

Annual Report 2023



This report summarises the MobileMuster recycling program's performance and achievements.

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Acknowledgement of Country

We acknowledge Aboriginal and Torres Strait Islander Peoples as the First Peoples of Australia, on whose ancestral lands and waters we work and live.

MobileMuster pays respect to Elders past, present and emerging, and acknowledges the cultural authority of all Aboriginal and Torres Strait Islander Peoples across Australia. We recognise the remarkable contributions of our Aboriginal and Torres Strait Islander partners and stakeholders.

MobileMuster is the federal government accredited product stewardship program of Australia's mobile telecommunications industry. MobileMuster is managed by AMTA, the peak national body representing Australia's mobile telecommunications industry. The industry comprises mobile phone network operators, service providers, handset manufacturers, and network equipment suppliers. The program is funded voluntarily by the telecommunications industry, and provides a free recycling service that is certified carbon neutral by Climate Active.



Foreword



Louise Hyland
CEO, Australian Mobile
Telecommunications Association
(AMTA)

This year, we celebrated a significant milestone – 25 years since we established the very successful MobileMuster program.

From humble beginnings, we have now collected over 16 million mobile phones and their accessories. And in 2022, in keeping with our continued innovation and improvement, we expanded the program to include products such as modems and routers, smart home tech, wearables, and peripherals.

MobileMuster is a fantastic example of what can be achieved when an industry works as a collective to make a difference. The program commenced back in 1998 with Telstra, Motorola, and Nokia as founding members. Within 12 months other key industry participants joined the program, namely Ericsson, Optus, Samsung, Vodafone (now TPG Telecom), and soon other manufacturers followed suit. In 2017 we also welcomed Apple and Google to MobileMuster. Our members support the program voluntarily, enabling us to continuously improve and innovate.

Since the program's inception, we have:

- Collected and recycled over 2,000 tonnes of mobile phone waste
- Diverted nearly 90% of products collected from landfill;
- Ensured that 94% of the Australian population lives within just 10km of a MobileMuster drop-off point;
- Welcomed the participation of 96% of mobile phone manufacturers and 94% mobile carriers operating in Australia; and
- Achieved accreditation under the Australian Government's *Recycling and Waste Reduction Act 2020*.

We're also proud to have created impactful education programs for the public, including supporting Australian children in hundreds of schools around Australia. Our materials have been shared with around 200,000 students over the last 5 years, teaching them the importance of mobile technology reuse, repair, and recycling. Alongside this we have supported many local charities, including donating over \$1M to The Salvation Army, Able Australia, OzHarvest, Take 3 for the Sea, and Landcare Australia.

Our vision for MobileMuster is to continue:

- adopting mobile phone and related product recycling best practices;
- innovating the way we educate and inform the public, reaching more people;
- addressing, and remediating against, the growing challenge of environmental waste.

We have achieved a significant amount, but there is more to do, with 22 million phones sitting in homes across Australia— 13 million of which aren't useable. As an industry, we are committed to working with our stakeholders and government and private sector partners to continue taking a responsible approach to sustainability, bolstering the circular economy – as we have done for the last 25 years.



Byung Kim

COO, Australian Mobile Telecommunications Association (AMTA),
and Head of MobileMuster

It's never been a more important and dynamic time in Australia's circular economy. In 2023, as we celebrate MobileMuster's 25th Anniversary, changes and developments are abound. I'm privileged and proud to have the opportunity to serve MobileMuster during this period.

MobileMuster continues to bring together the Australian mobile industry – from network operators to manufacturers and other mobile-related companies – to successfully deliver a federal government-accredited Product Stewardship Program to better our environment. Our efforts reflect our members' focus and care in ensuring a more sustainable future.

FY23 was a year of transition where we took lessons from our past to build a new foundation for MobileMuster's evolution and future capabilities. At the same time, we continued to achieve above our collection targets, with better than budgeted financials. In 2023 we:

- Re-established our foundation through key new Operations and Marketing hires;
- Reduced process inconsistencies, making operations more consistent and predictable;
- Revamped our operating rhythm to prioritise safety, and stress performance;
- Reduced dependencies on individual team members, leveraging the power of the team;
- Reinvigorated our consumer awareness and marketing campaigns;
- Reconfirmed our commitment to the environment by successfully applying for Climate Active Carbon Neutral certification;
- Recommitted to our education efforts by actively promoting our Schools Competition, supporting Australian teachers;
- Re-initiated operational and KPI audits to confirm we're on track to achieve our goals;
- Re-evaluated and updated our annual IPSOS survey to enable more representative and accurate understanding of consumer behaviour so we can better encourage change;
- Provided more transparency to members so we can address challenges, and celebrate successes, together.

A proof point of innovation included our ideation of the Home WiFi Modem Reuse Proof of Concept. In this, we planned redirecting collections from downstream recycling to refurbishment and reuse of WiFi modems, effectively climbing the Waste Management Hierarchy. We further initiated the creation of an Analytic Collection Channel Data Model to enable proactive management of product collections.

