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Commissioner Paul Lindwall
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Via email: repair@pc.gov.au

Dear Commissioners *Paul and Julie*

Thank you for providing the opportunity to prepare a submission on the Productivity Commission Issues Paper *Right to Repair December 2020*.

The ACT Government maintains a strong commitment to supporting and developing communities that are empowered to make informed decisions about their consumer rights.

I wish to highlight the economic and environmental benefits and reinforce support for the right to repair. The submission at [Attachment A](#) outlines several critical issues that should be drawn out for further exploration. These include:

- lack of competition in repair markets;
- lack of certainty for consumers about reparability and costs; and
- proliferation of e-waste.

In 2019, the Consumer Affairs Forum (CAF) supported the examination of potential policy options to address this essential consumer rights issue, requesting referral of the matter to the Productivity Commission. CAF outlined the need for further investigation of consumer rights to repair goods which go beyond the existing consumer guarantee rights under Australian Consumer Law.

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Implementing sensible right to repair policy mechanisms has great potential to support consumer repair rights, promote competition in the repair economy, and encourage product design requirements. The Productivity Commission review provides a great opportunity to progress important policy development on these issues.

If you have any questions or would like to discuss the matter further, please contact Jessica Van Zwam, Director Fair Trading and Regulatory Strategy,

Yours sincerely

Shane Rattenbury MLA

28/1/21

RECOMMENDATION

It is recommended that:

1. CAF consider whether this issue be referred by the Commonwealth to the Productivity Commission to undertake a more detailed examination of the concept of right to repair in the Australian context; or
2. Commonwealth, States and Territories form a working group to explore the concept of right to repair in the Australian context. This should review the current policy landscape and influence the forward work agenda across a number of portfolios, such as waste, competition, and consumer protection. The working group should report back to CAF in August 2020.

EXECUTIVE SUMMARY

The term *right to repair* describes a consumer's ability to repair faulty goods at a competitive price, for a range of product faults, including those for which the consumer is responsible. This may include a repair by a manufacturer, a third-party, or a self-repair option through available replacement parts and repair information.

This paper outlines the need for further examination of consumer rights to repair goods, which go beyond the existing consumer guarantee rights under Australian Consumer Law (ACL). Under the ACL, a consumer has rights against the supplier, and in some cases the manufacturer, if goods fail to meet a consumer guarantee. Depending on the circumstances, a consumer may have the right for the good to be repaired, replaced or refunded.

This paper provides the impetus to further examine the right to repair concept as a mechanism to support consumer repair rights, promote competition in the repair economy, and encourage product design requirements to extend product life.

BACKGROUND

A combination of rapid innovation in technology, cheap labour through enhanced globalisation, growing personal wealth, increases in consumerism and the spread of telecommunication networks has seen consumer goods proliferate and their life-span grow shorter. Accelerated product replacement has become increasingly detrimental both economically and environmentally. Electronics, white-goods and light machinery are classes of goods where low repair rates can signal consumer disempowerment, cause value leakage as a result of a linear economy, and result in toxic landfill. The concept of right to repair also covers whether an item can be repaired at all. Increasingly, consumers are offered goods, such as electrical/technology products, that in many instances will become obsolete after a certain period, either due to software or security upgrades, or interoperability issues with either operating systems or third-party services.

The drivers in a product's designed life-span are interconnected within the mining, manufacturing, transport and retail industries and, ultimately, enduring profitability. Each driver impacts upon the cost and available profit margins in the value chain, from raw materials to final consumer goods.

Reparability is central to serving consumers' interests, and the inherent value of goods themselves. Information about the availability and cost of common repairs is not typically provided to consumers

at the point of purchase, or even at the point repairs are needed. Consumers who wish to maintain, rather than discard, a faulty or damaged product often do not know how that is possible, or what the cost might be.

