GSMA-Connect Europe

Circular economy in the Telecommunications sector

November 2025

The GSMA and Connect Europe welcome the European Commission's efforts to support the telecommunications sector's transition towards a more circular economy, notably through the publication of the strategy of the Clean Industrial Deal and its reference to the New Circular Economy Act, the revision of the WEEE Directive and the Green VAT initiative. **Increasing the circularity of the ICT sector benefits consumers and companies, the environment, and the region's competitiveness and strategic autonomy.**

The amount of electrical and electronic equipment put on the market in the EU rose from 7.6 million tons in 2012 to 14.4 million tons in 2022[1]. At the same time, the volume of electronic waste generated has grown by 2% each year, while less than 40% of electronic waste is collected in the EU[2].

For most European telecom operators, the majority of their total carbon emissions – across their operations and value chains – come from the manufacturing and the supply chain of electronic and electrical equipment (such as smartphones and network equipment)[3]. **Increasing the circularity of network equipment and devices can play a key role in reducing emissions and environmental impacts across the value chain[4].**

GSMA research shows that consumers increasingly want – and benefit from – circular devices and services[5]. Companies providing more circular products and services are also seeing many business benefits, including revenue growth, supply chain resilience, and greater customer loyalty.

At the same time, the current linear economy continues to increase demand for strategically important materials and minerals such as copper, lithium, cobalt, rare earth elements, and other critical minerals. These minerals are essential components of clean energy technologies and ICT hardware such as electric vehicles, batteries, wind turbines, data centres, and networking equipment.

In a world marked by increasing geopolitical tensions and growing competition over the supply, processing, and access to critical raw materials, the EU is increasingly looking at how to ensure mineral and energy security through diversifying supply and securing domestic resources.

[1] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics_-_electrical_and_electronic_equipment
[2] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics_-_electrical_and_electronic_equipment
[3] https://www.gsma.com/solutions-and-impact/connectivity-for-good/external-affairs/wp-content/uploads/2025/07/The_GSMA-Mobile-Net-Zero-2025-State-of-the-Industry-on-Climate-Action.pdf
[4] Circular Economy in the ICT sector: Call for a more comprehensive European approach - The European Files
[5] https://www.gsma.com/solutions-and-impact/connectivity-for-good/external-affairs/gsma_resources/rethinking-mobile-phones-the-business-case-for-circularity/

This is why the **circular economy is essential**: it serves as a key lever for telecom operators to tackle value chain emissions, while also offering a solution to the growing e-waste problem and strengthening the EU's mineral security. Moving away from a "take-make-use-dispose" model and transitioning to a more circular model is essential to keep resource consumption within planetary boundaries. In a circular economy, the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste is minimised. Using and consuming in a more circular way can substantially reduce the impacts of digital technologies on the environment, while also enhancing the EU's competitiveness and security.

Simplifying rules and obligations, alongside advancing digitalisation, is the right path forward—especially as many existing barriers stem from overlapping or conflicting requirements.

For these reasons, GSMA and Connect Europe welcome the New Circular Economy Act, the review of the WEEE directive and would welcome the Green VAT initiative which can serve as an effective incentive system.

I- The revision of the WEEE directive

The telecoms industry supports the primary goals of the existing Directive on Waste from Electrical and Electronic Equipment (WEEE) from 2012. Preventing the generation of WEEE, promoting resource efficiency, and enhancing the environmental performance of all parties involved in the EEE life cycle. However, telecom operators consider that **several elements could be improved to facilitate better functioning and promote easier exchanges in the circular economy, such as:**

A- Harmonise the WEEE collection systems within the EU

In the WEEE management chain, the waste holder (i.e. telecom operator) is supposed to collect the waste from the different sites and customers, and then transport it to the Producer Responsibility Organisations (PRO) responsible for its treatment (sorting, dismantling and recovery). After the treatment, the PRO is supposed to report to the telecom operator details of the treatment results: tonnage received from the telco operator, type and outputs of the recovery operations (energy/raw materials, reuse).

