Insights into mobile phone use, reuse and recycling 2020



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Executive summary

In this report we examine how Australians use, reuse and recycle their mobile phones, as well as the impact this has on the environment. Increasingly we are using our mobile phones until they are no longer working. Many Australians are repairing their phones when they break and passing them on to family members when upgrading. When mobiles reach the end of their life most Australians are also looking to recycle them.

The way we use and dispose of our mobile phones contributes to their environmental footprint and the emissions associated with making products. In our efforts to combat climate change we need to look at a circular economy approach to reduce our greenhouse gas emissions. A circular economy is built around three principles including the designing out of waste and pollution, keeping products and materials in use and regenerating natural systems.

As part of its commitment to product stewardship the industry works through the MobileMuster program to raise awareness about reuse and provide the infrastructure to facilitate recycling. The program aims to eliminate mobile phone waste and increase the amount of resources recovered from end-of-life products. Encouraging Australians to play their part is critical in the success of the program.

The environmental benefits of extending the life of a mobile phone and recycling can be measured through the reduction in greenhouse gas emissions, resource depletion, fossil fuels and pollution. Educating more Australians on how to responsibly reuse and recycle their mobile phone will promote increased participation and result in greater environmental benefits and positive climate change impacts.

Key trends



Australians are holding onto their phones for longer



We are reusing our phones within the family



Younger Australians are embracing repair



1 in 3 are concerned about the data on their old phones



We are holding onto 5 million phones that are broken and no longer working.



Incentives motivate recycling action



Australians are early adopters of new and emerging technology and mobile phone penetration is high.² Today, 91% of adults in Australia own a mobile phone device.³ While our mobile phones have become an integral part of our lives, it is important to reduce their environmental footprint. How we use, reuse, and recycle our mobile phone will influence the impact they have on the environment throughout their lifecycle and beyond.

About the research

This report is based on annual market research undertaken by IPSOS and commissioned by the Australian Mobile Telecommunications Association (AMTA). AMTA has been analysing consumer attitudes towards mobile phone use, reuse and recycling for 15 years. This year's report, Insights into mobile phone use, reuse and recycling (2020), provides greater understanding of our behaviour and analysis on the changing nature of our habits. The independent market research is conducted on an annual basis using a sample size of approximately 1000 people and provides a demographic representative sample of the Australian population. Respondents are randomly selected from an online panel. They are aged over 16 years and own a mobile phone.





Extended lifecycles

We are holding onto our mobile phones for longer than ever before. Australians are slower to upgrade their devices, which means mobile phones are being used for longer by the same owner. Increasing the mobile phone's life cycle is more sustainable and better for the planet. Our research indicates that the average mobile phone replacement cycle has reached 30 months in Australia. As depicted in the table below older Australians are more likely to hold onto their mobile phones for longer whereas younger Australians are more likely to upgrade sooner.

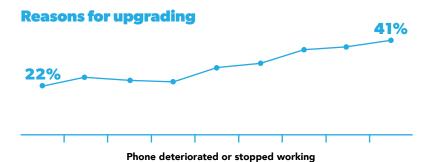
Length of mobile phone ownership

	1 year	2 years	3 years	4 years	5years	5 years+	Don't know
16-24 years	21%	47%	20%	9%	1%	1%	1%
25-39 years	9%	40%	35%	7%	4%	3%	2%
40-64 years	3%	31%	29%	13%	10%	11%	3%
65 and over	5%	19%	28%	14%	13%	17%	4%

In most developed economies, the mobile phone market has reached maturity.⁴ Mobile phone sales have levelled out, and it is expected that the economic impact of the COVID-19 pandemic will cause a decline of sales in 2020. In April, the International Data Corporation (IDC) reported that worldwide smartphone shipments decreased 11.7% year on year.⁵ With retail stores closing or experiencing less foot traffic it is predicted that our willingness to buy, try and see a new device may decline.