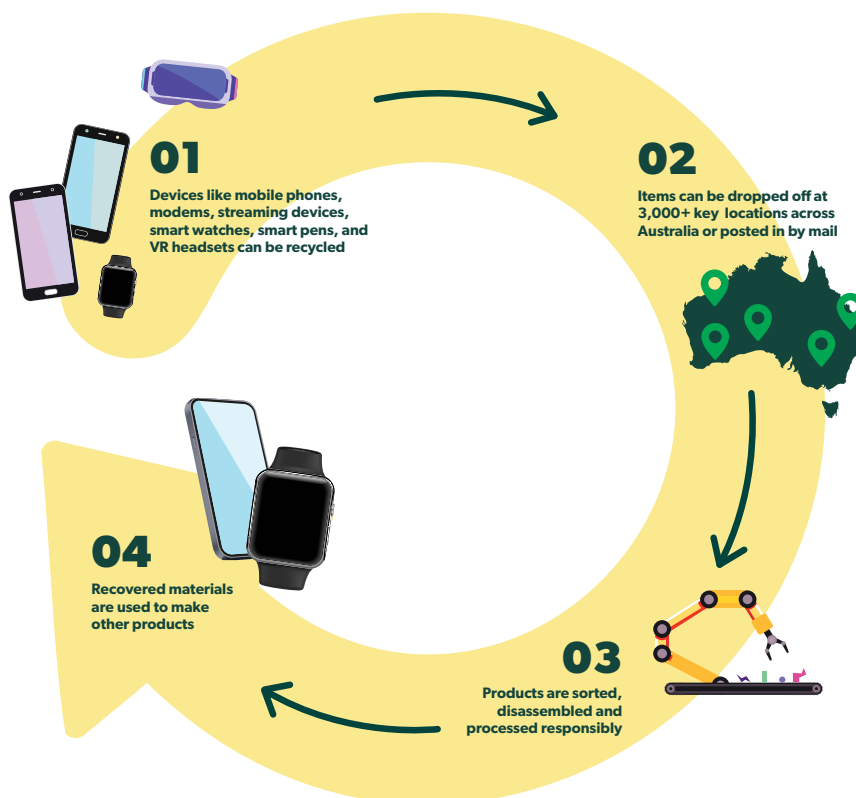
We navigated, and led our members through, major proposed changes to the eWaste regulatory framework. Our active efforts and positioning in the on-going eStewardship Consultation resulted in the inclusion of voluntary product stewardship programs within the drafted schema.

We've further helped shape the future of Australia's sustainability by responding to the Consultation of the National Framework for Recycling Content Traceability.

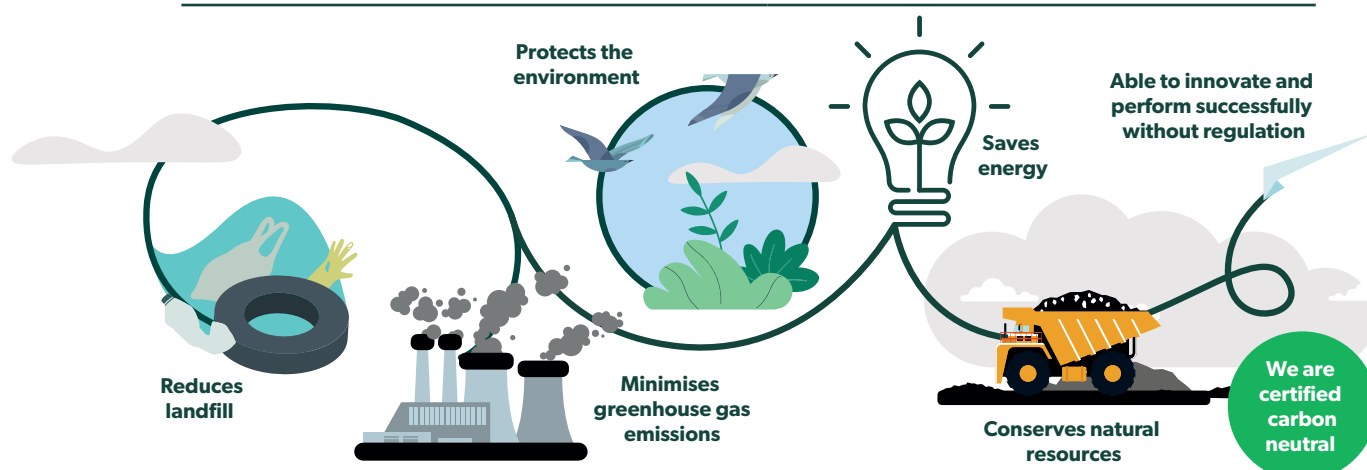
In summary, MobileMuster effectively balanced day-to-day performance with a keen focus on future capability and improving the greater product stewardship ecosystem. FY23's efforts will enable MobileMuster to increase our positive impact to the environment by collecting and recycling more, powered by more efficient operations and more effective awareness campaigns, while actively shaping Australia's circular economy.

About us

MobileMuster is a voluntary recycling scheme that is certified carbon neutral and government accredited without regulation. It is the e-stewardship program of the Australian mobile telecommunications industry. The program successfully ensures the materials that go into making tech products don't go to waste.



Benefits



In 2022-23, MobileMuster collected 96 tonnes of mobile phone components for recycling, which had the equivalent benefit of:



Reducing global warming by **288 tonnes** of CO₂ emissions.



Saving **405 tonnes** of mineral resources.



Planting **5,000 trees**.¹

Results

More than

89%

of materials recovered are able to be reused²

More than

96%

of mobile phone manufacturers and 94% of mobile phone carriers participate in the program

More than

71%

of consumers are aware of mobile phone recycling³

Over the last 25 years

2,000t

of mobile waste has been recovered equivalent to planting over 80,000 trees or removing 5,000 tonnes of CO₂ from the atmosphere

1, 2, 3 Figures taken from the 2023 LCA report, 2023 RSM audit, and 2023 Ipsos survey. For carbon reduction and tree planting figures, see calculator.mobilemuster.com.au.

What we do



We play an **active** role in shaping Australia's environmental responsibility for the whole-of-life impact of mobile phones and components.