However, in some countries, there is a gap in the information required. The main consequence is that in some cases PROs provide telecom operators with less accurate information on the treatment of the collected waste. Reports provided by Producer Responsibility Organisations (PROs) frequently lack essential data required for Corporate Sustainability Reporting Directive (CSRD) compliance at the Group level—particularly regarding recovery types (e.g. energy or raw materials), disposal information, recycling rates, and component reuse. This information gap poses a significant challenge to accurate and comprehensive sustainability reporting.

- ⇨ Recommendation 1: Change the WEEE directive into a regulation, to ensure full harmonisation across borders and strengthening coherence in information requirements (standards) across member states.
- ⇨ Recommendation 2: Require the PROs match the CSRD information telecoms companies then need to report, to simplify reporting obligations.

- ⇨ Recommendation 3: Scale Infrastructure for Waste Management. Develop industrial clusters: Establish EU-wide hubs for refurbishing and reselling network equipment, creating jobs and reducing emissions. Implement ecodesign principles: Ensure network equipment is designed for longevity, modularity, and ease of repair.

B- The WEEE collective scheme, meaning PROs, should be more supported

Prioritising collective schemes with PROs over individual collection, but still keeping this possibility open, and treatment schemes would ease waste management within the EU. Collective schemes offer a lower administrative burden and limit the risk of non-compliance.

At the same time, money generated by PROs is reinvested in the waste treatment industry, helping to maintain the sector and improve its performance. Currently, the system is not equally developed across Member States, leading to the expansion of individual service providers with heterogeneous practices, making the waste management eco-system more complex.

- ⇨ Recommendation 4: improving the WEEE by establishing a collective schemes and Producer Responsibility Organizations (PROs) by design and clarify rules and obligations. PROs should ensure consistent recycling practices across Europe by selecting efficient recyclers and adhering to the European waste treatment hierarchy, which prioritises preparation for reuse, followed by recycling, recovery, and disposal. This will foster alignment among stakeholders and objectives between companies and PROs.

C- Having a balanced Extended Producer Responsibility

While the telecoms industry supports a reasonable expansion of extended producer responsibility schemes, we do not believe this measure alone will be sufficient to significantly accelerate the transition to a circular economy.

A greater responsibility on manufacturers to collect and treat product waste would encourage more compliance with existing WEEE regulations and would also incentivise the manufacturers to design their products while taking into account their dismantlement and recycling.

In the current system distributors like telecom operators are considered Electrical and Electronic Equipment (EEE) producers in their country because they are the first entity placing EEE devices on the market in that country. However, as distributors, we are not able to make changes to products to support better and more efficient product dismantlement and recycling.

The current PRO system and its industrial partners are not able to provide a global recycling solution for all categories of WEEE that we collect. Although we have opted for a collective scheme in several countries, the PROs which are managing the collective scheme locally do not have the technical feasibility to recycle, especially the Lead and Lithium batteries. As distributors, telecom operators are forced to put in place an individual scheme in these cases.

- ⇨ Recommendation 5: Require manufacturers to put in place take-back or collection processes during the eco-design phase of their EEE.
- ⇨ Recommendation 6: Introduce a threshold, which could be in terms of products sold or market share, whereby a producer would be obliged to deal with the treatment of the WEEE.

D- Improve the treatment by simplifying the transfer conditions

Existing legislation in the Single Market does not facilitate the cross-border transfer of Electrical and Electronic Equipment (EEE) between two subsidiaries of a company or two distinct companies, as the procedure is overly complex. Current EU and national waste regulations limit the cross-border transfer of e-waste to avoid dumping, for example. Such conditions unintentionally limit cross-border recycling options as well as innovation and scaling of circular materials flows.

The shipment of dismantled EEE between affiliates must be mandatorily provisioned under derogations of Appendix 6 of the WEEE directive. To avoid being qualified as illegal waste transportation, telecom operators are supposed to fulfil four prerequisites for any transfer of EEE between their affiliates, these are:

1) All used EEE needs to be packed appropriately and not transported in bulk mode;
2) Ensure traceability of all flows, including Serial Numbers, through EDI;
3) Produce evidence of good functioning for each dismantled but still functional EEE, i.e. an individual checking per unit rather than sampling in case of control by Customs Authorities;
4) A "competent authority" needs to be appointed as responsible for the global transfer process.

