



## Answer to the European Consultation

### Assessment of progress under the Directive on electrical and electronic waste

*Date of issue: November 2022*

#### Summary

The Waste Electrical and Electronic Equipment (WEEE) Directive should aim at extending the life of equipment before addressing its end-of-life and recycling. This will require progress in the reparability of equipment from the design stage, the ability to update components and to reuse them for other purposes once the expected end of life is reached.

Progress in eco-design is additionally needed to simplify the disassembling of equipment, both for repair and recovery as well as optimal recycling of reusable components. In this respect, the Commission could require equipment manufacturers to provide disassembling instructions, or even propose standards for some dismantling steps to simplify industrialisation.

Waste streams must be better characterised (origin, composition, structure) in order to simplify and optimise their recycling. Recycled materials should be traceable and their quality monitored. They represent an asset for the European Union in terms of reducing dependence on imported materials and components. Recycling should therefore be performed as much as possible in Europe. This presupposes that the European Union has the full capacity to move up the value chain within its territory – to be preserved if it exists, to be developed if it does not.

Recycling needs to be adapted to the needs of the downstream value chain, which implies a reflection on the value chain as a whole.

Finally, the reduction of the quantities of electrical and electronic waste generated also requires parsimonious use in equipment. Such an approach should be promoted, in addition to the necessary progress in life extension, reparability, reuse and end-of-life management.

The improvement in the standard of living in the European Union and the development of digital technologies are leading to an increase in the production of electrical and electronic waste. This waste presents both management challenges in order to prevent it from becoming a source of pollution – in Europe or outside Europe – and recovery challenges to reduce the need for primary raw materials to produce new equipment. In this respect, the directive on electrical and electronic waste (WEEE)<sup>1</sup> is of special importance.

The CEA welcomes the European Union's willingness to assess the progress made by this directive, and would like to take advantage of the current consultation to make some recommendations.

---

<sup>1</sup> Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02012L0019-20180704>

## Life cycle and end of life

### Before recycling: moderate, extend, repair and reuse

**Recycling is the final stage in the lifecycle of a product and the least virtuous of the circular economy loops. Prior to recycling a product, its use should be extended through the many loops of the circular economy.** This includes improving the reparability and reusability of equipment.

**Improving reparability** requires EU-wide action to combat and eventually eliminate programmed obsolescence – in both hardware and software. This includes requiring that spare parts be made available on a long-term basis by equipment manufacturers (at a fair price), that equipment can be easily disassembled, and that it be upgradable, both in terms of hardware and software.

**Improving reuse** also requires better disassemblability, but also identification of the system components to be reused and a reliable diagnosis of their health, and a compatibility table between components. For example, electronic chips often have a longer life than the equipment they are integrated into. They could therefore, in some cases, be reused once the equipment has reached the end of its lifecycle, so as to reduce European dependence on imported chips.

**Progress in reparability and reuse can be virtuously promoted by the wider adoption of business models that favour long-term rental or leasing**, the very essence and economic value of which is based on long-lived objects. The WEEE Directive should therefore be more strongly coupled with the forthcoming Ecodesign regulation for sustainable products.

**A completely new approach to the life cycle of (reparable and upgradeable) products should be put in place**, and the European Commission, through its normative power, has a central role to play in this objective.

**Lastly, reducing the quantity of electrical and electronic waste generated also requires parsimonious equipment, which should be promoted**, in addition to the necessary progress in life extension, reparability, reuse and end-of-life management.

### Waste management and recycling

**Unfortunately, the WEEE Directive does not provide sufficient guidance for the identification of waste streams.** Today, waste collection is still partly carried out by scrap dealers. To encourage recycling, it is necessary to ensure access to the resource (waste), without which it will be difficult for manufacturers to position themselves. Contact between waste collectors and recycling industries will need to therefore be strengthened.

**To enable recycling, waste must be better characterised.** Recyclers need to know the nature of the waste in order to be able to recover it in an optimal way. This includes equipment composition, their assembly plans and the means to disassemble them. All this can be facilitated if product design anticipates all these stages of the life cycle.

