP

3.14 IF STORING HOW LONG DO YOU EXPECT TO KEEP YOUR PHONE FOR?

Date	Under 6 months	6 – 11 months	12 – 18 months	19 – 24 months	2+ years	Don't know
Mar-06	5.0%	10.0%	17.0%	7.0%	20.0%	42.0%
Mar-07	5.5%	11.1%	20.0%	11.2%	21.4%	30.9%
Jun-07	5.0%	8.2%	24.9%	11.9%	22.1%	27.9%
Feb-08	2.0%	5.0%	16.0%	10.0%	28.0%	39.0%
Feb-09	6.0%	9.0%	14.0%	14.0%	22.0%	36.0%
Feb-10	4.0%	10.0%	17.0%	12.0%	21.0%	36.0%
Feb-11	3.0%	11.0%	16.0%	9.0%	27.0%	34.0%
Nov-11	3.0%	14.0%	19.0%	10.0%	20.0%	34.0%
Dec-12	4.0%	8.0%	21.0%	12.0%	21.0%	34.0%
Jan-14	3.0%	8.0%	14.0%	12.0%	24.0%	39.0%
Feb-15	3.0%	9.0%	19.0%	9.0%	25.0%	35.0%

3.15 WHY ARE YOU NOT RECYCLING THE OLD PHONE THAT YOU KEPT?

Date	Kept spare for backup	May need it / still works / has info in it	May be able to sell/ Expensive phone / Paid good money for it	Keeping for kids/to play with	Might be able to repair	Security concerns	Sentimental reasons / value / really like it	To use overseas	Don't know where to recycle	Didn't know you could recycle phone	Not sure what to do with it	No convenient recycling points	Hand it down to friends/ family	Other (lost it, easier to throw outm gave it back to employer	Don't know	Haven't got around to it yet	Didn't think of it/ forgot about it	never replaced phone or accessory
Mar-05	19.0%		1.0%						26.0%	26.0%			14.0%	16.0%	3.0%			24.0%
Mar-06	34.0%	4.0%	4.0%						47.0%	47.0%			12.0%	7.0%				6.0%
Mar-07	44.0%	7.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	9.0%	13.0%	8.0%	0.0%	0.0%	3.0%	6.0%	11.0%	0.0%	
Jun-07	60.0%	2.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	11.0%	4.0%	2.0%	0.0%	0.0%	4.0%	2.0%	11.0%	0.0%	
Feb-08	57.0%	14.0%	0.0%	6.0%	0.0%	0.0%	0.0%	0.0%	9.0%	3.0%	2.0%	0.0%	0.0%	10.0%	3.0%	8.0%	0.0%	
Feb-09	61.0%	8.0%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	9.0%	3.0%	1.0%	0.0%	0.0%	6.0%	3.0%	15.0%	0.0%	
Feb-10	45.0%	19.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	10.0%	6.0%	0.0%	0.0%	0.0%	6.0%	6.0%	16.0%	0.0%	
Feb-11	43.0%	16.0%	3.0%	2.0%	3.0%	2.0%	0.0%	2.0%	6.0%	4.0%	1.0%	9.0%	4.0%	0.0%	7.0%	18.0%	0.0%	
Nov-11	41.0%	18.0%	2.0%	4.0%	1.0%	2.0%	0.0%	1.0%	6.0%	3.0%	2.0%	1.0%	3.0%	2.0%	6.0%	16.0%	0.0%	
Dec-12	37.0%	21.0%	2.0%	2.0%	2.0%	1.0%	2.0%	1.0%	7.0%	6.0%	3.0%	1.0%	3.0%	2.0%	7.0%	16.0%	0.0%	
Jan-14	36.0%	21.0%	2.0%	3.0%	2.0%	2.0%	1.0%	1.0%	8.0%	3.0%	3.0%	1.0%	4.0%	3.0%	7.0%	12.0%	0.0%	
Feb-15	49.0%	16.0%		6.0%					16.0%	5.0%	14.0%	2.0%	7.0%	5.0%		25.0%	10.0%	

3.16 WHY DOES THE INFORMATION ON YOUR UNUSED PHONE STOP YOU FROM RECYCLING IT?

Date	I might need the information at a later date	I am worried if I recycle my mobile phone someone else may access and use my information	I don't believe the information will be destroyed in the recycling process	I don't know how to delete the information off the phone	I don't know how to save/ transfer the data to my new phone or computer	Other
Nov-11	37.0%	57.0%	20.0%	19.0%	21.0%	9.0%
Dec-12	37.0%	64.0%	24.0%	24.0%	31.0%	3.0%
Jan-14	33.0%	69.0%	33.0%	22.0%	22.0%	5.0%
Feb-15	42.0%	66.0%	29.0%	22.0%	21.0%	4.0%