Motivation to upgrade

The most common reason consumers now change phones is because their current one stopped working. This trend has started to emerge over the past decade with the gradual increase over time in the percentage of Australians waiting for their mobile phone to deteriorate or stop working to upgrade. At the same time, we see a decrease over time in the percentage of consumers upgrading their mobile phone for the latest model or technology.



Mobile phones have become an integral part of our everyday lives and because they are becoming increasingly more advanced, they remain "good enough" to use for longer periods of time. There are several factors contributing to this trend from innovation to cost.

Australians have also changed the way they are purchasing their mobile phone. There is an increasing proportion of Australians looking for value, with data inclusions, when signing up for a new plan rather than insisting on a new phone. The network providers have moved to a model where consumers pay off the cost of the mobile phone and their plan monthly and no longer subsidise the handset cost.

There are also more Australians with a pre-paid mobile phone plan than ever before. Research shows that nearly a third (32.9%) of Australians now have a pre-paid mobile phone, up 2.5% from two years ago.⁶ This potentially has created a greater sense of value on the device by customers, and hence are using the device for longer periods of time before upgrading. We now know that over 1 in 4 (26.8%) of Australians are purchasing their mobile phones outright and are on a post-paid mobile phone plan, up a significant 5.8% points from two years ago.⁷ In contrast there has been a decline in the market for traditional mobile phone plans that include a subsidised handset down 6.8% points in two years. In the long term this change will have impacts on increasing the length of time between mobile phone upgrades.





Early adopters

Australian consumers are characterised as being early adopters of new technology. Our research suggests that there is a cohort of early adopters that are motivated to upgrade their mobile phones when the latest model comes out. Whilst this group has shrunk from 41% to 33% in the past five years, they see the importance of getting value from their mobile phone purchases. This group is also twice as likely to sell or give away their previous handset when upgrading. With 43% of early adopters reusing their previous devices. Early adopters see the value in the technology and are more likely to have the skills to get their phone ready to be reused by selling it or passing it onto someone else.

With 5G becoming more broadly available in Australia, early adopters could drive demand for 5G enabled handsets. Research shows that one in three Australians now consider 5G an important feature when choosing a smartphone. It is expected that early adopters will look to upgrade to a 5G enabled device on their next purchase to future proof that purchase and take advantage of the increased speeds and lower latency of 5G technology.

Australia's market for smartphone accessories is growing with the increased demand for popular items including, wireless headphones, speakers, protective cases, and wireless chargers. As we keep our mobile phones for longer it seems that we are purchasing more accessories over time. There has also been growth in the ownership of wearables such as smartwatches and fitness trackers, whose utility is greatly enhanced by pairing them with mobile phones. But what happens to these products when they reach the end of their life? Over half of Australians (57%) don't realise that they can recycle their mobile phone accessories.



CONSUMER TIP

Mobile phone accessories and smartwatches can be recycled by MobileMuster when they reach the end of their life.



Mobile phone reuse occurs when a device changes owner but otherwise is used in its original form and purpose. Reuse extends the use phase of products, thereby reducing environmental impacts.

"The more a product is utilised, the larger the savings should be in terms of resources that are already embodied into the product such as material, labour, energy, and capital. Moreover, by keeping products and materials in use, greenhouse gas emissions associated with new material production and end-of-life treatment are avoided."

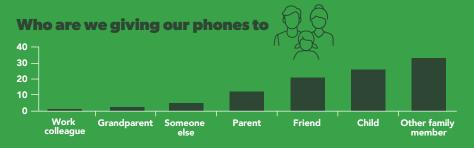
Ellen Macarthur Foundation (2019)
Completing the Picture: How the circular economy tackles climate change.

Mobile phones have a greater chance of being reused if they are sold or given away shortly after consumers have upgraded rather than being kept as a backup or stored at home. It is in this period that devices have the greatest resale value. Research into the resale market shows, that within two years, the average device loses nearly 80% of its value.¹¹

About one in four Australians can be characterised as a mobile phone "reuser". Which means they are either giving away, selling, trading-in or using their old mobile phone for another purpose. People who reuse their phone are more likely to be younger 16-24 years old and living in a capital city.