AUSTRALIAN LANDSCAPE

Existing Australian legislation provides some protection to consumers. Under the ACL, consumers have the right to seek a free repair, replacement or refund if goods fail to meet a consumer guarantee. These rights exist regardless of any warranty offered by the business. Under section 58 of the ACL, manufacturers must also maintain repair facilities for a reasonable time period, unless consumers are notified at the time of sale that these facilities are not available. Businesses are prohibited under the ACL from making false or misleading representations, or engaging in misleading conduct, in relation to a consumer's right to have goods repaired and the effect of having goods repaired by third parties.

The *Competition and Consumer Act 2010* (CCA) also prohibits anti-competitive behaviour such as exclusive dealing (section 47). Exclusive dealing occurs when a person trading with another imposes some restrictions on the other's freedom to choose with whom, in what, or where they deal, and where the restriction has the purpose, effect, or likely effect of substantially lessening competition. Furthermore, under section 46 of the CCA, corporations with a substantial degree of market power are not allowed to take advantage of this power by engaging in conduct that has the purpose, effect, or likely effect of substantially lessening competition in a market. Despite these restrictions and protections, premature product obsolescence and a lack of competition in repair markets remain. The expense of repair and product design accelerate the transfer of consumer goods into waste.

INTERNATIONAL LANDSCAPE

A groundswell of international activity is emerging in response to these issues, and gathering momentum to support right to repair legislation. Trends in restrictive manufacturer repair practices, particularly in the consumer electronics and the automotive industry, are placing pressure on potential law reform. Both product classes have extensive third-party and after-market repairers. These after-market repairers are at the mercy of respective manufacturers providing the parts and information they need to perform repairs. Restrictions affect their businesses as clients are, at best, inconvenienced or, at worst, prevented choice of repairer entirely.

Common concerns with respect to manufacturers' coercive and restrictive repair practices have been debated in the course of reforms abroad. These include misapplication of copyright law, violation of fair use principles and control of markets to increase profits. Right to repair legislation has been a front-runner in policy debate about possible solutions to prevent these practices.

[International Repair Day](#), an initiative of the Open Repair Alliance, is celebrated every year on the third Saturday in October. This year, Repair Day falls on Saturday 19 October, which is also the week celebrating the 10th anniversary of the first Repair Café.

The European Union

Relevant consumer law in Europe comprises, in part, [E.U. Consumer Rights Directive \(2011/83\)](#) (CRD) and the [Consumer Sales and Guarantees Directive \(1999/44/EC\)](#) (CSGD). These provide consumer protection rights across the E.U. and apply to all contracts between a consumer and a trader.

Consumers have legal guarantees to ensure the conformity of goods with contractual specifications, including quality, performance and purpose. During a two year period, they entitle consumers with faulty products options of restoring their defective goods to conformity free of charge, through repair, replacement, price reduction or termination of contract, akin to ACL consumer guarantees.

From January 2022, CSGD will be replaced by [Directive \(E.U.\) 2019/771](#) of 20 May 2019. The new CSGD extends the minimum legal guarantee period by allowing consumers to obtain remedies for two years without having to establish the product was faulty, provided they claim within the first year. It allows consumers to get a price reduction or contract termination and refund if:

- issues persist after repair;
- the repair is not carried out within a reasonable time period; or
- the defect is serious.

The new Directive is also intended to operate alongside the Digital Content Directive by emphasising the seller's duty to provide ongoing digital support for digital goods and content for at least two years. This includes providing consumers with all necessary software updates. It also provides that in case of defective digital content or a defective service, if it is not possible to fix it in a reasonable time, the consumer will be entitled to a price reduction or a full reimbursement within 14 days. This approach emphasises that updates are key to ensuring products function for a set period following purchase, including through software support.