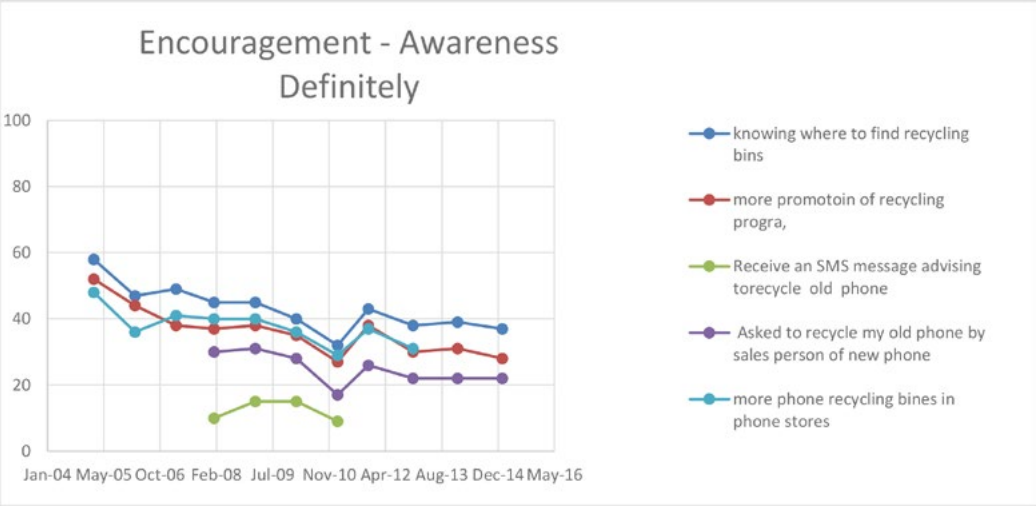
3.17 HOW LIKELY ARE YOU TO RECYCLE YOUR MOBILE PHONE?

Date	Definitely will	Probably will	Might/Might not	Probably not	Definitely not
Mar-06	20.0%	25.0%	40.0%	12.0%	3.0%
Mar-07	25.4%	20.7%	38.8%	12.0%	3.1%
Jun-07	22.8%	19.8%	38.8%	14.3%	4.3%
Feb-08	27.0%	21.0%	33.0%	15.0%	4.0%
Feb-09	36.0%	20.0%	30.0%	11.0%	2.0%
Feb-10	35.0%	22.0%	30.0%	11.0%	2.0%
Feb-11	30.0%	20.0%	34.0%	12.0%	4.0%
Nov-11	37.0%	19.0%	31.0%	10.0%	4.0%
Dec-12	37.0%	19.0%	30.0%	10.0%	4.0%
Jan-14	34.0%	16.0%	32.0%	12.0%	5.0%
Feb-15	35.0%	18.0%	32.0%	11.0%	4.0%

3.18 HAVE YOU EVER RECYCLED ANY PART OF AN OLD MOBILE PHONE?

Date	Battery	Phone Handset	Charger	SIM Card	Head set / hands free	Case	Other
Mar-06	77.0%	54.0%	52.9%	28.7%	6.9%	4.6%	4.6%
Mar-07	76.4%	58.8%	53.1%	34.3%	4.7%	8.2%	1.5%
Jun-07	80.0%	61.0%	50.0%	26.0%	5.0%	2.0%	
Feb-08	81.0%	73.0%	58.0%	19.0%	1.0%	1.0%	9.0%
Feb-09	80.0%	74.0%	48.0%	23.0%	0.0%	0.0%	7.0%
Feb-10	82.0%	70.0%	49.0%	15.0%	1.0%	1.0%	4.0%
Feb-11	77.0%	76.0%	44.0%	21.0%	2.0%	2.0%	
Nov-11	73.0%	75.0%	51.0%	16.0%	0.0%	2.0%	
Dec-12	81.0%	83.0%	52.0%	13.0%	3.0%	1.0%	
Jan-14	77.0%	84.0%	55.0%	17.0%	1.0%	1.0%	
Feb-15	72.0%	81.0%	58.0%	15.0%	0.0%	0.0%	