It's a family affair

When it comes to passing them on, most of us are giving them to family members. Increasingly, mobile phones are being handed down from parents to children. In fact, 72% of children receive their first phone as a hand-medown from their parents. 12 This is due to a variety of reasons, from saving money to giving them peace of mind that their child can contact them when needed. Similarly, we are seeing young adults passing on their old technology to their older parents when upgrading. Our research suggests that 25-39 year old Australians are most likely to give their old devices to parents or even grandparents. Those aged over 65 years will pass it down to someone in the family. Overall, one in three reusers are passing on their phones within the family. It's only younger Australians, those aged 16-24 years who tend to pass their phones onto friends.



Types of reusers



Selling or trading in your phone

Over the last decade there has been a slight growth in number of people selling and trading in their old mobile phones. Brand is seen as an important factor when selling or trading in a mobile phone. Research conducted into the resale of smartphones on eBay found that premium brands have higher resale values compared to other brands, even if they were the same age, size, and functional capability. They show that brand, an intangible quality of a product, can extend a phones' economic life span by a year. Our research estimates that 8% of mobile phones in Australia are either being sold or traded in when someone purchases a new phone.

There are several commercial refurbishment programs in Australia including Boomerang Buyback, Mazuma Mobile, Mobile Monster and Phone Cycle as well as those managed by the mobile phone retailers who offer trade-in programs. These refurbishment programs are commercially operated and involve the collection, testing, repair if needed, and upgrading of used phones for the purpose of reselling. They play an important role in extending the life of a mobile phone and ensuring they can be circulated for longer.

The research suggests that 26% of respondents traded in their mobile at their mobile phone retail store to receive credit towards a new purchase. It is seen as a convenient and secure option for trading in an old device. Online secondhand sites such as Gumtree and eBay are also popular with people looking to find a buyer for their old devices.

At the international level the market for used smartphones is growing and it is forecasted for continued growth in the coming years. ¹⁴ It is estimated that 70% of mobile phones collected via these reuse programs are resold to developing countries. ¹⁵ While these devices can be given additional lives in these emerging markets, at some point they will need to be recycled responsibly, and they pose a risk if they are not processed to high environmental standards. Recycling practices, or lack thereof, in developing countries means that pollution from hazardous materials and metals can have detrimental impacts on the local environment and workers. ¹⁶









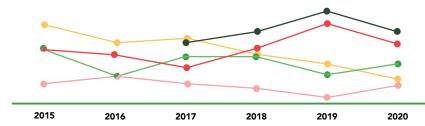
Amongst those who sold or traded in their previous handset, one in four claim they sold it to a mobile phone retailer.



CONSUMER TIP

If you are going to sell an old phone don't hesitate. The longer you keep it the more it will depreciate.

Where we are selling our mobile phones?



Mobile phone retailer Sold to friend

Gumtree Ebav

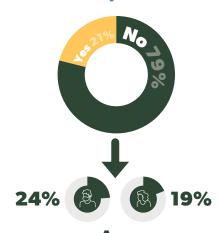
Online cash for phone site

Demand for secondhand

Australian consumers increasingly view the concept of secondhand and refurbished mobile phones in a positive light. This market is comprised of used devices that are still working and in demand by consumers due to their model and brand. Some of the mobile phone manufacturers offer certified refurbished products for sale through their website. The refurbished devices have been tested, meet the functional standards of a new product, and come with a warranty. The affordability of second hand and refurbished devices, especially when compared to the price of the latest model, is supporting the relevance of the secondhand market. Basically, it is a more affordable way for consumers to upgrade.

Over the past two years one in five consumers have purchased a second hand or refurbished mobile phone. The research indicates that younger people are more likely to purchase a secondhand phone. It also reveals that 28% of Australians under 45 years have bought a used mobile phone compared to 13% of Australians aged 45 years and over. We expect the number of people looking to buy secondhand devices with continue to increase in the coming years.

Ever bought a used mobile phone?