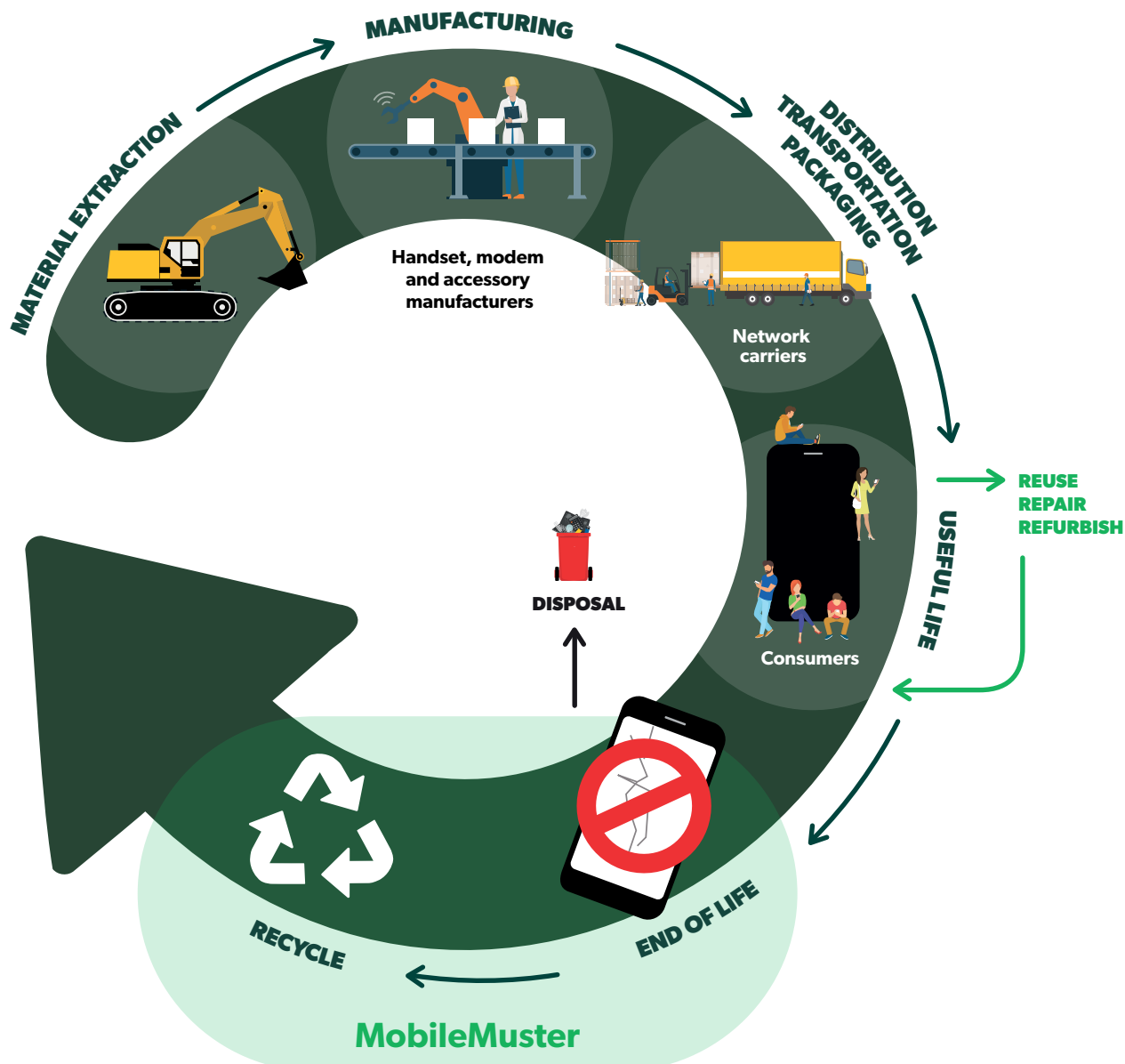


We **deliver** accountability and transparency, ensuring MobileMuster meets stakeholder expectations.



We **advocate** industry leadership in tackling climate change, including the delivery of a carbon neutral product stewardship program.

A phone's lifecycle



Our team



Our members

Mobile Handset manufacturers

Apple

Oppo

Google

Samsung

HMD Global

TCL Mobile

HTC

Vigo Mobile Australia

Huawei

ZTE

Motorola

Network carriers

Optus

TPG Telecom

Telstra

Accessory manufacturer and distributors

Force Technology

Modem manufacturers

Arcadyan

TP-Link

Nokia Oceania

Vantiva



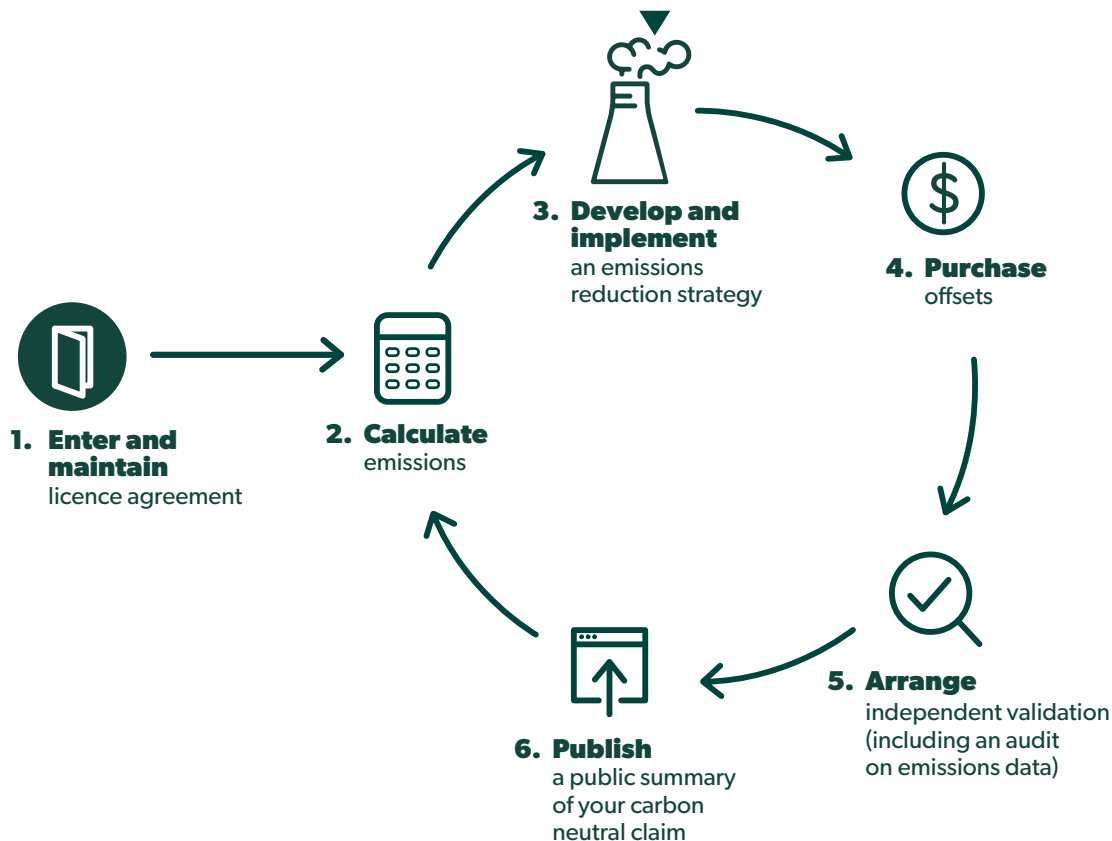
Certified carbon neutral by Climate Active

MobileMuster's core focus is sustainability of our environment. As such, we've been carbon neutral certified under the Climate Active Carbon Neutral Standard for Organisations since 2019. During 2023, MobileMuster was recertified for FY22 and successfully submitted our carbon neutral certification for FY23. The recertification is expected to be confirmed in early 2024.

