SUBMISSION TO INQUIRY - RIGHT TO REPAIR IN AUSTRALIA

SUBMITTED BY: TCO Development, March 2021

Clare Hobby - Director, Purchaser Engagement Global, TCO Development

Andreas Nobell - Development Manager, TCO Development

TCO Development is pleased to contribute a submission to this inquiry and to support the development of Right to Repair infrastructure in Australia. As the organization behind global sustainability certification for IT, TCO Certified, the right to repair is fundamental to longer product use, which in turn supports the shift to a regenerative, circular economy and the prevention of e-waste. We appreciate this opportunity to submit our expertise and support for this initiative, and are pleased to speak further on the subject upon request.

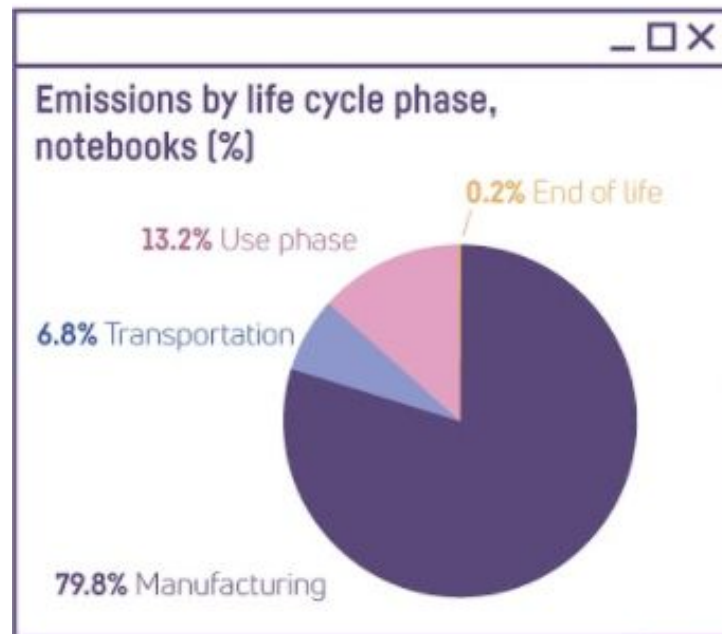**ABOUT TCO DEVELOPMENT AND TCO CERTIFIED**

TCO Development is the organization behind the world leading sustainability certification TCO Certified for IT products. TCO Certified is used in IT purchasing policies and contracting by organizations around the world to source more sustainable electronics. With over 25 years of experience, the comprehensive criteria in TCO Certified are designed to drive social and environmental responsibility throughout the product life cycle. Covering 11 product categories including displays, computers and mobile devices, compliance is independently verified, both pre and post certification. Certified products are available from a wide range of global IT brands and can be found at the TCO Certified Product Finder at www.tcocertified.com

Criteria in TCO Certified address sustainability aspects connected to the products we certify as well as the supply chains where they are made. The most recent generation of criteria - TCO Certified generation 8 - includes a number of criteria specifically aimed at reducing e-waste and driving a shift toward a regenerative, circular economy for IT products, including product durability, design for reuse, component replaceability, safer chemicals and secure data removal. The prevention of e-waste and conservation of natural resources are priority goals of this effort.

RIGHT TO REPAIR , THE CIRCULAR ECONOMY AND E-WASTE PREVENTION

A circular approach to IT follows the basic model of the circular economy, meaning that keeping products and materials in high value flows should prioritize longer product use, followed by refurbishment, remanufacturing, and once all other options are exhausted, responsible recycling.

Our research shows that longer product use is not only the best approach to e-waste prevention but also to reducing the climate impact of IT. In our 2020 study of notebook computers, our findings show that almost 80% of the product lifetime emissions occur in the manufacturing phase. By extending the usable life of existing products, excess manufacturing of new products is reduced thereby lowering total emissions over the life of the product. Reference: *Impacts and Insights 2020, Circular IT Management in Practice.*

Emissions by life cycle phase, notebooks [%]

0.2% End of life
13.2% Use phase
6.8% Transportation
79.8% Manufacturing

Source: Impacts and Insights, Circular IT Management in Practice, TCO Development, 2020. tcocertified.com

The right to repair is a critical enabler of longer product use, both in the initial use phase, but also by facilitating greater access to replaceable components such as batteries and memory, so as to extend the life beyond the typical 3-4 year use cycle that is still common practice today.

Below we outline some of the current major barriers to repair, as observed through our ongoing multi-stakeholder engagement, research and development work with purchasers, industry, subject matter experts, verification organizations and NGOs, among others.