Under 45 28% +45 13%



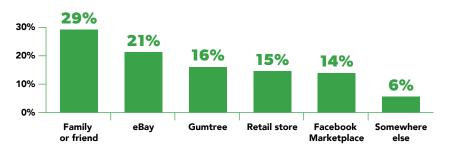
CONSUMER TIP

If you sell or trade-in your phone, ensure you are dealing with a reputable and responsible organisation. It is important to ask questions including how your data is destroyed, understand how it will be reused and what will happen to it when it reaches the end of its life.

Upcycling

There is a small number of Australians (6%) who are holding onto spare phones and using them for other purposes. This includes using them as a spare phone for when travelling overseas or in and around the home. Upcycling, also known as creative reuse, is the process of transforming the purpose of an old product into something else of value. In terms of mobile phones there is potential for them to be used as a media player, alarm clock or camera. These phones, especially at the high value end, have enough processing power to do a lot of things.¹⁷

Where did you buy the used mobile from?



Repair

Repair becomes the norm for younger Australians

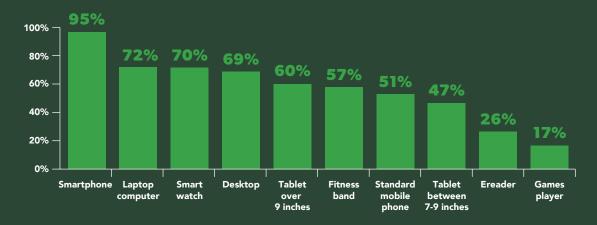
Transformation in the repair market

The usefulness of a mobile can be extended and preserved through software upgrades and repair. 18 Consumers can download software upgrades made available by manufacturers which improve the functionality and security of their device without needing to replace the mobile to gain these benefits. This makes it possible for consumers to use their mobile phones for longer.

According to research, 95% of the population use their smartphones daily, so it is not surprising that they may get broken and will need to be repaired at some stage. ¹⁹ Smartphones are at the top of the list with all other electronic devices having significantly lower daily usage rates when compared with laptops, smart watches, desktop computers and tablets.

Smartphones are used daily by 95% of respondents.

Recency of device usage



We know that around 38% of Australians have repaired a mobile phone. Repair has continued to increase over the last couple of years from 33% in 2019 to 38% in 2020. We predict that repair will continue to rise with younger Australians driving this trend, with 60% those in the 16-24 age group having used repair services. This compares to only 20% of those in the over 65 year age. A study completed in Europe suggests that the older generations are often satisfied with simple mobile phones that tend to be less likely to require repair services.²⁰

The mobile phone repair market in Australia is well established and supported by industry. Manufacturers and the network carriers provide certified repairs and services instore or through authorised partners where technicians are trained to provide high quality service using genuine manufacturer parts.

In recent years there has also been growth in the number of independent repair options with a growing number of repair stores appearing in local shopping centres within major cities and regional areas. The growth in repair has come about as a business response to an economic opportunity. Local repair stores are convenient, affordable, and able to repair and turn around the devices quickly.²¹

Our market research shows that Australians are taking advantage of the repair options available to them, including independent repair shops, mobile phone manufacturer or network provider services to get their phones repaired.



CONSUMER TIP

When choosing a repair service, it is important to check that technicians are appropriately trained and provide a repair warranty.



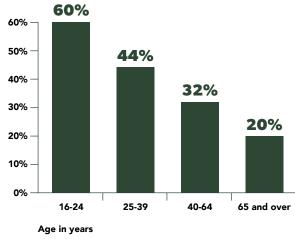


Who is driving repair?

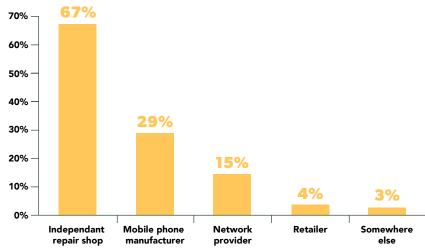
Have you ever repaired a mobile phone?



Age breakdown



Where did you have the mobile repaired?