As part of the FY23 submission, MobileMuster sourced carbon credits (t/CO₂-e) and biodiversity units (m²) to support the Mount Sandy Biodiversity Project in Australia and the Cat Hiep Solar Project in Vietnam.



Getting & staying certified



Product stewardship accreditation

Product stewardship involves the shared responsibility for reducing the environmental, health and safety footprint of manufactured goods and materials across the life cycle of a product (including material streams).

Accreditation enables industry led product stewardship arrangements to demonstrate to businesses and consumers that the arrangement has the Australian Government's stamp of approval.

This provides confidence that the arrangement's environmental and human health outcomes have been verified and will contribute to Australia's recycling and waste reduction objectives.

MobileMuster first gained accreditation in 2014 under the *Product Stewardship Act 2011* and in mid-2019, the program was successfully re-accredited under the Act for a further five years, until 2024.

MobileMuster's KPIs relate to collections, how accessible the program is to consumers, as well as mobile telecommunications industry participation. Achievement in one area drives greater success in another, as most clearly seen in the direct correlation between landfill disposal and collection network accessibility.

This year, MobileMuster has been more rigorous in its collection of data to measure its KPIs. This ensures a more accurate picture of the mobile industry landscape, but has meant we did not reach our intended targets in some categories. We know it is imperative that we source our data from as many certified sources as practicable both internally and externally to ensure accuracy of our reporting.

As such, MobileMuster plays a key role in being the conduit between stakeholders, facilitating greater knowledge-sharing, influencing positive behaviour change, building trust in the recycling system, and supporting innovation and improvement across all facets of the program.

Benefits of accreditation



Our Australian Government product stewardship logo tells consumers that your product has the Government stamp of approval and contributes to a circular economy. The logo signals to the public that an arrangement:

- Is Australian Government accredited
- Achieves sustainable outcomes
- Aligns with circular economy principles
- Has high industry support

Results:

Mobile phones & accessories

FY22/23 Program Performance

| Performance Indicator | FY22/23 target | Results |
|--|----------------|---------------------|
| Collections | | |
| Reported Handset Shipments (units – millions) | 7.17 | 6.83 |
| Estimated Available Phones (weight – tonnes) | 116.96 | 798.74 ⁴ |
| Mobile Phone Collections (weight – tonnes) | 73 | 96.3 |
| Annual Collection Rate Available Phones | 62% | 12% ⁵ |
| Recycling | | |
| Diversion From Landfill | >95% | 89% ⁶ |
| Recycling Rate (Material Recovery) | >90% | 89% ⁷ |
| Consumer Behaviour | | |
| Disposal to Landfill Rate | 2% | 2% |
| Accessibility | >80% | 94% |
| Industry Participation | | |
| Manufacturers | >80% | 96% |
| Carriers | >80% | 94% |

See Appendix 1 for detailed information on how the KPIs are calculated.

4, 5, 6, 7 The calculation methodology and underlying source data used to measure performance for the annual collections rate for available phones (%), diversion from landfill (%) and recycling rate (%) were revised during the current year to reflect a more accurate and conservative measure. This has contributed to significant movement compared to previous year results and performance target set under the Product Stewardship Accreditation Scheme.





Results: Expanded program

Our first full year of collecting Expanded Products included 35 tonnes of home modems. This was 18% greater than target and 40% greater than the prior year.

The expansion will deliver additional value to stakeholders by providing an effective and efficient process for recycling a broader range of e-waste. It will result in the diversion of a larger volume of hazardous materials from landfill and increase the recovery of greater volumes of valuable resources.

The expansion also future-proofs MobileMuster as technology evolves and the roll-out of 5G technology continues to bring new connected products to the market.

Products in storage⁸

| | | |
|---|---------------------------|-------------|
|  | Wearables and peripherals | 1.1 million |
|  | Smart home technology | 1.6 million |
|  | Home phones | 1.3 million |
|  | Modems | 2.8 million |

Collection by component (kg)

| | |
|-------------------------|---------------|
| Modems | 35,474 |
| Landline phones | 6,558 |
| Small streaming devices | 835 |
| Smart Home products | 268 |
| Wearables & peripherals | 345 |
| EP total | 43,480 |

⁸ Data sourced from 2023 IPSOS survey.

FY22/23 Program Performance

| Performance Indicator ⁹ | Results |
|--|-------------------|
| Collections | |
| Expanded Product Collections (weight – tonnes) | 43.5 |
| Recycling | |
| Diversion From Landfill | 88% ¹⁰ |
| Recycling Rate (Material Recovery) | 88% ¹¹ |
| Consumer Behaviour | |
| Disposal to Landfill Rate | 37.6% |

See Appendix 2 for detailed information on how the KPIs are calculated.



⁹ Expanded Products are not currently covered under the government accreditation and hence there are no defined performance targets.

^{10, 11} It was noted that approximately 12% of the total weight of expansion products collected by TES comprised of plastics that were held in storage as a result of directions received from Telstra to be shipped to an off-shore manufacturer for new Telstra products. This is an initiative where Telstra worked directly with TES to adjust the MobileMuster Recycling Process for Telstra collections. The diversion from landfill rates considered and included the items held in storage by TES.

Advocating for our members

During the year, we continued to advocate on behalf of our members for a responsible, voluntary approach to product stewardship and the circular economy.

This involved participation in government forums and responding to the federal Government's "Wired for change: Regulation for small electrical products and solar photovoltaic systems", the Circular Economy Strategy consultations by the ACT and Tasmanian governments, the ACCC Lithium Ion Battery Inquiry and the federal Government's consultation on the National Framework for Recycled Content Traceability.