**Dismantling will necessarily have to become an industrial activity in its own right, upstream of recycling.** The WEEE directive should highlight this activity to assess its potential and propose ways to support it.

**The issue of the characterisation of electrical and electronic waste is linked to the release of a potential future “passport” for such equipment (containing information on its composition and assembly plan).** Beyond the progress that may be made in the future on such a passport, the management of waste without a passport should not be left to chance as it concerns all waste streams today (and, at best, in the near future).

**The traceability of recycled materials must be ensured,** so that their origin can be known. Indeed, depending on the origin, the quality of these materials may vary, as well as the social and environmental conditions of their recycling.

## Designing objects in anticipation of their disassembling for repair, reuse and improved recycling

**In order to simplify the task of all actors in the value chain, including recyclers, the WEEE directive should include measures making it mandatory for manufacturers to offer products that can be dismantled, and to provide dismantling instructions. This requirement must be in force from the product design stage, which must anticipate the entire life cycle of the components.** This will allow two positive developments. The first is to improve the reparability and reusability of equipment, thus extending its life and reducing the waste stream generated. The second is the possibility for recyclers to dismantle equipment in order to optimise recycling. Electrical and electronic waste that cannot be easily dismantled is treated as scrap waste and neither the components nor the materials can be isolated and reused individually.

**In a second phase, the European Commission could frame certain major principles of assembly of electrical and electronic equipment by means of standards,** in order to enable those repairing, reconditioning or recycling equipment to standardise their operations. Indeed, having a manual for dismantling equipment is a first step that does not necessarily allow for the industrialisation of the dismantling processes. If this dismantling were standardised, it would simplify this operation and therefore increase the volume of components and materials that can be recovered by recyclers.

## Strategic autonomy

**In order to improve its strategic autonomy, the European Union must ensure that at least a part (as much as possible) of its electrical and electronic waste is recycled on its territory.** This will avoid subcontracting this activity to non-EU states, while the supply of materials will be a strategic issue in the years to come and currently the extraction of primary raw materials on European territory remains complicated (especially due to acceptability issues). The European Union must therefore maximise the production of secondary raw materials – from recycling – on its territory.

**Again for strategic autonomy reasons, the European Union must ensure that the value chain based on materials derived from waste recycled is located on its territory.** Indeed, if secondary raw materials from recycling have to be exported outside the EU to be used, the EU will lose control of its strategic value chains, which will lead to vulnerability vis-à-vis the states positioned in these activities.

**To this end, it is necessary to strengthen the resources for R&D activities in the recycling and reuse of products from dismantling and recycling. Upstream research is particularly necessary to develop – in the medium to long term – safe and sustainable products,** notably through the 9<sup>th</sup> Framework Programme for Research and Innovation. Indeed, today, most of the calls for projects on these subjects concern incremental research. It is also necessary to finance breakthrough projects that will make it possible to propose adaptive solutions. Among the disciplines concerned are green chemistry, processes, materials, instrumentation, digitalisation, robotics, and artificial intelligence.

**Recycling must be adapted to the needs of the downstream value chain** in order to reduce its cost. Thus, if the valorisation of the recycled material (up the value chain) does not require a high level of separation, it is not necessary to impose such a level of separation on recycling.

**The challenges related to waste should not be limited for the waste producer to simply find a channel for managing his waste.** The waste should ideally be recovered as much as possible: Reuse of components, separation and reuse of materials while limiting the loss of quality.

### Economic aspects

The obligation to offer second-hand spare parts (as is the case in the automotive industry) or the responsibility to reuse part of the electrical and electronic equipment before sending them for shredding would allow the development of dismantling channels aimed at repair and reuse (e.g. reconditioning).

**A legal imperative to incorporate recycled materials in new components and equipment, as foreseen by the on-going modernisation of the battery regulation, offers an incentive to develop recycling channels and stimulates the emergence of such a market.** However, the minimum incorporation threshold must be skilfully chosen and frequently re-evaluated: Too low a threshold will not provide an incentive for the development of recycling, too high a threshold will be unattainable and would put equipment producers in the position of having to choose between producing less or producing without respecting the thresholds for incorporating recycled material, which would undermine the system.