Recent key developments in the E.U. legal framework for right to repair have involved the [Ecodesign Directive](#) (Ecodesign). Ecodesign focuses on product life-cycle concepts to inform waste management and prevention. The E.U.-wide legal framework seeks to improve environmental performance of energy-intensive products and address waste through its product design. The mandate of Ecodesign is to regulate the standards by which a product is "energy efficient" or "recyclable"; disclosure of information on how to use and maintain a product to minimise its environmental impact; and obligations to perform a "lifecycle analysis of the product to identify alternative design options and solutions for improvement".

The European Commission Committee on Ecodesign and Energy Labelling of Energy-related Products approved a draft Regulation in January 2019 facilitating non-proprietary product repair. The measures will be in place from April 2021 onwards.

The Regulation includes:

- accessibility rights for third parties to obtain the necessary information and equipment to conduct the repair of products outside of the sanctioned service networks of the product makers and brand owners;
- a requirement for manufacturers to provide spare parts when key components fail, principally to commercial third party repair companies;
- a requirement that internal manuals required to make repairs will be made available to commercial third party repair companies only; and
- a requirement that spare parts must be delivered by manufacturers within 15 days. The products currently subject to these Ecodesign requirements include large appliances such as refrigerators, dishwashers, and washing machines.

These standards impact upon the design of the products themselves. Manufacturers are required to ensure appliances can be easily disassembled and that key components can be replaced using readily available tools. Like other environmental product requirements, a failure to meet these standards can result in a ban on the sale of non-compliant products within the E.U.

Sweden has opened the world's first shopping mall dedicated to recycled, reused and repaired goods: [ReTuna Recycling Galleria](#).

Stores focus on everything from reused household goods to refurbished electronics, as well as including a restaurant, educational centre, conference centre and an exhibition. The Galleria also has a recycling depot, which sorts and distributes donations for reuse, upcycling and sale.

The United States

The U.S. has recently made efforts to legislate for repair rights in a variety of industries. Federal efforts have faced significant political pressure from manufacturers, causing reforms to stall. State-led efforts, however, have been more successful, with bills being introduced across the country. In 2011 the state of Massachusetts successfully passed a right to repair bill targeting vehicle manufacturers. The effects of this bill were wide-reaching. Through a Memorandum of Understanding, vehicle manufacturers agreed to be bound to a nationwide automobile repair standard. Building on the momentum of the Massachusetts bill, almost half of country's state legislatures considered right to repair laws during the legislative sessions following the 2016 elections. While these bills have yet to be passed into law, their drafting and introduction demonstrates commitment to addressing the underlying concerns.

Each bill shares similar goals and overarching statutory schemes. The bills contemplate a broad collective purpose of preventing manufacturer monopoly by making certain tools available to independent repairers and device owners. This includes diagnostic software and updates, the necessary repair parts and repair tools. Some bills focus on consumer electronics and software, while others like the versions considered by the Kansas and Wyoming legislatures are tailored to address agricultural equipment. The overarching mandate is clear: to break anti-competitive trends and liberalise consumer access to independent repair markets.

The similar nature and scope of the various state developed right to repair bills has led to concerns over the prevailing mandate of the federal legislation, including copyright laws, digital management legislation and intellectual property. Trade and industry groups such as the Entertainment Software Association and the Computing Technology Industry Association have resisted the repair bills on the grounds that they infringe on rights provided by U.S. copyright law. It is likely that similar issues would emerge in an Australian context.

In October 2018, the Library of Congress issued new regulations allowing consumers to fix their electronic devices in the form of the [Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies](#). These rules allow bypassing of traditional copyright protection mechanisms used in land vehicles, smartphones and home appliances. They legitimise repairs involving circumvention to the extent of restoring or rendering operative the device or system in accordance with its original or changed specifications. The rules represent progress in respect of empowering flexible consumer access to repairs. They are subject to review every three years, and review provides for their potential removal. The scope of these new rules falls short of the positive duties mandated through proposed state right to repair legislation but demonstrates awareness and commitment to addressing the information asymmetry between consumers and manufacturer/repairers.