E-stewardship Consultation

Late last year, the Minister for Environment and Water, Tanya Plibersek MP, announced the Minister's priority list, and indicated that they would look to regulate all small household electronics. The public product stewardship consultation paper, Wired for Change, was released in mid-June, and the consultation closed on 23 July 2023.

The consultation paper details a proposed regulatory approach to product stewardship for two categories of electrical/electronic-products (e-products), solar photovoltaic (PV) systems and small electrical and electronic equipment (SEEE). AMTA's combined efforts and submissions (including reviewing and responding to five papers in total) successfully influenced the regulation proposal to accommodate voluntary schemes, naming MobileMuster as an example in the framework document. We have submitted a response on behalf of members which primarily focuses on keeping MobileMuster voluntary and unregulated, but also offers comments on how to improve the Government's proposed regulatory structure.

Consultation on National framework for recycled content traceability

The Government has opened consultation on a national framework for recycled content traceability to boost demand and confidence in recycled materials. The proposed framework is technology-agnostic, outcomes-focused and initially voluntary – i.e. industry-led. The public consultation closed on 31 August 2023 and AMTA made a submission by the due date. AMTA's submission noted that while the intent of the framework is admirable, what is being proposed will be a considerable undertaking, and that it is unclear what problem the Government is trying to solve.





Partnerships & social impact

MobileMuster partners with charities to incentivise consumers and support social causes. This year we have donated nearly \$20,000 to the Salvation Army, DV Safe, the Reconnect Project, and Minus18.

The Salvation Army

MobileMuster supports Salvos by giving a rebate for every kilogram of mobiles and accessories collected at their retail stores. The partnership helps to increase the range of goods people can recycle at their local Salvos store whilst also generating funds for their programs. These programs strive to end hunger and homelessness, and build stronger families and communities.



Zoos

MobileMuster partners with Zoos across Australia to support and raise much-needed funds for their wildlife conservation projects. Individuals, workplaces, schools, and community groups can nominate a Zoo to support, as well as drop off their mobile phones and accessories at the below participating sites, to be recycled by MobileMuster. The funds raised through the partnership supports primate conservation activities.



Do Good campaign

According to the Australian Digital Inclusion Index¹², one in four people in Australia are digitally excluded. Those who are at particular risk of being left behind include people with low levels of income, education, and employment, those living in some regional areas, people aged over 65, and people with a disability.

MobileMuster continues to work with charitable organisations such as the Reconnect Project and DV Safe Phone, which provide refurbished mobile phones to people in need. It is MobileMuster's plan to continue to support and promote the work of these organisations by encouraging the reuse of phones through these avenues if they cannot be sustainably recycled.

Minus18

In FY23, MobileMuster also focussed its efforts towards organisations that support marginalised communities. Minus18 are an LGBTQIA+ youth charity that support young adults in need. In March 2023, MobileMuster ran a campaign that gave \$1 to Minus18 for every mobile phone recycled that month. The campaign raised \$15,000 for the charity, and created great engagement with the community over Sydney World Pride.



**REUSE
YOUR UNUSED
MOBILE
DO GOOD!**



12 Australian Digital Inclusion Index – key findings 2021: digitalinclusionindex.org.au/key-findings-and-next-steps.

Collectors

Our retail partners are central to the success of the MobileMuster program. A massive thank you to the top 10 collecting retail stores across Australia!

The top 10 collectors for 2022-23

| | | |
|----|------------------------------|------------------|
| 1 | iMobile Store Pty Ltd | Moorabbin |
| 2 | PhoneCycle Pty Ltd | Doncaster East |
| 3 | Telstra Store Sunbury | Sunbury |
| 4 | Telstra Store The Glen | Glen Waverley |
| 5 | A Plus Mobile Phones Pty Ltd | Truganina |
| 6 | 3 Feet Solutions | Mosman |
| 7 | Yes Optus Stanhope Gardens | Stanhope Gardens |
| 8 | iMend Phones | Maroochydore |
| 9 | Telstra Store Sylvania | Sylvania |
| 10 | Brisbane Mobile Repairs | Albion |

Post-back with Auspost

MobileMuster also offers three free mailing options to post back old mobile phones and accessories for recycling:

- Prepaid post-back labels that can be downloaded from the MobileMuster website. Consumers use their own packaging, attach the label, and drop off at their nearest post office.
- MobileMuster post back satchels that can be picked up from local Australia Post offices.
- MobileMuster post-back satchels that can be ordered through our website.

8 tonnes of mobile phones and accessories were collected through these options with close to 20,000 satchels distributed Australia-wide. The satchels are manufactured using 80% recycled content and are recycled when posted by to us.

Local government

A critical element of MobileMuster's success is network accessibility to enable ease of recycling. Local government partnerships are key in providing a mobile phone recycling drop off point within 10km for 94% of the population.

MobileMuster works with 400 councils throughout Australia that offer more than 1,000 collection sites through their administration centres, libraries, or at waste transfer facilities. These are particularly valuable in regional and remote communities.

Local councils are also often the first point of contact for residents and small businesses who want to find out where to recycle tricky items, like their old mobiles, and our local government partners play a crucial role in educating the community on why and how to recycle.

Every year, MobileMuster recognises our top collecting council partners in each state and territory.

Congratulations to the top Local Government Recyclers for 2023:

- New South Wales – Hornsby Shire Council
- Northern Territory – Darwin City Council
- Queensland – Brisbane City Council
- South Australia – Adelaide Hills Council
- Tasmania – Kingborough Council
- Victoria – City of Monash
- Western Australia – City of Stirling

In FY23, more than six tonnes of e-waste was collected by our local council partners nationally. This included over 31,000 handsets and batteries. The environmental benefits of recycling these mobiles and batteries are equivalent to planting 276 trees and avoiding the production of 18.39 tonnes of CO₂ emissions.



Left to right: Byung Kim (COO, AMTA), Tony Krsticevic (Councillor City of Stirling, Balga Ward), Michael Dudek (Councillor City of Stirling, Coastal Ward), Irune Penagaricano (Sustainability Manager, MobileMuster).

Schools

The next generation will play an important role in preserving our planet's resources and driving sustainability, and MobileMuster believes that education is pivotal in helping students take action on recycling.