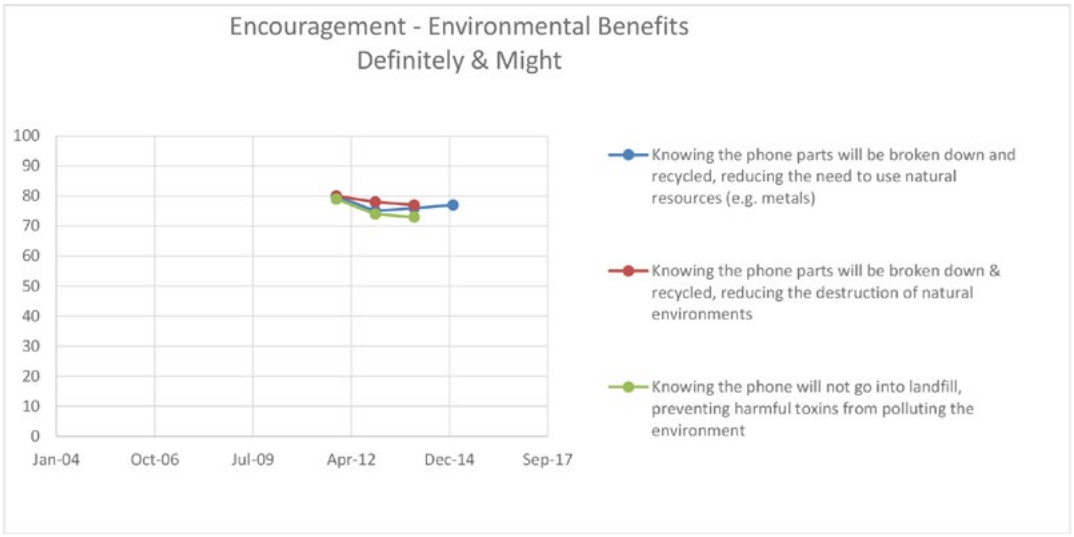
3.19 HOW MUCH AWARENESS ENCOURAGES RECYCLING - DEFINITELY (%)