ISSUES IDENTIFIED

Several key issues have been identified for further exploration. These include:

- lack of competition in repair markets;
- lack of certainty for consumers about reparability and costs; and
- proliferation of e-waste.

Lack of competition in repair markets

Manufacturers often use digital rights management (based on intellectual property, copyright, and safety arguments), to compel consumers to repair their broken devices with the manufacturer, rather than allow third-party repairers to provide this service. This controls consumers' interactions with their devices. It prevents software modification and hardware access rights, and is often sought to be enforced through copyright legislation. Product servicing and repair restrictions stifle competition from third-party independent repairers. Additionally, limiting repairer choice results in a captive consumer market. This allows manufacturers to set the price-point of repair and can make upgrading a device with a new purchase more attractive than repairing a defect. This can lead to inefficiencies in the markets for repair of the goods, decreased value for consumers, and increased numbers of abandoned goods.

However, this needs to be balanced against the efficiencies and value that can be created by economies of scale. An integrated retail and repair supply chain can have reduced costs, which theoretically means that, through economy of scale, they can offer better prices to consumers.

In the farming technology and consumer electronics sectors, companies such as John Deere and Apple Inc. (Apple) have set up systems to attempt to tie consumers to them or affiliated entities in relation to repairs and maintenance. They retain exclusive rights to diagnostic software and repair tools in the interests of copyright. John Deere has justified licensing restrictions as a consumer protection measure in preventing hazards resulting from improper repair, and requires its tractors to be fixed by a technician at one of its dealerships. Limited repair options under this model can have a detrimental impact on the livelihoods of farmers. Valuable time and time sensitive income (in sowing or harvest periods) is lost in search for this singular repair provider for faulty equipment.

Apple similarly defends its software locks as central to the safety and protection of consumers. In the case of consumer electronic goods, the high price and difficulty of repair typically reinforce the practice of producing short-lived goods and the consumer behaviour characteristic of the emerging "throwaway society".

Application of ACL: Error 53

The Australian Competition and Consumer Commission (ACCC) 2017 proceedings against Apple demonstrate how right to repair issues may be partially addressed under existing Australian law. Since 2014, Apple consumers have experienced a software fault ("Error 53") upon updating their device, which rendered their device useless. This often occurred where a device had previously undergone independent ("non-authorised") repairs. Apple explained the fault as being the result of security measures designed to protect the integrity of devices. The Federal Court of Australia held that Apple contravened sections 18 and 29(1)(m) of the ACL by misrepresenting that, if an Apple device had been repaired by an unauthorised repairer, Apple was not required to provide consumers any cost-free remedy relating to Error 53. The Court held that the mere fact that a device had undergone unauthorised repairs did not, and could not, displace the consumer guarantees or extinguish consumers' rights to a remedy under the ACL.

This case involved allegations of ACL contraventions and, as such, it did not explore any broader right to repair issues, such as:

- Apple’s motivations for reducing the useability of its own product; or
- the inclusion of the software fault that reduced the useability of the Apple devices in the first place.

While the proceedings undoubtedly reinforced consumer protections under the ACL regarding the interplay of ACL consumer guarantees and the independent repair of products, independent repairers enjoyed limited benefits from the outcome.

In 2017, Apple claimed that an [unauthorised independent repairer](#) in Norway had violated its trademark by using aftermarket iPhone parts. Apple demanded that the repairer, Mr Henrik Huseby, stop using the aftermarket screens and pay the company a settlement.

The [court sided with Mr Huseby](#), finding that *“Norwegian law does not prohibit a Norwegian mobile repair person from importing mobile screens from Asian manufacturers that are 100 per cent compatible and completely identical to Apple’s own iPhone screens, so long as Apple’s trademark is not applied to the product.”*

The legal finding is only applicable in Norway; the implications apply across the world.