Recycling is the final stage of the mobile phone life cycle and includes the dismantling and processing of components so the materials can be recovered to be used again. Recycling a mobile phone has benefits across several environmental indicators including global warming, resource depletion, fossil fuels and pollution.²² Through the MobileMuster program over 95% of the materials are recovered which reduces greenhouse gas emissions from avoiding new virgin material production and end-of-life treatment such as landfill.

"Recycling therefore cuts not just emissions from energy use, but also those from production processes – which are among the trickiest emissions to address. Furthermore, it is easier to use electricity and other low-carbon energy sources to facilitate recycling, compared to new materials production, and therefore it aligns to the target of a net-zero economy."

Ellen Macarthur Foundation (2019)
Completing the Picture: How the circular economy tackles climate change.

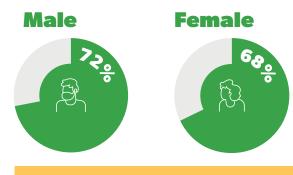
Recycling your mobile phone is worth the effort, but what motivates us to recycle varies amongst Australians. The research highlights that we need to encourage segments of the community to recycle by helping them to remove barriers and motivate them by offering incentives.

If mobile phones aren't recycled properly, they can have negative environmental impacts, especially if they end up in landfill. It is believed that on a global scale 80% of e-waste is not recycled or ends up in landfill.²³ In Australia very few of us are disposing of our mobile phone in the rubbish bin. Our research indicates that the number of devices being thrown into the general waste is low, at between two to three percent. Low disposal to landfill rates can be attributed to Australians accessibility to a free drop off network making it easy and convenient for them to recycle when they are ready.

There is a high awareness of mobile phone recycling in the community, with 70% of the population aware of the program. This awareness has increased over the past fifteen years as more people continue to recycle with MobileMuster. Awareness is stronger in the capital cities, where they have seen more advertising and have higher recognition of the MobileMuster collection units at their local mobile phone retail stores.

Mobile phone recycling awareness

National 70%



16-24 years 67%

25-39 years 73%

40-64 years 70%

65+ years 68%

Capital city Non-capital city











1 in 3 Australians have recycled a mobile phone

Our research results also indicate that just over one in three mobile phone users have ever recycled a phone or accessories in the past. The number of people who have recycled is on a gradual incline as awareness of the MobileMuster program continues to grow in Australia.



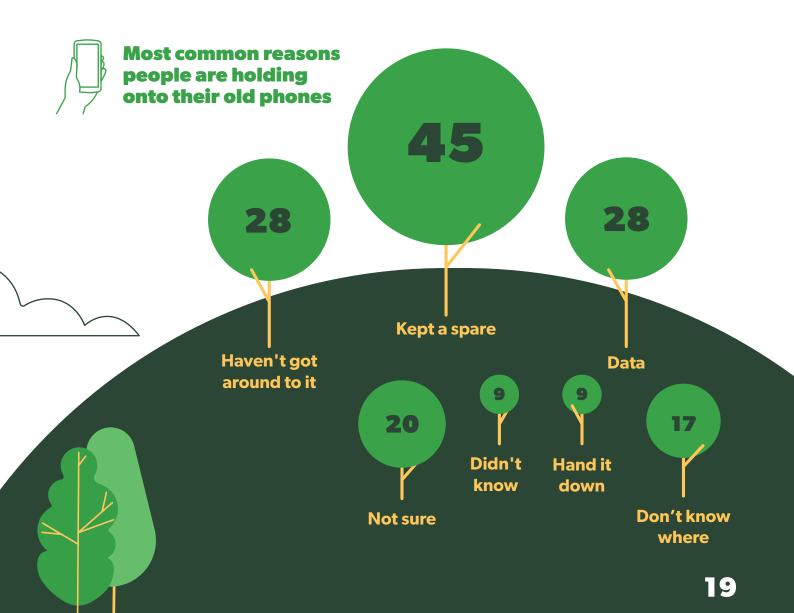




The sleeping giant

Sixty two percent of Australians choose to keep one or more mobile phones just in case. Australians have come up with some pretty good reasons for holding on to old phones such as keeping them as a spare for backup, have not got around to it yet, not sure what to do and concerns about data security. The number of mobile phones in storage has grown over the past 15 years in Australia to a point where there are as many phones in storage as there are people in Australia. From the 24.5million mobile phones being stored around the country a fifth of them, approximately five million, are broken and no longer working.