MobileMuster provides practical curriculum material and supporting resources for the classroom. Our education program allows students to look at the impact of mobile technology and encourages them to build a sustainable future. These materials include:

- **A Mobile Connections guide** for high school students that addresses key inquiry questions in the Geography of Interconnections content area and covers personal connections, technology, trade, production, and consumption through the lens of a mobile phone.
- **School kit** to assist educators with running collections. The kit comprises a collection box, stimulus material, flip chart book, and badges.
- **Other resources** such as the teacher's tip sheet and recycling posters.

This year MobileMuster also ran several initiatives to support their school's program:

Partnership with Cool Australia

Cool Australia provide lesson materials for teachers around the country, with 90% of Australian Schools using Cool Australia's resources. Over the last 12 months, 253 individual educators downloaded over 1,300 resource materials related to mobile phone recycling, provided in partnership with MobileMuster. Based on Cool Australia's surveys, teachers share these resources on average 2.2 times, meaning 556 educators used our materials to teach a cumulative 33,649 students around Australia. A fantastic result. Next year MobileMuster will work with Cool Australia to update materials to ensure they remain relevant and up to date.

Partnership with Field of Mars Centre for Environmental Excellence

MobileMuster partnered with the Field of Mars Centre to develop a curriculum guide that meets the national curriculum requirements for high school students in Australia.

Sustainability and Climate Change is a NESA (NSW Education Standards Authority) Content Focus Area under the Geography subject, and our Mobile Connections Guide has been developed to address key questions around the Geography of Interconnections. It covers a range of topics including personal connections, technology, trade, production and consumption, all through the lens of a mobile phone.



Schools Competition

The MobileMuster School's Competition returned in 2022 with more than 50 film entries received from around the country.

Aspiring film makers with a passion for the environment were invited to create a one-minute film that would encourage their community to recycle their old phones. The theme for the year was 'Protect the Planet' and a panel of film, environmental, and education experts selected the winners and finalists based on their creativity, technical skills, environmental message, and relevance to the theme. The winning films were showcased by MobileMuster during Planet Ark's National Recycling Week (7 to 13 November 2022).

Winners

- Lower Primary – Class 2M, Dudley Public School, NSW
- Upper Primary – Euan, PEAC North Metro Education Region, WA
- Lower Secondary – Kaiden, Sid, Malachi, Abby, Tamika, Archie, Cody and Liam, Glenwood High School, NSW
- Upper Secondary – Sienna, Chancellor State College, QLD

The School's Competition was run again in 2023, with results showing an increased level of engagement thanks to a re-structure of the competition. We received over 230 entries, which was 4x the previous year, and saw a +50% increase in engagement with our materials.

NSW Geography Teachers Association Conference Sponsorship

In 2023 MobileMuster sponsored the Geography Teachers Association Conferences in both NSW/ACT and Victoria. In total over 400 educators were in attendance across both events, and AMTA COO Byung Kim was there speaking directly with teachers to build awareness of MobileMuster, its Schools Program, educational materials, and the Schools Competition.



Above: AMTA COO Byung Kim at the Geography Teachers Association Conference NSW/ACT.



Campaigns

Throughout the year, MobileMuster runs a series of advertising campaigns to raise awareness of the program and our partners, build trust in the recycling process, and drive behaviour change to encourage greater recycling.

Use it or Recycle it

After the success of the 2021 'Use it or Recycle it' Campaign, MobileMuster rolled out a refreshed version of this in August 2022, this time focussing on building trust via the proof point that 8 million Australians had already trusted MobileMuster to recycle their devices.

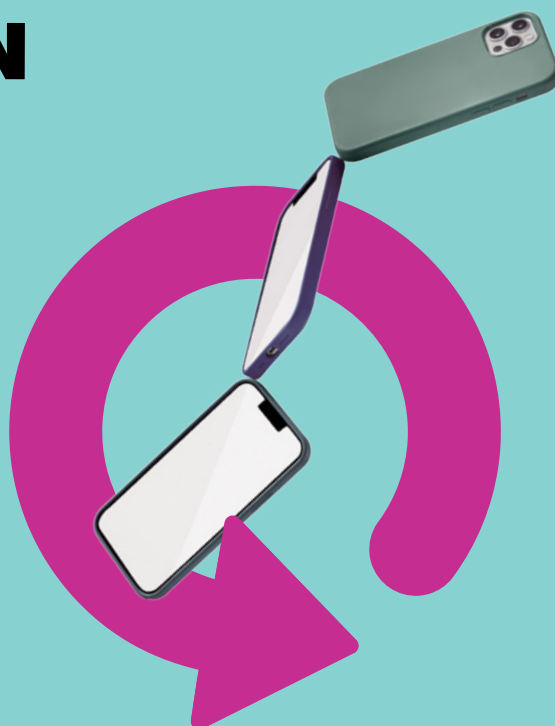
The call to action was for people to either use their spare phones or recycle them, and explaining the benefits of both recycling and reuse.

Independent research undertaken by Ipsos annually assists MobileMuster in making informed decisions about our messaging and target audience by providing insights into the gaps, trends, challenges, and opportunities in mobile phone recycling.

Recycle the Right Way

After the success of the 'Use it or Recycle it' campaign, a refresh using the same creative was rolled out, titled 'Recycle the Right Way'. The campaign was featured across social, digital, and OOH utilising Bus wraps in metro areas. The campaign was very successful, boosting site traffic and indicatively boosting collections afterwards.