CURRENT BARRIERS TO REPAIR

- **Batteries.** Battery life varies widely among products, especially notebook computers, and our research shows that actual battery life often deviates from the declared number of battery cycles in manufacturer documentation. Battery life is also one reason why users may switch out their equipment prematurely, when in fact it is a replaceable component that can effectively extend product life. A right to repair challenge is that battery replacement is often too complicated and not explained clearly, leading to premature end of life for IT products and disposal of still functioning products.
- **The price of repair.** For consumers and institutional buyers alike, the price of repair can often be comparable to the price of a new product, because many brand owner repair programs routinely replace large parts of the product instead of just the faulty component. One example, if a small chip on a motherboard breaks down, the brand owner will often replace the entire motherboard, together with the CPU and RAM, instead of just replacing the faulty chip.
- **Component availability.** Frequently, there is limited, or no availability of known to fail IC chips/components for 3rd party repair centers. This has led to illicit trade in spare parts to be able to repair certain products.
- **Schematics availability.** Lack of availability of schematics for motherboards and other components, making it hard to identify which components are breaking down during troubleshooting. This means that independent repair shops typically have to reverse engineer products to understand which components are likely to fail and their location.
- **Repair manual availability.** Lack of availability of repair manuals containing detailed repair instructions.
- **Lacking focus on circularity.** From both industry and users, there is a lack of circular mindset around electronics. This means there isn't enough planning for either circular design or extend product life. Many products are today designed with only the initial user in mind. One example, phone headsets often incorporate soldered batteries, which are difficult to replace. This does not have to be the case, as there are manufacturers adopting easy replaceability solutions for batteries without the need to desolder. Printers are another category where the product is used much less than the potential lifetime. Over 20% of printers are used less than 3% of their usable life before being switched to a new product, as part of the contract or lease terms.
- **False product claims.** There is a continuing problem of untrue claims that certain products are unsafe to open up and repair. For low voltage products like smartphones and notebooks, these claims are most often false, and are likely intended to discourage repair of the device.