Mobile phones lying idle in Australian households provide a stockpile of untapped resources which can be recovered through recycling. Whilst the percentage of people with two or more phones in storage has decreased in the past ten years, storing of phones represents a significant loss of resources. It creates 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 responsibly recycled.



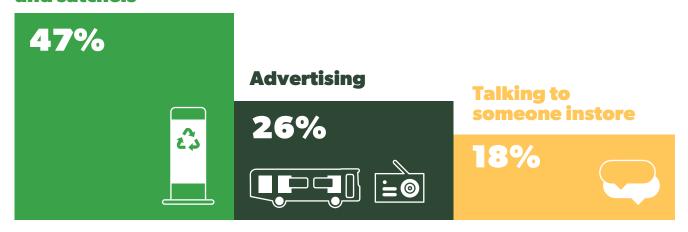
What motivates people to recycle

Understanding what will encourage people to recycle has been an important objective of the market research. It is clear that both information and incentives are required to motivate Australians to act. Consumers want to make a difference and have a high intention to recycle, however this does not always translate into action. The propensity to recycle is at the highest level it has ever been, with over half of the population committed to recycling their previous mobile phones which they still have stored at home or in the workplace.

The community needs information on where to recycle and promotion of the program is an important driver to encourage recycling. Nearly half of the population are aware of the program as they have seen a MobileMuster collection unit in store or have a recycling satchel at home. A quarter of Australians have seen or heard of a MobileMuster through advertising across radio, outdoor or digital formats. Likewise, one in five Australians have been informed that they could recycle their old phones when talking to the salesperson at their local mobile phone retail store.



Collection units and satchels



The research shows that greater understanding of the recycling process can have a positive impact on recycling behaviour. Australians who have recycled an old phone have significantly more knowledge (26%) about what happens to a recycled phone compared to non-recyclers (9%).



CONSUMER TIP

Do you know what happens to a phone when it is recycled? MobileMuster has developed resources to show Australians what happens in the recycling process, what materials are recovered, and the environment benefits it delivers.

The research finds that offering consumers incentives inspires them to recycle. People must feel motivated, and the best motivations bundle environmental benefits with personal benefits, such as economic or charitable rewards. Without being incentivised, some Australians, are not interested in the effort it takes to recycle.

Aside from personal incentives, knowing that a charity would benefit financially does encourage people to recycle, with 30% of people saying they definitely would and 43% of people saying they might recycle where a charity benefits. A donation to a local community organisation is the most popular charity program closely followed by animal, health and environmental initiatives.



Recycling Personas

From the research, we know that most Australians will consider recycling phones that they are no longer using. A small number of people, around three percent of the population, are adamant that they will not recycle.

We have developed four personalities, based on our research findings, which represents a certain type of recycler within the community. Each personality displays traits and motivations that drive their recycling behaviour. With the right mix of targeted consumer education and recycling initiatives we can help these personalities to overcome their barriers and encourage more Australians to recycle their mobile phones.





Goal

"I recycle with MobileMuster for a better world."

Traits – Committed recyclers

- Environmentally aware and green consumers.
- Used and repaired their phone until it stopped working.
- Hold strong intentions and positive attitudes towards recycling.

What will motivate these consumers

Show me the environmental benefit

What barriers are in their way - Information

They are motivated but just need to understand the basics – what, where and how.

How can we help

Find out where to recycle in your local community and calculate the environmental benefits you are contributing towards.



MobileMuster drop off locator



Environmental calculator

Do good recyclers



Goal

"I recycle whenever I can but need to be motivated."

Traits - Aspirational recyclers.

- Conscientious consumers want to see a personal or social benefit for their effort.
- They reuse in the family. Support charity incentives. Keen to declutter the home.

What will motivate these consumers

Show me how I can do some good

What barriers are in their way - Opportunity

They are waiting for the right opportunity or motivation to act.