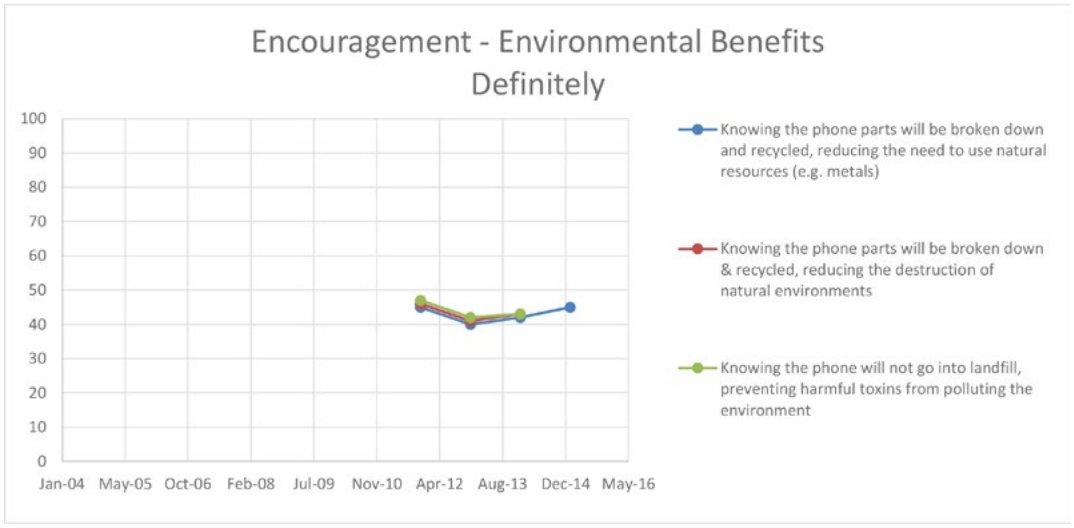


3.20 AWARENESS OF MOBILE PHONE RECYCLING

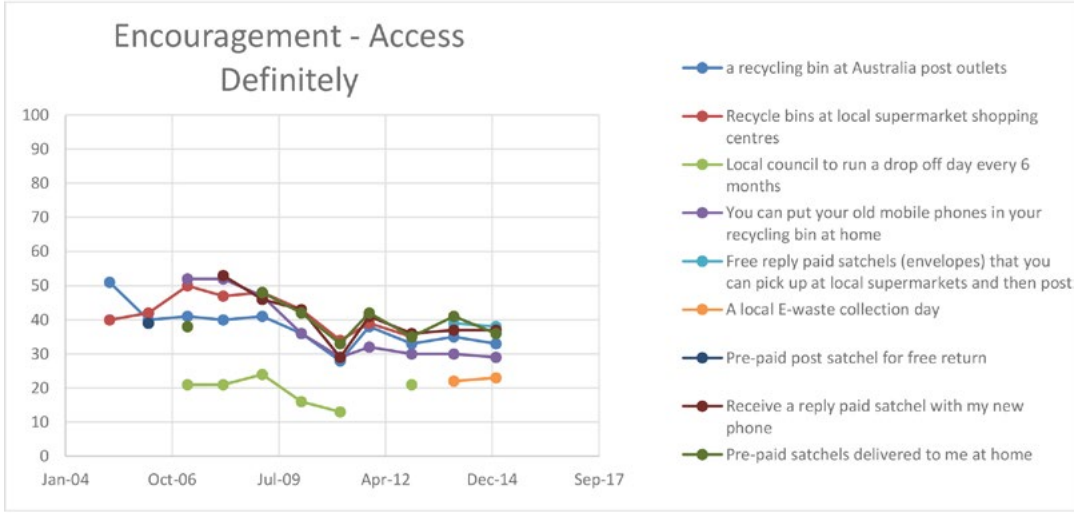
Date	Total	Sydney	Melbourne	Adelaide	Perth	Brisbane	Rural
Mar-05	46%						
Mar-06	54.2%	53.8%	58.8%	51.3%	43.4%		
Mar-07	66.8%	67.5%	69.1%	65.0%	60.7%		
Jun-07	79.0%	79.3%	78.3%	80.6%	76.3%		
Feb-08	75.0%	71.0%	77.0%	79.0%	79.0%		
Feb-09	79.0%	79.0%	79.0%	82.0%	80.0%		
Jun-09	76.0%	79.0%	80.0%	88.0%	73.0%		
Nov-09	77.0%	77.0%	81.0%	85.0%	82.0%	65%	75%
Feb-10	79.0%	79.0%	79.0%	83.0%	77.0%		
Feb-11	84.0%	84.0%	83.0%	85.0%	83.0%		
Nov-11	82.0%	81.0%	76.0%	78.0%	80.0%	81.0%	
Dec-12	83.0%	80.0%	86.0%	81.0%	79.0%	85.0%	
Jan-14	80.0%	77.0%	78.0%	74.0%	78.0%	82.0%	
Feb-15	78.0%	76.0%	82.0%	80.0%	72.0%	73.0%	

