

Towards a socially sustainable and circular ICT sector

This paper seeks to bridge the gap between work on improving the circularity of Information and Communications Technology (ICT) products with addressing social issues in their supply chains including due diligence and human rights abuses. It aims to provide a basic theoretical and policy foundation for future work and collaboration with other civil society organisations and policymakers.

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Introduction and Context

In 2018, there were 7 billion connected devices around the world, and by 2025 the number of connected devices is expected to reach 75 billion¹. A linear economic model for electronics creates a rising demand for increasingly scarce natural resources, cost-cutting practices at the expense of workers' rights, and inadequate waste disposal. In addition, the complex and globalised value chain for ICT facilitates human rights abuses due to a lack of transparency². To substantiate this point, 40% of the biggest companies in the world evaluated by the UN's Corporate Human Rights Benchmark in 2018 failed to show any evidence of identifying or mitigating human rights issues in their supply chains³. The exploitation of natural resources, the environment, and labour results in externalized costs which enable a linear economy and a disposable approach to ICT.

The new Circular Economy Action Plan (CEAP)⁴ has announced multiple initiatives targeting the environmental footprint of ICT and electronic devices such as smartphones. Unfortunately, it isn't clear how these initiatives will address some of the social issues in the supply chain of this sector. It is critical that a transition towards a circular economy does not neglect its socio-economic implications both in Europe and beyond.

Simplified Model of the ICT Supply Chain⁵



¹ [The IoT Rundown For 2020: Stats, Risks, and Solutions](#)

² [Circular Economy – Sustainable Materials Management Compendium. Lund University, 2019.](#)

³ [Mandatory Human Rights Due Diligence | Business & Human Rights Resource Centre](#)

⁴ [A new Circular Economy Action Plan](#)

⁵ Feichtner, I., Krajewski, M. and Roesch, R., 2019. Human Rights In The Extractive Industries. Cham, Switzerland: Springer International Publishing, pp.36-39.

Key issues in the supply chain of electronics

Mineral Extraction - Extractivism, whether legal or illegal/informal, is linked to human rights violations, from modern-day slavery to social conflicts and mining-induced displacement. Extraction also has negative effects on the environment due to the large footprints of mining projects, including acidification and heavy metal contamination of water and soil as well as in the disposal of wastewater and tailings.

Smelting - Smelting generates contaminant-laden air emissions, and large quantities of solid waste known as slag, as well as polluted wastewater⁶. Smelter operators, surrounding communities, and agricultural lands are all exposed to this pollution⁷. Because mined minerals are sold to traders who transport them to be smelted, smelters therefore can play an important role in eliminating conflict minerals from value chains⁸.

Manufacture - Heterogeneity in labour laws and efforts to cut costs degrade labour conditions in electronics manufacturing and assembly lines – reducing health and safety, exploiting precarious contracts, and especially affecting migrant workers⁹.

Use (and after-sales service) – Repair, maintenance, and software support during the use phase can help to extend the lifetime of hardware. Efforts to monopolize these markets for example using copy-and trademark law¹⁰, digital rights management (DRM), proprietary tools and software, prevent a level playing field, stifle value retention activities, increase costs for consumers, and drive obsolescence¹¹¹².

Waste Management – Growing demand and a linear model for ICT drives e-waste. By 2021 the annual total volume of e-waste is expected to surpass 52 million tonnes¹³. The waste created from electronics ends up in landfills in countries in the global south where labourers, especially children, are exposed to hazardous chemicals.

Existing Policies and Initiatives

Due Diligence Legislation

Conflict Minerals Regulation (*Regulation 2017/821*) – Also referred to as ‘**3TG**’, the regulation covers the importation of tin, tantalum, and tungsten, and gold. The regulation applies directly to between 600 and 1,000 EU importers¹⁴. EU importers of the respective minerals need to comply with and

⁶ [Metals Smelters and Processing](#)

⁷ [Environmental Impacts of Mining and Smelting](#)

⁸ [Smelters Are Control Point for Eliminating Conflict Minerals In ICT Gear](#)

⁹ [Precarious Employment](#)

¹⁰ <https://repair.eu/news/apple-crushes-one-man-repair-shop/>

¹¹ [The Fix Is In](#)

¹² [Fixing America: Breaking Manufacturers' Aftermarket Monopoly and Restoring Consumers' Right to Repair](#)

¹³ Baldé, C. P., et al., The Global E-waste Monitor 2017, UNU, ITU, ISWA, 2017

¹⁴ [Conflict Minerals Regulation explained - Trade](#)

report on, supply chain due diligence obligations if the minerals originate or even potentially from conflict-affected and high-risk areas¹⁵.

(Forthcoming) EU Due Diligence Legislation – In April 2020 Commissioner Didier Reynders announced a forthcoming initiative on mandatory obligations for EU companies on human rights and environmental due diligence. The initiative is expected in 2021 and should include liability and enforcement mechanisms and access to remedy provisions for victims of corporate abuse. This could represent an important move away from voluntary measures by creating binding rules on corporate accountability¹⁶.

Child Labour Due Diligence Law (*Staatsblad 2019, 401*) the Netherlands – Requires companies selling goods and services to Dutch end-users to determine whether child labour occurs in their supply chains.

Duty of Vigilance law (*Loi n° 2017-399*) France – Establishes legally binding obligations on environmental as well as human rights issues in the supply chain.