How can we help

Provide participation opportunities and positive reinforcement to recycle such as charity incentives.







MobileMuster drop off locator

Δ

Tech enthusiasts



Goal

"I'll recycle if you pay me."

Traits – Indifferent recyclers.

- Early adopters of technology who like to purchase the latest model.
- Have invested in their phone and see the monetary value in their old phone.

What will motivate these consumers

Show me the money

What barriers are in their way - Time

The longer they wait to do something with their phone the greater it will depreciate in value.

How can we help

Tips on how to get your phone ready to be reused and sold. Recycle accessories or mobile phones that have no value.





Watch instructional videos

Recycle items that can't be reused or resold



Show me how recyclers



Goal

"I need help recycling."

Traits - Disconnected recyclers.

Concerned about the data on their phone

- They think they may need their old phones one day.
- Not sure what happens to their phone when it is recycled.

What will motivate these consumers

Show me the way

What barriers are in their way - Concern

They are worried about recycling something that might still be valuable, could be used again and has personal data.

How can we help

Ask for help to remove data. Learn about the secure MobileMuster recycling process.





Ask tech experts for help

Watch our instructional videos

Δ



1 in 3 Australians are concerned about the data on their old mobile phones

The biggest concern is that someone else may access and use their information

Mobile phones have become central to people's lives from communication to commerce, and as we know we are spending more time on our phones than any other device. Research undertaken by AMTA found that 94% of Australians take their mobile device when they go out, this is higher than those who take their wallet (92%), house keys (88%) or car keys (77%).²⁴ As mobile phones take centre stage in a consumer's life they consequently store a wealth of personal information and data about our lives on them.

Ensuring data security



"Assistance in removing data and clearing the phone before recycling"

"Information on how data on phone is deleted"

"If I could be reassured about the data on the phone, I would recycle it"

and emphasise the data security aspects"

"Tell users what exactly happens to the parts

"Assurance that any data on the phone would be destroyed first"

Security concerns

36%

of Australians say the data on their old phone/s stops them form recycling



Slightly more women compared to men

† 30% 📵

38%



An issue of trust

Just over one in three mobile users agree that the data stored on their unused phones will stop them from recycling, with over two-in-three concerned that someone could access and use their information. More people are citing data security as their reason for keeping their phone and avoiding recycling it. This was not a reason 15 years ago and reflects the vast amount of information that can now be stored on phones. This concern has increased from 31% of Australians in 2017 to 36% in 2020 worried about the data stored on their phones.

When you look at the issue of data security we can breakdown the concern into two issues:

- 1. Lack of knowledge: Not knowing how to delete and transfer their data. This provides an opportunity to teach people how to securely transfer and delete their data. Giving them piece of mind that no one will be able to access it from the old device.
- 2. Concern that the data won't be destroyed in the recycling process. This is a more complex issue and consumer education is required to gain better understanding of what happens to mobile phones when they are recycled, including the security aspects. Despite our desire to reuse or recycle our phones, we know that a lot of people worry about others getting hold of their personal data as they don't know how to remove it from their phones. This worry holds some people back from passing on their phones.

Top 5 Security concerns

Highest

- Someone may access and use my information
- 2 I might need the information at a later date
- 3 I don't believe the information will be destroyed in the recycling process
- 4 I don't know how to save/transfer the data to my new phone or computer
- 5 I don't know how to delete the information off the phone

Despite our desire to reuse or recycle our phones, we know that a lot of people worry about others getting hold of their personal data as they don't know how to remove it from their phones. This worry holds some people back from passing on their phones.

CONSUMER TIP

When removing data on your mobile phone take a look at MobileMuster's instructional videos for managing data on your Android or iOS device.