Competition in repair markets: Consumer and after-market repairer interests

Right to repair laws have been a front-runner in policy debate about possible solutions to prevent lack of competition in repair markets. Their purpose addresses anti-competitive conduct concerns as they compel manufacturers to make parts, diagnostic software, repair tools and manuals available to individuals and independent repair shops.

There is an increasing application of common law fair-use doctrines and anti-competition laws to counteract overly restrictive business practices by manufacturers. This shows growing pressure by consumers, independent repairers and regulatory authorities. The availability of third-party repairers, such as independent automotive repairers, can benefit consumers by providing options and potentially lowering some repair costs due to competition. A broader range of physical repair locations will also have environmental benefits, as consumers will less likely be required to travel out of their way to a specified repairer’s location.

Encouraging market flexibility by limiting manufacturer control over the repair market may foster good will and long-term trust within consumer-manufacturer relationships. The principles of responsible agricultural innovation further promote the inclusion of rights holders in broad, values-based inquiries relating to technology development as being conducive to outcomes engendering equity as well as improving trust in the innovation process. Within the E.U. and U.S. law reform landscape, action has been taken to promote consumer interests against the manufacturers’ control of the repair market.

Consumers are not commonly informed about aspects of repair options for consumer goods such as their possibility, cost, timeframe and convenience. There is no requirement to inform a consumer about the availability of licenced repairers proximate to their location, the time needed for work to repair common own-fault damage like smashed phone screen replacements, and whether

component parts such as batteries, memory cards or sim cards can be removed and replaced if there is a fault.

Without this information consumers are unable to make informed decisions about the cost of owning a product over its life-time, not just financially, but also the convenience and environmental impact of their purchasing decision. One potential countermeasure would be to require additional information on these aspects on certain product classes at the point of sale. This would allow a comparison of products, brands and support models to ensure the anticipated product life aligns with a consumer's intended use of a product.

[The Bower Reuse and Repair Centre](#) is an environmental not-for-profit committed to reducing landfill. Services are based upon the ethos of reuse and repair. The Centre has been implementing the idea of the circular economy in Sydney for 20 years.

The organisation has agreements with over 20 Sydney metropolitan councils to collect unwanted household goods for rehoming, meaning 2.7 million Sydney residents have access to this free service.

Aftermarket vehicle repair services

An example of work underway in Australia is the market competition for the supply of aftermarket vehicle repair services, which is reduced by a range of factors, such as:

- the ability, and incentives, car manufacturers and their dealers have to impede competition by controlling access to technical information and parts needed to repair and service a new car;
- consumer misunderstanding about warranty and servicing requirements; and
- high switching costs once consumers have purchased a particular brand or make of car.

Consumers are negatively impacted through increased costs, inconvenience and delays when having their new car repaired or serviced. While this model ensures automobile repairers remain appropriately skilled to repair vehicles, especially important in repair of electrical and computer systems, consumers are faced with limited choices in relation to service provision.

In the ACCC's 2017 [New Car Retailing Industry](#) market study, the ACCC noted that consumers benefit from competitive aftermarkets and by having a choice of providers to repair and service new cars. Voluntary commitments to share technical information have not successfully achieved their aims. As there has been only a limited improvement in access, the ACCC recommended regulatory intervention to mandate the sharing of technical information with independent repairers on "commercially fair and reasonable terms".

Consistent with the study's recommendations, in 2019 the Commonwealth Government committed to supporting appropriate commercial dealing and competition in the new car retail supply chain for the benefit of both small businesses and consumers. The Government conducted a public consultation to consider the design of a mandatory scheme for access to motor vehicle service and repair information. The design of the proposed scheme is currently under consideration by the Government and it is projected to be introduced by the end of 2019.

Such a scheme, however, will need to find a way to appropriately address issues regarding intellectual property and commercially sensitive information, especially where intellectual property rights may be held by overseas manufacturers.