3.21 HOW MUCH ENVIRONMENTAL BENEFITS ENCOURAGE RECYCLING – DEFINITELY & MIGHT (%)

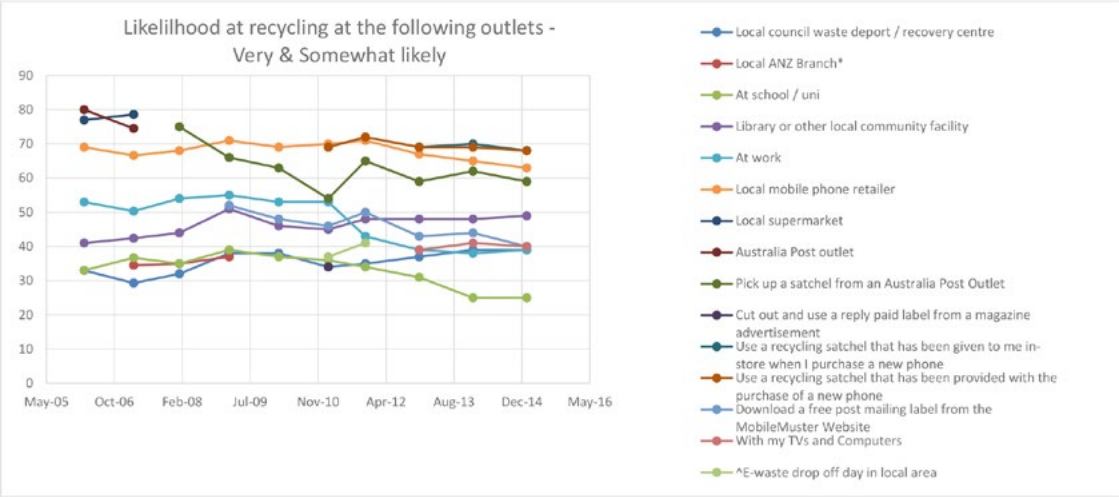


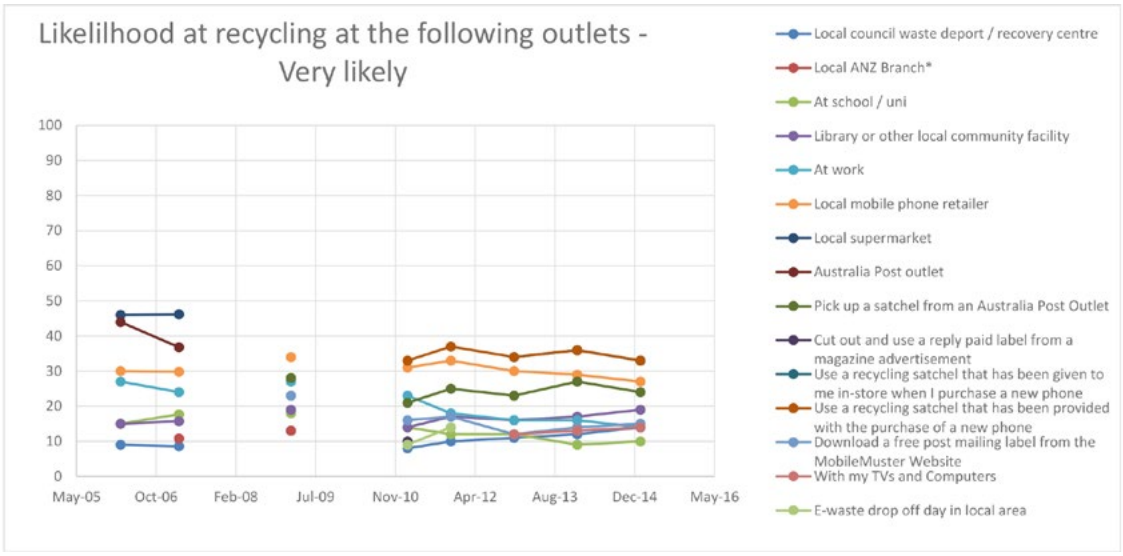


3.22 HOW MUCH ACCESS ENCOURAGES RECYCLING – DEFINITELY (%)

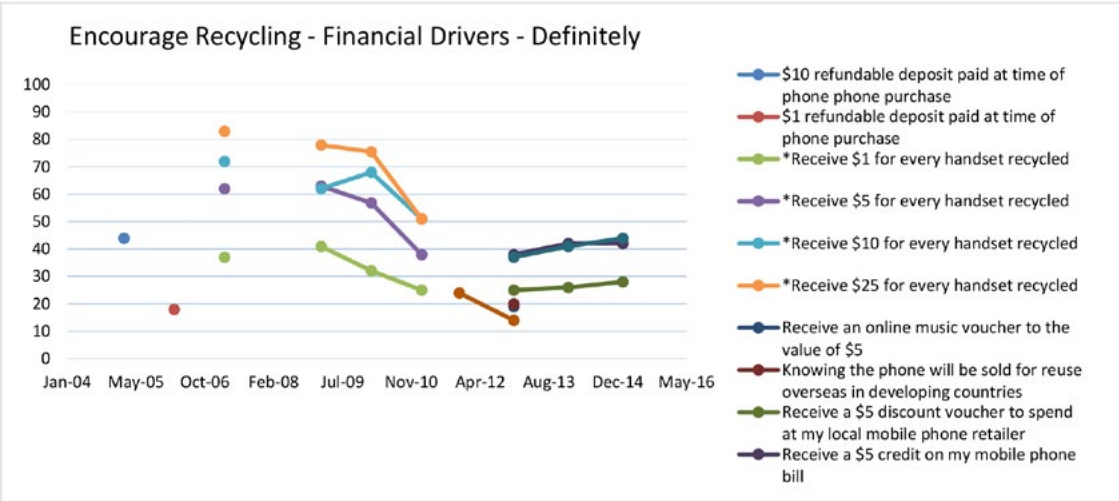


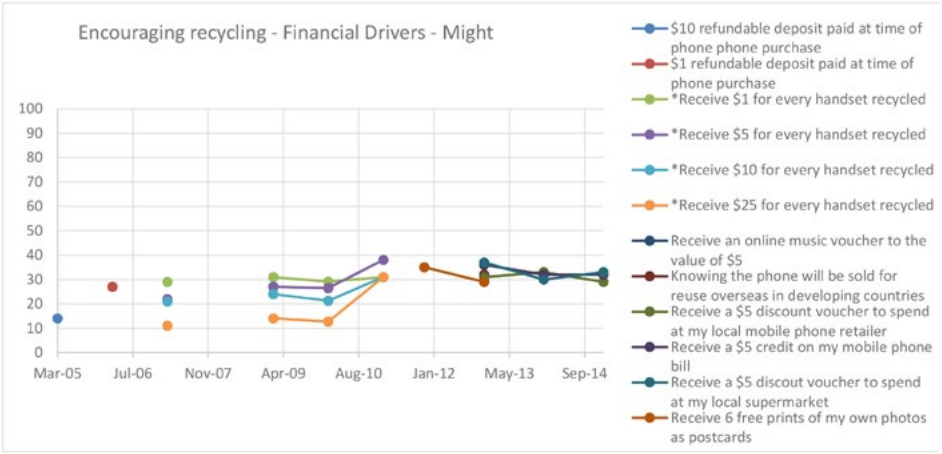
3.23 LIKELIHOOD TO RECYCLE AT THE FOLLOWING OUTLETS – VERY AND SOMEWHAT LIKELY (%)