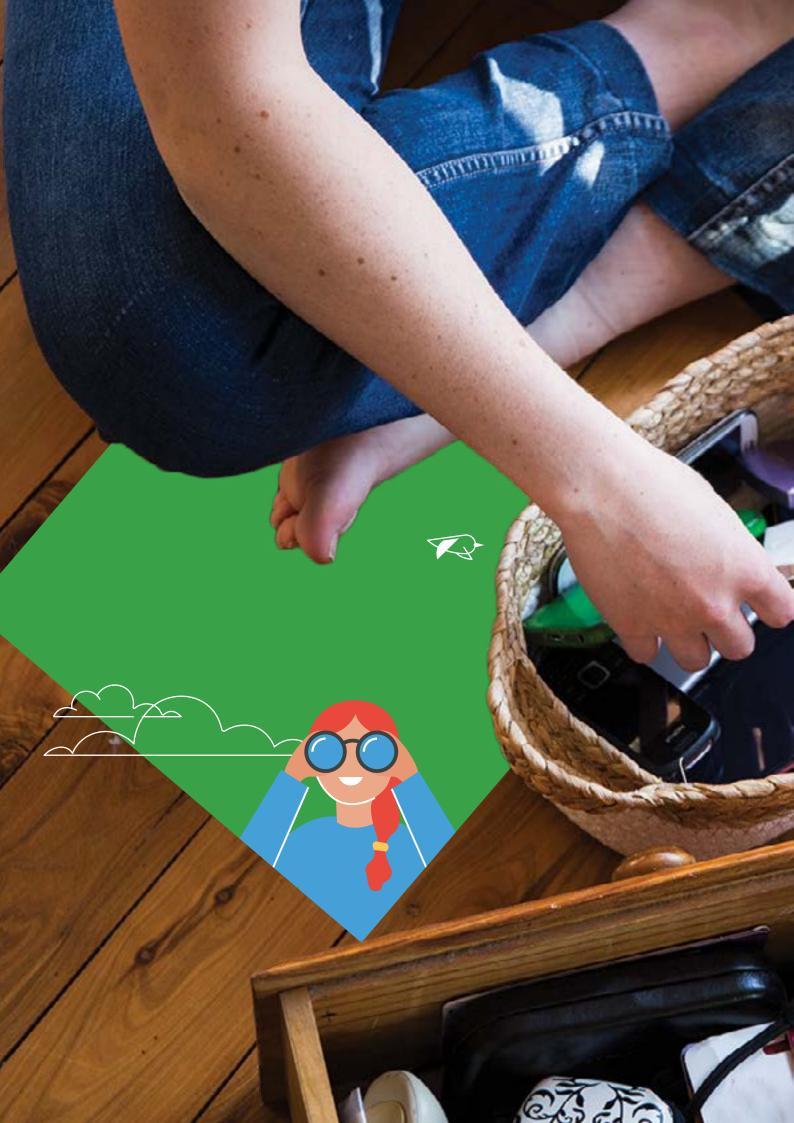
This report examines how Australian consumers use, reuse, and recycle their mobile phones and the associated impact this has on the environment and climate change. The research has provided critical intelligence in guiding and improving the performance of the industry's product stewardship program, MobileMuster.

There have been some significant shifts in attitudes and behaviour over the past fifteen years. Australians are thinking more about reusing and repairing their mobile phones. Similarly, there has been more interest in buying second hand, selling and trading in. These shifting consumer attitudes highlight the importance of establishing education and awareness campaigns that stimulate responsible use, reuse, and recycling behaviour. MobileMuster is committed to establishing trust in the program and increasing awareness around the environmental and climate change benefits that such circular economy opportunities deliver.

MobileMuster has raised awareness and made recycling very accessible. Most people (70%) are now aware of mobile phone recycling and whilst many prefer to hold onto their phones, we are starting to see a shift and increase in those recycling or passing them on to others. It is important to program to continue to research and monitor changes in mobile habits. Market research has been a particularly useful tool in guiding the program's education, marketing strategy and the development of its collection network. It has provided deeper insights into the recycling personas, understanding their motivations and the barriers to participation. These insights will ensure that the program adapts to ever changing consumer patterns as well as the need to accurately monitor the effectiveness of program so that it can continue to have a positive impact, and make a real difference with measurable social and environmental outcomes.

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MobileMuster is the Government accredited recycling program of the mobile phone industry.

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