Challenges to a circular approach to IT

© TCO Development
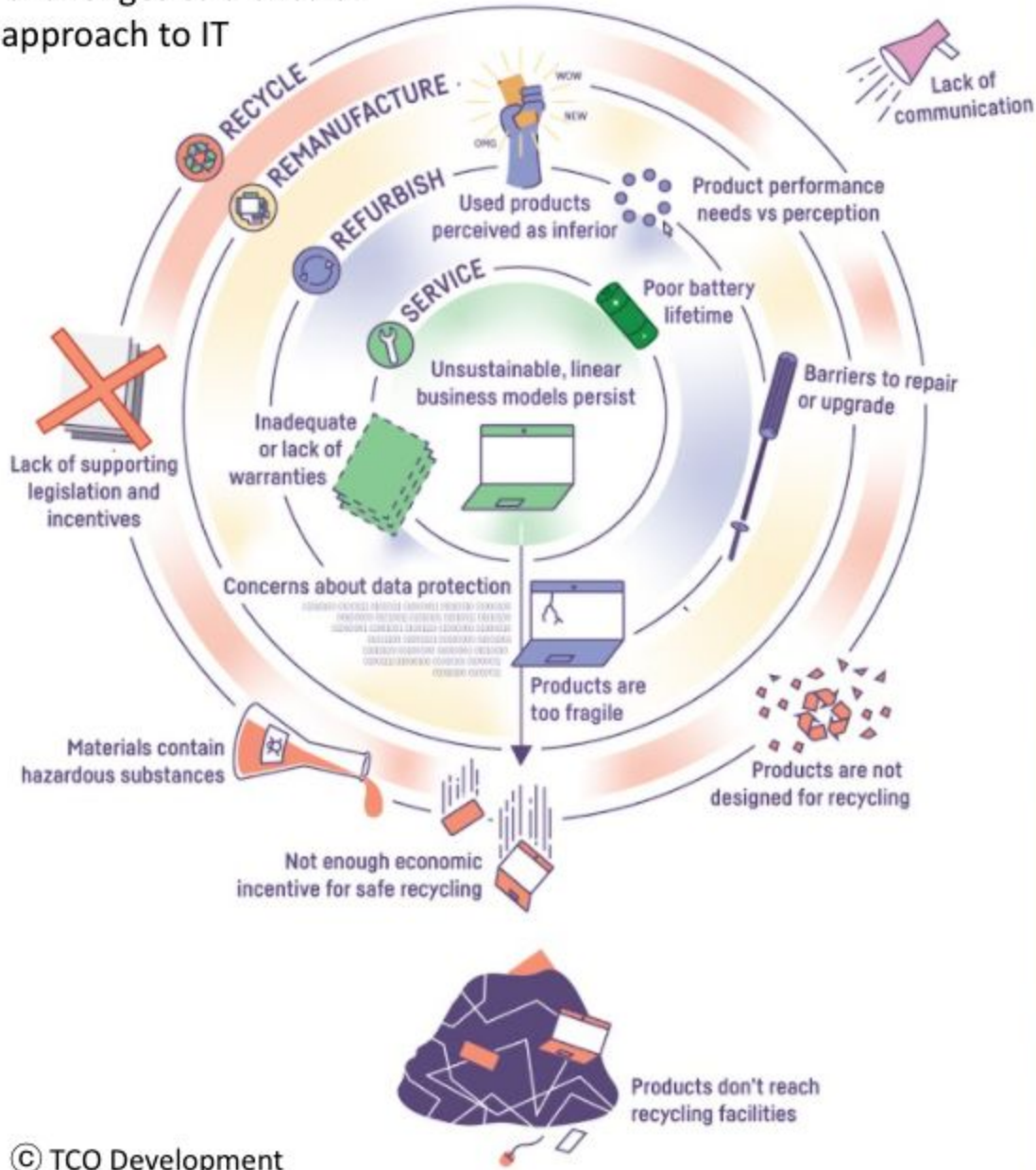
IMPACTS OF E-WASTE

- **A continuing catastrophe.** The global e-waste burden continues to grow at the rate of over 50Mt per year. Latest statistics from the United Nations University *Global E-Waste Monitor, 2020* lay out the relentless trend of e-waste accumulation, in which Oceania ranks second in e-waste generation per capita.

> *In 2019, the world generated a striking 53.6 Mt of e-waste, an average of 7.3 kg per capita. The global generation of e-waste grew by 9.2 Mt since 2014 and is projected to grow to 74.7 Mt by 2030 – almost doubling in only 16 years. The growing amount of e-waste is mainly fueled by higher consumption rates of EEE, short life cycles, and few repair options. Asia generated the highest quantity of e-waste in 2019 at 24.9 Mt, followed by the Americas (13.1 Mt) and Europe (12 Mt), while Africa and Oceania generated 2.9 Mt and 0.7 Mt, respectively. Europe ranked first worldwide in terms of e-waste generation per capita, with 16.2 kg per capita. Oceania was second (16.1 kg per capita).*
> *Source: [Global E-Waste Monitor 2020](). United Nations University.*

- **Lack of material recovery and traceability.** As the volume of e-waste continues to grow, statistics show that our ability to recover and recycle those products is not keeping pace. While only 17.5% of global e-waste was recycled in 2019, the remaining 82.5% was largely unaccounted for. *Source: [Global E-Waste Monitor 2020](). United Nations University.*

- **Product design at the core.** The linear business model promotes product design for a defined use period and replacement cycle. For products to be used longer, and their materials to be recovered and reused, product design must take the circularity and sustainability ambitions of markets and consumers into account.

- **Procurement decisions impact product design.** Procurement is a critical, up-front voice in influencing product design. Procurement needs the ability to consistently signal to hardware vendors that extended life, repairability, and e-waste prevention are priority areas that they plan to address in product sourcing. This communication, and budget backing, is essential for influencing product design, material content as well as warranties, service agreements and the establishment of a right to repair infrastructure.

- **A hazardous substance issue.** Along with the sheer volume of accumulating e-waste, it's also important to recognize that hazardous substance content is at the core of e-waste hazards and risk to the environment, populations and our ability to re-use materials again and again.

- **Safer materials are essential**. Materials used in complex products like IT hardware, especially plastics, contain chemicals of concern, including flame retardants and plasticizers. As continuing regulatory and voluntary efforts seek to both further restrict their use, as well as identify safer substitutions, chemicals currently used in IT products may likely be restricted by future legislation. Such regulatory progress is likely to thereby exclude these substances from responsible recycling streams and limiting repair opportunities. The risk for e-waste therefore increases.
- **Downcycling, material degradation.** In the current recycling environment for IT hardware, products are typically handled in a shredding or grinding process. Other material flows can often end up in this process, and the result is material degradation and downcycling. In these cases, the material can no longer be used for new IT products or other high value durable goods.
- **TCO Certified Accepted Substance List.** Realizing the hazards of chemicals of concern, we have taken an innovative approach to criteria in TCO Certified. While some of the most hazardous chemical flame retardants and plasticizers have been banned through legislation such as RoHS, only around 1% of all chemicals in commercial use today have been subject to any kind of independent testing for environmental and human health hazard. This fact raises concerns about the substances used to replace banned chemicals of concern. Resulting data gaps have led to uncertainty around new - or possibly worse - hazards than the banned substances presented. Our approach has been to develop the TCO Certified Accepted Substance List, which is a list of flame retardants and plasticizers that are independently assessed as safer substitutions. These substances are accepted for use in certified products and the list is made publicly available to industry. This approach has allowed us to drive a shift to greater chemical transparency and access to safer alternatives to chemicals of concern in IT products, which makes for easier reuse and recycling.

RECOMMENDED RESOURCES

2020 Global E-waste Monitor -
http://ewastemonitor.info/wp-content/uploads/2020/12/GEM_2020_def_dec_2020-1.pdf

TCO Certified Accepted Substance List - https://tcocertified.com/accepted-substance-list/

TCO Development 2020 report - Impacts and Insights - Circular IT Management in Practice
-https://tcocertified.com/news/report-circular-it-management-in-practice/

Criteria in TCO Certified - https://tcocertified.com/summary-of-criteria-in-tco-certified/