**OVER 8 MILLION
AUSTRALIANS
TRUSTED US
TO RECYCLE
THEIR UNUSED
MOBILES,
HAVE YOU?**



Go for Zero

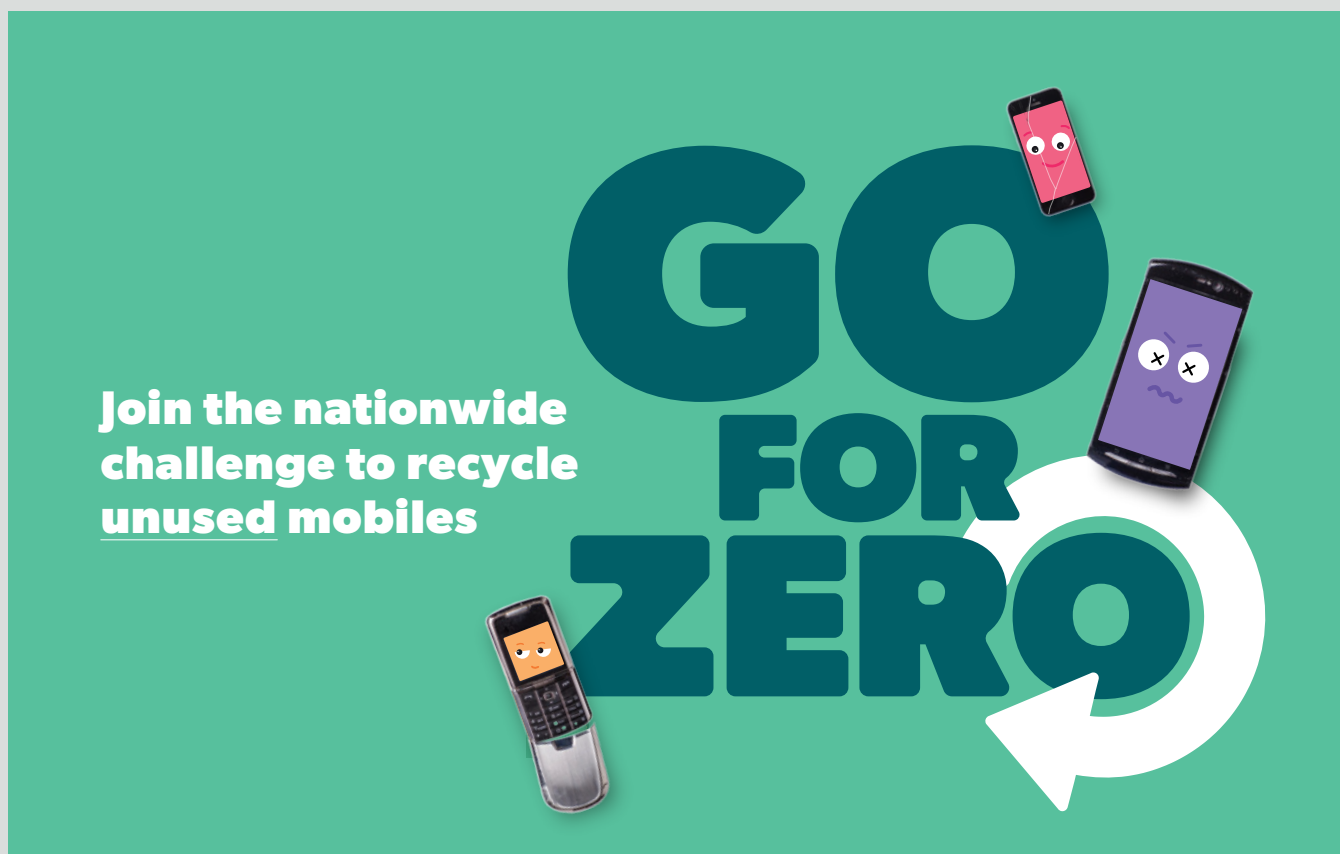
Throughout April 2023, MobileMuster challenged Australians to Go for Zero broken phones in storage and encouraged the community to recycle their old devices.

MobileMuster worked with Professor Alan Duffy, an astrophysicist from Swinburne University of Technology in Melbourne, who lent his support to the ambitious national campaign to round up over five million old and broken mobile phones and get them recycled. As this year is the 25th anniversary of MobileMuster, Professor Duffy highlighted the massive success of the program over the years, and the evolution of phones and the materials in them.

The campaign was supported with national advertising which included radio, outdoor and digital across Facebook, Instagram and YouTube.

“Recycling is all about trust and effectiveness, and with a quarter of a century of success in safely disposing of millions of smartphones and recycling all of those components, MobileMuster can rightly be considered the gold standard on its silver jubilee.”

Professor Duffy



Marketing insights & results

In 2022-23, through MobileMuster's ongoing campaigns:¹³

Total campaign (paid and organic) **recognition** has held steady over the years at one in two.

Three in four are **aware** of the mobile phone recycling program (steady y/y).

There is **greater awareness** of the program amongst males (74%) compared with females (68%).

One in three have **recycled** a mobile phone in the past (steady y/y).

One in 10 say they are **aware** of what happens to a recycled phone (steady y/y).

35% have had a phone **repaired**, with 36% of these repairing their phones under warranty.

Main reasons for not recycling:

1. Keeping the phone as a backup.
 2. Haven't gotten around to it.
 3. Data stored in the phone.
-

Of those **concerned about their data**, 65% cited concerns around access to data as a barrier to recycling (steady y/y).

¹³ Data sourced from 2023 IPSOS survey.

Appendix 1: Mobile Phone Components Key Performance Indicator Definitions

Reported Handset Shipments

(Total number of phones shipped into the country by our members)

Estimated reported handset shipments for participating manufacturers = Total from International Data Corporation (IDC) Australian Quarterly Mobile Phone Tracker Report of shipped units for 3Q22, 4Q22, 1Q23, 2Q23 multiplied by the Industry Participation Rate – Manufacturers (96% – see ‘Industry Participation Rate’ calculations in this document for details). Export shipment of handset was not able to be sourced and assumed zero.

Estimated Available Phones (weight: tonnes) for recycling

The percentage of phones available to be recycled is the estimated total number of phones held that do not work as a percentage of the estimated total number of phones not in use but stored, sourced from the independent survey conducted by IPSOS in May 2023, multiplied by **Average unit weight**.

$$\text{Estimated Available Phones} = \frac{\text{Reported Handset Shipments} \times \left(\frac{\text{IPSOs "Number of Phones Estimated Available held that are not working"}}{\text{IPSOs "Stored but not in use"}} \right) \times \text{Average Unit Weight}}$$

Average unit weight

(How much the average phone weighs)

The average weight of a mobile phone unit (i.e. weight of a recycled handset) is currently estimated to be 189.6 grams calculated based on TES quarterly sampling of 200 to 500 actual mobile phones collected throughout FY23.¹⁴

Annual Collections

(The weight of all the phones MobileMuster has collected)

The **annual collection data** is the weight of mobile phone components collected by MobileMuster measured in kilograms and then converted to tonnes. Mobile phone components include handsets, batteries, chargers, accessories, and plastic coverings covered by the MobileMuster program. The annual collections data is provided by AMTA’s recycling partner, TES.