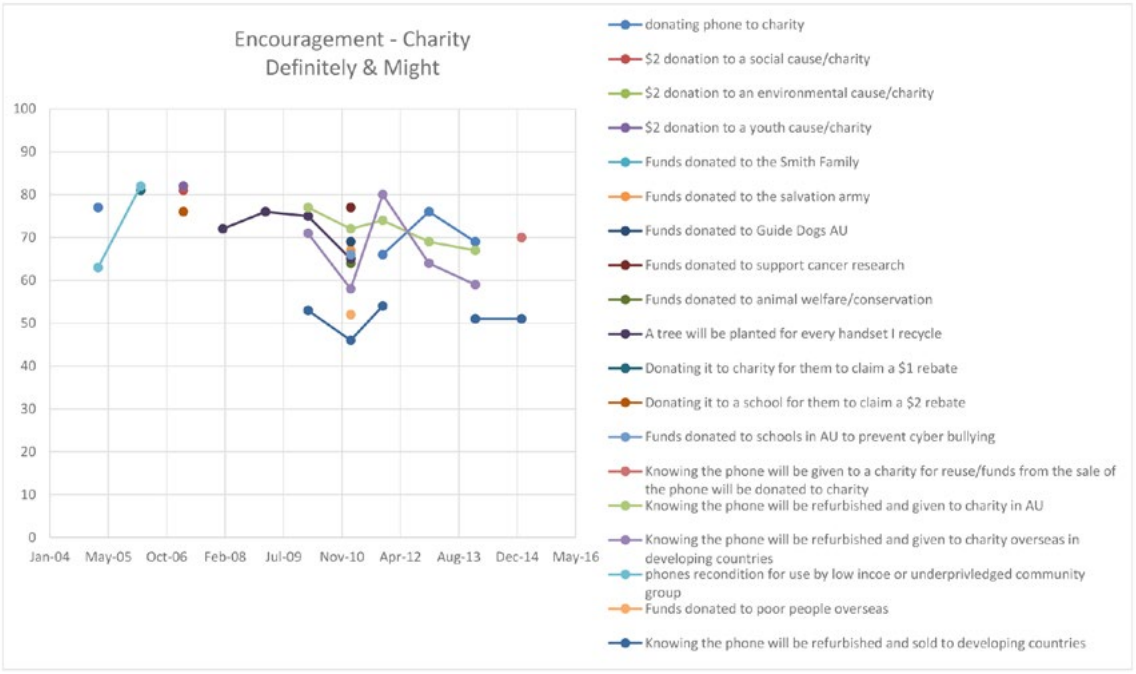


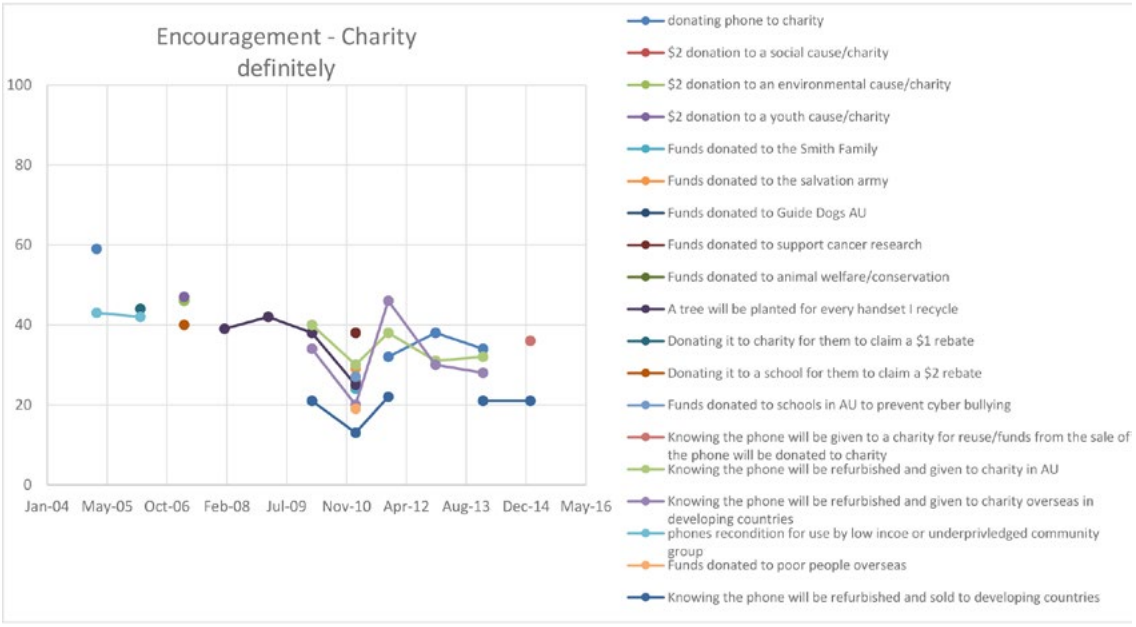
3.24 HOW MUCH PERSONAL FINANCIAL INCENTIVES ENCOURAGE RECYCLING – DEFINITELY & MIGHT (%)





3.25 HOW MUCH CHARITY BENEFITS ENCOURAGE RECYCLING – DEFINITELY & MIGHT (%)





3.26 ESTIMATED NUMBER OF BATTERIES AND HANDSETS RECEIVED (DERIVED BY DIVIDING WEIGHT BY AVERAGE UNIT WEIGHTV PER ANNUM)

Numbers	NiCd	NimH	Lithium Ion	Lead	Total Batteries	Handsets	Total
1998/00	161,783	68,840	13,175	635	244,433	13,044	257,478
2000/01	37,483	68,933	28,900	4,040	139,357	65,556	204,912
2001/02	41,333	90,427	49,050	4,885	185,695	182,144	367,839
2002/03	66,950	74,540	52,775	8,760	203,025	100,033	303,058
2003/04	30,825	69,240	50,125	22,605	172,795	92,944	265,739
2004/05	59,400	100,640	84,225	22,365	266,630	68,978	335,608
2005/06	21,000	58,471	224,462	17,660	321,593	69,481	391,074
2006/07	30,225	96,143	246,538	9,190	382,096	194,543	576,640
2007/08	14,564	109,515	295,966	2,275	422,320	332,877	755,196
