

THE ELECTRONIC SECTOR

Extending product lifetime

Did you know?

54
millions
metric tons
of e-waste were globally
generated in 2019; which
means an average of
7.3 kg per capita¹

17,4% of the e-waste
generated in 2019 was
collected and recycled¹



2.5
million metric tons
of Electrical and
Electronic Equipment
consumption are
added annually,
on average¹

2.3
years
represents, on
average, how much
shorter the lifetimes
of different electronic
products are when
compared to their
designed or desired
lifetimes²

Sources: (1) E-Waste Monitor and (2) EEA



What can be done?

The term *product lifetime extension* refers to the postponement or reversal of the obsolescence of a product, with the goal of maximizing its utilization rate and duration.

Product lifetime extension initiatives are key to fighting against planned obsolescence of electrical and electronic equipment and contribute to a circular economy. There are instruments to be applied by businesses, consumers, and governments which represent opportunities to improve business models, develop sustainable economies, generate job opportunities, and promote conscious consumption.



By businesses

- ▶ **Circular design:** can range from 'designing for durability' to 'designing for adaptability and repairability', focusing on preserving value in the inner and outer loops of the materials cycle
- ▶ **Repair:** provide accessible services and repair manuals for consumers to fix parts, including the availability of spare parts
- ▶ **Refurbishment:** repair items to increase or restore performance. Some methods allow products to compete

with new ones in terms of function

- ▶ **Remanufacture:** to disassemble a used electronic to restore its performance. It allows to extend market opportunity by offering a faster and cheaper solution
- ▶ **Reusing:** components such as screens, batteries, and chips can be reused from higher performance applications to lower ones
- ▶ **Use recycled materials:** develop products from recycled items and ensure they are designed to be recycled again at the end of their life

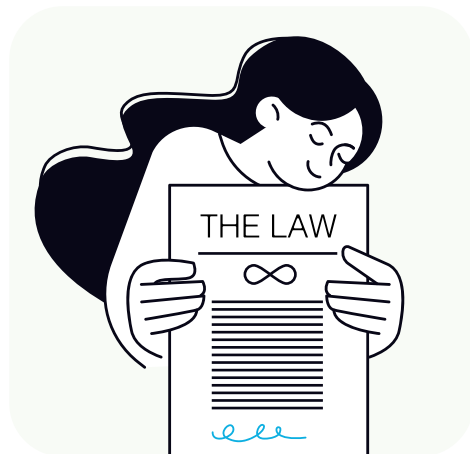
- ▶ **Second-hand market:** sell electronics that become unwanted but are still usable. Supporting users in reselling their devices by providing price estimates and warranties
- ▶ **Bring-back:** encourage and provide information to consumers about local options for bringing back the devices they don't use anymore
- ▶ **Product as a service:** consumers can access products needed temporarily by the provider, therefore, lasting longer, being used more and by more consumers
- ▶ **Cloud migration:** develop and give added purpose to cloud capabilities, combining with longer operating system stability to reduce the pace of hardware obsolescence



By consumers

- ▶ **Maintenance:** preventive maintenance can minimize downtime of equipment, improve performance and extend the lifespan
- ▶ **Protect the devices:** it is simple and can extend their lifetime, keeping them in good condition and avoiding extra costs with possible repairs or new purchases
- ▶ **Fix it yourself:** repairing can save resources and money and keep the devices in use. Some platforms help by providing tutorials on how to fix them
- ▶ **Repair:** look for a repairer. Your electronics may need just an adjustment, or the replacement of a part
- ▶ **Replace the battery:** since they have a finite number of charges, batteries need to be replaced, and by doing this, the consumer extends the lifespan of an electronic device.

What can be done?



By governments

- ▶ **Set laws, policies and eco-design requirements** to prioritize longer lifetimes of electric and electronic equipment, fight planned obsolescence and support PLE, either through longer warranties, affordable repairability, banning the destruction of unsold goods and others
- ▶ **Introduce an electronic product passport** to provide information on the origin, composition, repairability, and end-of-life handling options
- ▶ **Set up effective collection systems** involving businesses and provide clear information to encourage consumers to take their devices

- ▶ **Set policies for extended producer responsibility (EPR)** so businesses are accountable for their product regardless of its lifecycle stage
- ▶ **Support recycling technologies and facilities development** by increasing the incentives for investments and backing the strategic planning regarding variables such as location, capacity, and specialty
- ▶ **Support product design for circularity** by increasing the incentives for investments, providing technical support and guidance to new business models
- ▶ **Endorse the procurement of reused, repaired, refurbished, and remanufactured goods** where appropriate to drive market demand for these products
- ▶ **Provide financial incentives and regulate through taxation**, so producing a new product is not a better alternative than repairing an existing one, and businesses are still accountable for the waste produced

Yes, it's possible!

Check out two initiatives that developed innovative solutions to extend the useful life of electronic items. They inspire and encourage organizations to shift to more circular models and promote sustainable consumption.

Bundles

Applying Internet of Things technology, offers products such as washing machines and coffee machines on a pay-per-use basis, aiming to make sustainable and efficient appliances accessible to everyone. The company takes responsibility for the maintenance of the equipment to increase their lifetime and take care of upcycling and repairs of broken items.



 Netherlands  bundles.nl

Anti-waste law

 France  ecologie.gouv.fr

The law was adopted by France in 2020 and aims to eliminate waste and pollution from the design stage and transform the system of production, distribution, and consumption from a linear to a circular economic model. It encourages businesses, municipalities, and consumers to adopt more circular practices and has introduced various measures, such as:

- ▶ It bans the destruction of unsold non-food products. Companies have to reuse, donate or recycle their unsold products
- ▶ It introduces a mandatory repairability index on electronic and electric products. Manufacturers have to consider repairability at the design stage and consumers will be aware of repair options when purchasing a device
- ▶ it developed funds to foster the creation of 70,000 jobs in reuse networks and encourage the donation of unsold goods



Click [here](#) to know more

This infographic was compiled within the framework of the One Planet network Consumer Information Programme and produced by the Working Group of Product Lifetime Extension, led by UNEP and Akatu Institute. The information presented does not mean any endorsement from the part of the One Planet network nor from its partners in any way or for any purpose. The aim is to provide information and examples of different approaches that can be used to extend the lifetime of products.