Abandoned consumer goods: The cost of e-waste

Closely linked to the reparability of products is the waste caused by their disposal. Rapid technological innovation, low-quality manufacturing methods, and globalised markets lowering the costs of consumer goods have supported faster rates of product obsolescence. Electronic waste (e-waste) encompasses all items of electrical and electronic equipment and its parts that have been discarded by its owners as waste without the intent of re-use. It broadly covers computers, mobile phones, digital music players, refrigerators, washing machines and televisions.

Australians are among the highest users of technology and produce around 25kg of e-waste per capita each year.

[BlueEnvironment modelling data](#) suggests that in 2016/17 a total of 485,000 tonnes of e-waste was generated in Australia, an increase of 3.8 per cent on 2015/2016. Computers and televisions accounted for approximately one quarter of this amount.

While it is possible to implement waste management strategies to improve resource recovery at the local government level, it is not possible to maximise the efficiency and impact of these without a strong national framework for waste management. A national framework would enhance consumer repair rights, promote competition in the repair economy and embed requirements for “designing out waste” in products to keep them in the economy for longer.

The Department of Environment and Energy [BlueEnvironment National Waste Report 2018](#) shows that China, Thailand, Malaysia and Vietnam will restrict or entirely phase out acceptance of e-waste imports over the coming two years. This refusal will place significant pressure on the international management of this class of waste. The World Economic Forum 2019 report [A Circular Vision for Electronics: Time for a Global Reboot](#) approximates that 50 million tonnes of e-waste was produced worldwide in 2018, with only 20 per cent formally recycled. The remainder is dumped, traded, or recycled under inferior conditions. The report indicates that without targeted intervention, the global amount of e-waste is projected to more than double to 120 million tonnes annually by the year 2050.

The intensive uncontrolled processing of e-waste has resulted in the release of heavy metals in local environments. The 2014 study [Environmental Effects of Heavy Metals Derived from the e-Waste Recycling Activities in China: A Systematic Review](#) shows informal processing has caused high concentrations of harmful metals in the surrounding air, dust, soils, sediments and plants. This leakage often occurs in the informal e-waste processing sector with four kinds of heavy metals (copper, lead, chromium and cadmium) exceeding international standards and damaging both the environment and the health of local residents.

Stemming the creation of e-waste by extending product viability and life-span will more successfully address environmental and health detriments than measures such as recycling and up-cycling measures. Recycling does not effectively utilise all component parts of a consumer good, can expose workers to harmful substances, and often requires the additional consumption of natural resource consumption to process materials into reusable commodities.

Product Stewardship

China's recent decision to impose strict contamination standards on imported recycled products has highlighted weaknesses in Australia's recycling system. These weaknesses have been compounded due to the absence of a national framework for waste management and resource recovery, including lack of stronger extended producer responsibility schemes under the Federal *Product Stewardship Act 2011* (Stewardship Act). The public has long believed that Australia has a strong recycling sector. While we have an efficient collection and sorting system, we lack the capacity to recycle much of this material on-shore, partly due to the absence of well-developed repair and dismantle industry.

The [Australian National Waste Policy \(2018\)](#) promotes the principles of avoiding waste, improving resource recovery, increasing use and demand for recycled material, managing material flows, and providing information to support innovation and informed consumer information. The implementation plan for the policy is yet to be developed and funded.

The central co-regulatory approach adopted to address this form of waste in relation to reparable consumer goods is the product stewardship scheme. This scheme combines government regulation, with available accreditation for industry organized and funded action, with a legislated scheme for television and computer recycling. Since the Stewardship Act came into force, only one co-regulatory scheme, the National Television and Computer Recycling Scheme (NTCRS) has been developed and only two voluntary schemes have been accredited in the single accreditation round that has been called.

Televisions and computers, including printers, computer parts and associated products like gaming consoles and keyboards can be given to industry-funded collection and recycling services. Under the NTCRS, more than 1,800 collection points are available to consumers and 290,000 tonnes of TV and computer e-waste have been collected and recycled. Recycling is done by providers certified to Australian Standards for environmental and occupational safety.