This framework discourages implementing a circular model, limiting potential carbon emission savings. Such rules should be simplified to allow the circular economy models to be fostered.

⇨ Recommendation 7: Easing the transfer of EEE from one country to another would enable the development of circular economy models. Enabling such schemes is essential as it streamline procedures, reduce administrative burdens, favours the reuse of equipment, avoids overproduction and ultimately decreases carbon emissions and reduces our dependency on critical raw materials. A solution could be to send the EEE without any test, then the receiver will test it and send it back if it is WEEE. To further support traceability and sustainability, cross-border transfers should leverage digital product passports, ensuring that all relevant product information (including serial numbers, repair status, and compliance records) is accessible to both companies and authorities.

E- Facilitate the transfer of activation licences for used equipment:

The current situation is creating an obstacle to the buying and selling of used electronic equipment between different states. If telecom operators wish to reuse a network equipment in another EU country, they need to pay a new license to the manufacturer.

⇨ Recommendation 8: Activation licenses should be allowed to be transferred along with the equipment from the seller to the buyer of used equipment, eliminating the need for the second-hand equipment buyer to purchase a new activation license.

II- Having ecodesign criteria for network equipment

The current EU circular economy strategy overlooks a crucial category: ICT network equipment (Remote Radio Unit and Base Band Unit), which is vital to digital infrastructure. Unlike consumer electronics, this equipment lacks eco-design requirements, despite having issues like reduced lifespans and limited repairability in most of the cases. Introducing robust eco-design criteria under the ESPR

framework would enable longer product lifecycles, easier maintenance, and enhanced reuse and refurbishment. Such a move could yield multiple benefits:

- Lower greenhouse gas emissions by reducing the need for new manufacturing;
- Reduced electronic waste through life cycle extension and better recyclability;
- Improved resource efficiency, especially in managing raw materials;
- Economic gains via cost savings and job creation in refurbishment and reuse sectors.

Recommendation 9: Connect Europe and GSMA call on EU policymakers to apply a circular approach to network equipment as to consumer devices. By doing so, the EU can support a more sustainable digital sector and reinforce its green transition goals.

III- Having a green VAT initiative

We support the European Commission's initiative on green VAT shared in the Clean Industrial Deal communication. Scope 3 represents the majority of carbon emissions for the sector, and increasing the circularity of smartphones is a key strategy to achieve the industry's net zero ambition.

Supporting the shift towards a Circular Economy through price incentives and disincentives or a combination of both as mentioned in the questionnaire are a very effective tool. For example, making refurbished smartphones cheaper through tax incentives could encourage more consumers to opt for second-hand devices, thereby helping to reduce electronic waste and support sustainability. This would also provide consumers with more affordable smartphone options. This simple change could have a significant impact on consumer behaviour and the environment.

IV- Incentives for companies involved in recycling of critical raw materials within EU

As underlined before in this document, secondary raw materials play an essential role for the EU's green and digital transitions and for the EU's autonomy and sovereignty.

The electronics sector, in particular, relies on access to global markets for recycled materials, as most manufacturing takes place outside the EU. Rather than only focusing on restricting exports of critical raw materials, which could disrupt supply chains and reduce competitiveness, policy efforts should prioritize focusing on strengthening the European recycling ecosystem. This includes creating favorable market conditions and incentivizing modern and efficient recovery and reintegration of critical raw materials into industrial supply chains within EU.