2008/09	7,085	78,524	329,911	2,010	417,529	387,829	805,358
2009/10	8,055	67,557	399,801	1,035	476,449	324,800	801,249
2010/11	8,912	59,087	482,180	1,158	551,337	428,074	979,411
2011/12	4,528	34,518	493,951	905	533,902	441,788	975,690
2012/13	4,827	34,986	524,907	932	565,652	431,222	996,874
2013/14	3,593	25,642	537,145	1,202	567,582	421,363	988,945
2014/15	3,172	21,057	533,807	863	558,900	388,465	947,365
Total Numbers	**503,736**	**1,058,120**	**4,346,917**	**100,521**	**6,009,294**	**3,943,143**	**9,952,437**

3.27 BATTERY AND COMPONENT PERCENTAGES AND WEIGHTS BEING RECYCLED

Period	Batteries	Handsets	Accessories
1998/00	92%	4%	4%
2000/01	35%	18%	47%
2001/02	22%	24%	54%
2002/03	35%	18%	46%
2003/04	29%	16%	55%
2004/05	43%	12%	45%
2005/06	38%	13%	48%
2006/07	24%	20%	56%
2007/08	19%	28%	53%
2008/09	14%	26%	60%
2009/10	16%	28%	56%
2010/11	16%	29%	54%
2011/12	16%	35%	50%
2012/13	18%	38%	44%
2013/14	20%	40%	40%
2014/15	22%	41%	37%
Total	23%	27%	49%