Product stewardship is a response to market failures that lead to environmental damage. Industry alone cannot correct these failures. Without the driver of regulated targets and outcomes there is often no incentive for product manufacturers to design products to be durable, re-usable or recyclable or to ensure they are collected for recycling at their end-of-life.

The [BlueEnvironment National Waste Report 2018](#) indicates Australia's current recycling rate is at 58 per cent. By contrast, in Germany, the world leader in resource recovery, almost 80 per cent of waste is recycled.

The German Government has [implemented laws](#) to define the scope of product stewardship in:

- Electric and electronic devices
- Portable batteries
- Motor vehicles
- Packaging
- Petroleum products

Australia can benefit from the decades of experience across the world in the development and assessment of product stewardship schemes for a vast array of products. While Australian competition laws prohibit certain kinds of anti-competitive agreements and conduct, businesses can apply to the ACCC for authorisation where there is a risk that future conduct might breach the

competition provisions of the CCA. The ACCC may grant authorisation if satisfied that the proposed conduct is either unlikely to substantially lessen competition, or the likely public benefit from the conduct outweighs the likely public detriment.

In relation to the disposal of e-waste, the ACCC has granted authorisation for environmental levy schemes that involve businesses in a particular industry agreeing to collect a levy on the sale of products. The levy is collected by participating manufacturers or retailers to ensure the products are appropriately disposed of and recycled at no additional cost to the consumer. Alternatively, some levies contribute to the promotion and research of how to safely dispose and recycle the products. Recent authorisations include a levy for chemical and container recycling, tyre recycling and paint disposal.

A [2009 Environment, Heritage, Water and the Arts report](#) into the cost of landfill disposal in Australia estimated the cost to be in the range of \$45 to \$105 per tonne.

This puts the cost of landfilling waste between \$976 million to \$2.278 billion each year.

MobileMuster has been the Australian Government accredited mobile phone recycling scheme since 2014. It is administered by the Australian Mobile Telecommunications Association on behalf of the mobile phone industry. According to consumer research by MobileMuster there are approximately 25 million unused mobile phones being stored in Australian homes. Of these, 5 million are broken and no longer working. Three per cent of Australians surveyed by MobileMuster admit they have sent a mobile phone to landfill. Everything collected by MobileMuster is recycled for recovery and reuse; nothing is resold. While the existence of this scheme allows free destruction of broken or discarded phones, it does not eliminate the contamination of household waste with such items where consumers do not seek to responsibly dispose of these items.

The Circular Economy

The World Economic Forum 2014 report [Towards the Circular Economy: Accelerating the scale-up across global supply chains](#) found that the dominant model of production and consumption for the past 150 years has been linear, or one-way: a model in which goods are manufactured from raw materials, sold, used and then discarded or incinerated as waste. As the number of consumers increases and resources dwindle, a transition to a circular economy will be necessary to minimise both the resources consumed and the waste generated.

A circular economy is centred on keeping products, components and materials circulating in use for as long as possible, through long-lasting design, repair, reuse, re-manufacturing and recycling. A truly circular economy will rely, in part, upon product design for next life and new life, through reparability, modularity and disassembly.

In 2016 the Scottish Government released [Making Things Last: A circular economy strategy for Scotland](#). The strategy addresses those areas where progress is deemed possible at this time and will be updated as time goes on.

A key element is the design of complex products in such a way that they can be easily repaired or manufactured.

CONCLUSION

The right to repair movement has been gaining momentum around the world. Legislative reforms are being introduced and strategies are being prepared. But significant challenges still remain.

This paper does not provide the solution. Instead it highlights matters for further consideration. More work is required to continue exploring right to repair and its challenges in the Australian context. As an issue it is impacted by, and impacts on, many different portfolios. Work being done within individual portfolios in individual jurisdictions is a positive start. A coordinated approach is required to truly tackle the issue and to best consider potential policy reforms.