Key references

- **The** GSMA strategy paper for circular economy for network equipment provides nine recommendations for bringing infrastructure networks in line with circular economy principles.
- **The** GSMA strategy paper for circular economy for mobile devices lays out a vision for devices with as long a lifetime as possible, made with 100% recyclable and recycled content, 100% renewable energy, and where no device ends up as waste.
- **Voluntary operator targets on circularity:** Leading mobile operators, together with the GSMA, announced new 2030 circularity targets for mobile operators in June 2023. 16 operators (including BT Group, Deutsche Telekom, Globe Telekom, GO Malta, Iliad, KDDI, NOS, NTT Docomo, Orange, Proximus, Safaricom, Singtel, SoftBank, Tele2, Telefónica and Telenor) have committed to two voluntary circularity targets developed with the GSMA: 1) Increase take-back of mobile phones: by 2030, the number of used mobile devices collected through operator take-back schemes amount to at least 20% of the number of mobile devices distributed; 2) Avoid recovered mobile phones being sent to landfill or incineration: by 2030, 100% of used mobile devices collected through operator take-back schemes will be repaired, reused or transferred to controlled recycling organisations.
- The new GSMA report, Rethinking Mobile Phones: The business case for circularity, highlights the environmental and business benefits of increasing the circularity of mobile phones. The report highlights current progress on circular business models, as well as key recommendations for operators, manufacturers, and policymakers to move to a more circular economy. The report draws on the results of the GSMA's Global Consumer Survey on Circularity, which surveyed over 12,000 consumers from 32 countries (including six EU countries representing over two-thirds of the regional population: France, Germany, Italy, Poland, Spain, and Sweden).
- The new GSMA technical guidance on Quantifying the Carbon Savings of Circularity: Mobile Phones and Network Equipment, outlining methods to quantify the carbon savings of circularity initiatives and programmes, including repair and refurbishment.
- OSCAR programme (Orange Sustainable and Circular Ambition for Recertification) aims to extend life cycle of IT and Network (ITN) equipment through 3 operational levers : 1/ sourcing refurbished ITN equipment 2/ provide a second life to Orange network equipment by reusing them through its subsidies 3/ feed the second hand market with functional ITN equipment no longer needed within Orange subsidies. Since its launch in 2021, OSCAR has processed more than 750 000 ITN equipment, increasing operational efficiency and decreasing carbon footprint.
- Orange RE is Orange's circular economy initiative based around four pillars: Recycling, Returns, Refurbishment and Repair. Since its launch in 2020, the 'Re' initiative has ramped up the collection rate (recycling and returns) of used mobiles, from 13.4% in 2020 to 22.3% in 2021, in line with the 30% target Orange has set for 2025. The 'Re' initiative allows Orange customers to trade in their phone in-store for a discount or credit voucher and buy a range of refurbished phones as an alternative to a brand-new phone. Orange recycles phones that no longer work and/or have no cash value and offer repair services.
- MAIA : Launched in 2020, Telefonica's programme is supported by a digital platform that provides visibility of demand and supply of network equipment across countries and connects them with multiple external partners in order to incentivise the resale when required, always after internal re-allocations within Telefonica have been discarded.

- **MARA** is part of Telefonica's programme for mobile devices, a fully omnichannel process that allows consumers to automatically assess their devices and access the Telefónica trade-in programmes anywhere, providing instant and real value added to customers without risks (0% discrepancies rate) and, at the same time, defining the best device destination (reuse, resell, repair or recycle) before collecting them.
- **Vodafone Circular Economy Strategy** Vodafone seeks to responsibly manage waste from our network equipment and business operations. In 2025, Vodafone achieved its goal of having 100% of its decommissioned network equipment reused, resold or sent for recycling. Vodafone reuses or resells its decommissioned network equipment through its Asset Marketplace platform to ensure the equipment's lifetime is extended as much as possible; and partners with recyclers who maximise the recovery of materials from e-waste when reuse or resale is not possible. Vodafone also promotes improvements in circular economy for devices – by offering customers a range of high-quality second-hand refurbished mobile phones, after-sale services and insurance to encourage repair and prolong device lifetimes, and device trade-in services and take-back schemes for both consumers and business customers. Vodafone's **"One Million Phones for the Planet" Campaign** in partnership with WWF, aims to collect one million phones through product take-back schemes and donates £1 per device to WWF conservation projects.