Period	NiCd	NimH	Lithium Ion	Lead
1998/00	77%	20%	2%	1%
2000/01	39%	44%	10%	7%
2001/02	34%	46%	13%	7%
2002/03	46%	32%	12%	10%
2003/04	24%	34%	13%	29%
2004/05	32%	34%	15%	20%
2005/06	16%	26%	37%	22%
2006/07	19%	36%	34%	10%
2007/08	11%	40%	46%	2%
2008/09	7%	36%	54%	2%
2009/10	7%	30%	62%	1%
2010/11	7%	26%	66%	1%
2011/12	3%	17%	79%	1%
2012/13	4%	14%	81%	1%
2013/14	3%	12%	84%	2%
2014/15	2%	9%	88%	1%

Percentage of batteries collected by chemical type.

Period	NiCd (kg)	NimH (kg)	Lithium Ion (kg)	Lead (kg)	Av Batt Wt (kg)	GSM (av gsm and cdma) (kg)	Lilon +hset (kg)
Av wght (til Jun 05)	0.120	0.075	0.040	0.200	0.109	0.090	0.2
Av wght (after Jun 05)	0.120	0.070	0.026	0.200	0.104	0.081	0.107
Av wght for year (at 30 Jun 07)	0.154	0.069	0.027	0.200	0.113	0.083	0.110
Av wght for year (30 june 08)	0.140	0.068	0.029	0.200	0.109	0.081	0.110
Av wght for year (30 june 09)	0.177	0.077	0.028	0.200	0.121	0.082	0.110
Av wght for year (30 June 10)	0.143	0.072	0.025	0.200	0.110	0.090	0.115
Av wght for year (31 March11)	0.130	0.077	0.024	0.200	0.108	0.073	0.097
Av wght for year (30 June 12)	0.116	0.073	0.024	0.200	0.103	0.076	0.100
Av weight for year (30 June 13)	0.119	0.065	0.024	0.200	0.102	0.076	0.100
Av weight for year (30 June 14)	0.113	0.072	0.025	0.200	0.103	0.075	0.101
Av weight for year (30 June 15)	0.103	0.069	0.027	0.200	0.100	0.079	0.105

Average unit weight (kg) of components received for recycling (note handset does NOT include battery).

3.28 TYPES OF HANDSETS BEING RECYCLED BY WEIGHT (KG)

	Analogue	CDMA	GSM	Total
2005-6	526	1,005	4,097	5,628
2006-7	668	4,081	9,044	13,793
2007-8	574	8,066	18,313	26,953
2008-9	593	5,907	25,413	31,913
2009-10	596	2,916	25,720	29,232
2010-11	865	2,202	27,969	31,035
2011-12	98	413	33,065	33,576
2012-13	84	327	32,408	33,576
2013-14	65	334	31,362	32,818
2014-15	46	273	30,173	31,761

MobileMuster –
The only not-for-profit government accredited mobile phone recycling program in Australia. An initiative of the Australian Mobile Telecommunications Association (AMTA).

PRODUCT STEWARDSHIP
Australian Government Accredited

AMTA

Managed by the Australian Mobile Telecommunications Association

Author:
Rose Read
Manager Recycling
AMTA

Acknowledgements

The AMTA would like to thank the following people for their contributions in editing, proofing and reviewing the document Julia Diamond, Larissa Shashkof, Spyro Kalos and Glenn Brown from AMTA; Helen Lewis (Principal, Helen Lewis Research); John Gertsakis (Chief Sustainability Officer from Infoactiv); Associate Professor Damien Giurco (Research Director, UTS Institute of Sustainable Futures); Ben Brown and Laura Shepherd from IPSOS; Claire Maloney and Alexandra McDonald from The Bravery; Scott Matyus-Flynn, Rachel Strobridge and the Design Team at The Republic of Everyone.

CONTACT US

www.mobilemuster.com.au
1300 730 070
+61 2 8920 3555
mobilemuster@amta.org.au

MobileMuster
Level 8, 71 Walker Street,
North Sydney NSW 2060

Australian Mobile
Telecommunications Association
PO Box 4309 Manuka,
ACT Australia 2603
ABN: 98 065 814 315

Like us on Facebook/
mobilemuster

Follow us on Twitter/
mobilemuster1

©Australian Mobile Telecommunications Association
Written by Rose Read, Manager Recycling, AMTA
Edited by The Bravery
Graphic Design by The Republic of Everyone
Printed on 250gsm & 110gsm Ecostar 100% Recycled Uncoated
ISBN 978 0 646 94660 3
October 2015