Annual Collection Rate

(Out of all phones that could be recycled, what percentage actually were)

The Annual Collection Rate is the volume of the **Annual Collection** (tonnes) of mobile phones divided by the **Estimated Available Phones** (tonnes), expressed as a percentage.

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

14 Represents a more accurate change in methodology where in previous years the average weight of current year sold mobile phones was used as an estimate for the weight of current year collected mobile phones.

Diversion from Landfill of MobileMuster Collections

(How many phones avoided going to landfill, expressed in percentage)

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

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

The indicator “Diversion From Landfill Rate” or DFLR is expressed as a percentage and calculated using the formula below:

$$\text{DFLR} = \frac{\text{Total weight of mobile phone components collected and sent to third party specialist recyclers or manufacturers (kg)}}{\text{Total weight of Annual Collections processed during FY23 adjusted for movements in stock holdings (kg) and separately reported landfilled weights for mobile phone components}} \times 100$$

Material Recovery (Recycling) Rate

(What percentage of the phone's material parts were recycled – eg, Lithium, silver, etc)

(as defined in the Australian Standard AS/NZS 5377:2022 – Appendix E)

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

$$\text{Recycling Rate} = \frac{\text{Total of all output fractions (kg)}}{(\text{Input amount of non-treated mobile phone components (kg)} + \text{Landfilled Non-recyclable accessories (kg)} + \text{Stored mobile phone components (kg)})} \times 100$$

Disposal to Landfill Rate

(How many people throw out their phones instead of recycling)

This is currently measured through market research¹⁵ that measures the percentage of mobile phone users that dispose of their mobile phones to landfill.

¹⁵ Independent online survey conducted in May 2023 by IPSOS on behalf of AMTA of 998 mobile phone users, aged 16 years or older randomly selected from all States/Territories across Australia.

Industry Participation Rate

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

This is measured in two parts.

Manufacturers¹⁶ = Total Market share (by unit sales) of each participating manufacturer in the Australian retail market

&

Mobile Network Carriers¹⁷ = Total Market Share (by revenue) of each participating Network Carrier

Participating members as at 30 June 2023

Handset Manufacturers: Apple, Google, HMD Global (Nokia), HTC, Huawei, Microsoft, Lenovo (Motorola), Oppo, Samsung, TCL, Vigo Australia¹⁸, ZTE

Network Service Providers: Telstra, Optus, TPG Telecom (Vodafone)

Accessibility Rate¹⁹

The percentage of the Australian population that lives within 10kms of a MobileMuster collection point.

¹⁶ Data sourced from GfK Sales Analysis Report for the 12 month period ending 30 June 2023.

¹⁷ Data quoted is sourced from IBIS World Industry Report J5802 Wireless Telecommunications Carriers in Australia, April 2023.

¹⁸ Vigo Australia were formally known as Vivo Australia, however the brand in market for consumers remains as Vivo.

¹⁹ Data sourced from catchment analysis conducted by GfK using MobileMuster recycle location information provided by AMTA. Includes 2,889 collection locations that have actively collected for MobileMuster in the past 5 years, but does not include AusPost sites where inhabitants can drop off mobile phones for satchel collection. Inhabitants are aggregated in 10kms driving distance catchments.

Appendix 2: Expanded Program Key Performance Indicator Definitions

Expanded Product Collections (weight – tonnes)

The annual collection data is the weight of expansion products collected by AMTA's primary recycler, TES, engaged for the MobileMuster program measured in kilograms and then converted to tonnes. The expansion products include home modems/routers, small streaming devices, landline phones, small smart speakers, hubs, wearables and activity trackers collected by the MobileMuster program.

Average unit weight

The average weight of an expanded product unit (i.e. home modems/routers, small streaming devices, landline phones, small smart speakers, hubs, wearables and activity trackers) is currently estimated to be 416.4 grams calculated based on TES quarterly sampling of 2,386 actual expanded product items collected throughout FY23.

Diversion from Landfill of MobileMuster Collections

This indicator measures the proportion of expanded products (i.e. home modems/routers, small streaming devices, landline phones, small smart speakers, hubs, wearables and activity trackers) collected by MobileMuster that are sent either to third party specialist recyclers for further processing or manufacturers for re-use, versus being sent to landfill.

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

The indicator "Diversion From Landfill Rate" (DFLR) is expressed as a percentage and calculated using the formula below:

$$\text{DFLR} = \frac{\text{Total weight of expanded products collected and sent to third party specialist recyclers or manufacturers (kg)}}{\text{Total weight of Annual Collections processed during FY23 adjusted for movements in stock holdings (kg) and separately reported landfilled weights for expanded products}}$$

Recycling Rate (Material Recovery)

(as defined in the Australian Standard AS/NZS 5377:2022 – Appendix E)

The percentage of the total of all output fractions, classified as sent for recycling and other material recovery or other recovery in proportion to the total of the input amount of non-treated expanded product items.

$$\text{Recycling Rate} = \frac{\text{Total of all output fractions (kg)}}{(\text{Input amount of non-treated Expanded Products (kg).} + \text{Landfilled Non-recyclable Expanded Products (kg)} + \text{Stored Expanded Products (kg)})} \times 100$$

Disposal to Landfill Rate

This is currently measured through the annual IPSOS market research²⁰ that measures the average percentage of modems, landline phones, smart speakers, smart watches, and streaming devices users disposed to landfill.

²⁰ The disposal to landfill rate is calculated as the average percentage of Modems, Landline Phones, Smart Speakers, Smart Watches, and Streaming Devices users who "Threw it away" from the independent annual survey conducted in May 2023 by IPSOS on behalf of AMTA of 998 Australians aged 16 years or older randomly selected from all States/Territories across Australia.





MobileMuster is the certified Carbon Neutral, Government accredited recycling program of the mobile phone industry. An initiative of the Australian Mobile Telecommunications Association.

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Australian
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Scheme