Non-Financial Reporting Directive (NFRD) (*Directive 2014/95/EU*) – Requires large companies to publicly disclose information on the way they operate and manage social and environmental challenges. As part of the Green Deal, the EC has committed to reviewing the directive in 2020 to strengthen sustainability efforts.

Circular Economy and Product Policy

Circular economy strategy (*COM/2020/98 final*) – Specifically targets the electronics and ICT sector, and announces several relevant initiatives including the Circular Electronics Initiative (expected 2021), the Sustainable Product Policy Framework (expected 2021), an initiative on Right to Repair, and the development of product passports. Social supply chain issues are not explicitly referred to in the document¹⁷.

Shaping Europe's Digital Strategy – Intends to position Europe as a leader in the digital world over the next five years. It also announces the *Circular Electronics Initiative*, as well as an initiative to improve labour conditions of platform workers (2021). Creating a single market for data could help companies share hotspots within their supply chains and the new *Consumer Agenda* could assist to inform consumers¹⁸.

Ecodesign Directive and Energy Labelling (*Directive 2009/125/EC and Regulation (EU) 2017/1369*) – Sets minimum efficiency and labelling requirements for energy-using products. A new Ecodesign and Energy Labelling Working Plan 2020-2024 will be launched soon, and requirements for small ICT products such as laptops and smartphones are under development. The Ecodesign directive does not

¹⁵ Ibid.

¹⁶ [Commissioner Reynders announces EU corporate due diligence legislation](#)

¹⁷ [A new Circular Economy Action Plan](#)

¹⁸ [SHAPING EUROPE'S DIGITAL FUTURE](#)

touch on social criteria. Existing reparability requirements lack clarity about access to spare parts and product information for independent repairers.

Green Public Procurement (GPP) criteria – The GPP criteria are voluntarily adopted by public authorities. The circular economy strategy announces “minimum mandatory GPP criteria and targets in sectoral legislation”. Criteria for data centres were recently adopted¹⁹, and those computers and smartphones are currently under development but drafts do not include due diligence criteria.

EU Ecolabel and other Type 1 ISO labels – The EU Ecolabel helps to identify products and services that have a reduced environmental impact throughout their life cycle. The proposed revision for the Ecolabel for Televisions includes criteria on labour conditions during manufacture and sourcing of conflict-free minerals²⁰. Other labels such as TCO certified, for which Generation 8 covers a range of ICT products, also include social criteria (e.g. supply chain responsibility, transparency, responsible sourcing, and process chemicals)²¹. In general, schemes do not go beyond first-tier inspections and audit reports.

Restriction of Hazardous Substances Directive (RoHS) (Directive (EU) 2015/863) – RoHS was originally introduced to improve the welfare of consumers, distributors, manufacturers, and the environment²². The amended RoHS 3 adds Category 11 (catch-all) products not covered under other categories and adds four new restricted substances - all phthalates which are linked to various health issues for manufacturers as well as consumers²³.

(Forthcoming) New Regulatory Framework for Batteries – New legislation for batteries is anticipated to include “sustainability and transparency requirements for batteries taking account of, for instance, the carbon footprint of battery manufacturing, ethical sourcing of raw materials and security of supply, and facilitating reuse, repurposing, and recycling²⁴.”

Waste Electrical and Electronic Equipment (WEEE and waste shipments) directives – The CEAP will improve the collection and treatment of WEEE via an EU-wide take-back scheme to return or sell back old mobile phones, tablets, and chargers. Furthermore, the review of the EU rules on waste shipments should restrict the export of waste that has harmful environmental or health impacts in third countries.

Extended Product Responsibility (EPR) – The Commission will shortly publish guidance on EPR modulation in 2020, the guidelines will cover WEEE and batteries. A report from consultants with recommendations for the guidance document does not consider how EPR could be used to support transparency or due diligence issues²⁵.

Discussion and recommendations

¹⁹ [EU GPP Criteria for cleaning services](#)

²⁰ [Revision finalisation of European Ecolabel Criteria for Televisions](#)

²¹ [TCO Certified](#)

²² [Why Was RoHS Introduced?](#)

²³ [Phthalates are everywhere, and the health risks are worrying. How bad are they really?](#)

²⁴ [Batteries - Environment](#)

²⁵ [Study to Support Preparation of the Commission's Guidance for Extended Producer Responsibility](#)

Main Challenges

Social risks touch almost every stage in the supply chain of electronics, most notably outside of the EU but internally as well. Complex and globalized supply chains for electronics make managing social sustainability challenges. The policies focusing on digitalization and circular economy targeting the electronics sector that are currently under development at the EU level, in general, do not consider the social risks in the supply chains or the overall environmental impact of these products in any level of detail. A handful of product policies do include references to social sustainability but never in a comprehensive way.

A recent DG Justice study found that only one-third of businesses undertaking due diligence measures take into account all human rights and environmental impacts, and a further one-third of businesses that are undertaking due diligence measures are limited to certain areas²⁶. Since there is currently no overarching framework to deal with human rights in supply chains at the EU level, this means that businesses that carry out due diligence are only driven to do so by other factors such as reputational risks as well as the interests of consumers and investors rather than the legal requirements²⁷. Existing initiatives may have specific limitations such as only covering specific minerals (e.g. conflict minerals - 3TG), not addressing finished goods, or not looking beyond assembly processes (Tier 1) as the DG Justice study found.

An additional challenge is found within the RoHS directive. While the directive's aim to limit chemical exposure in the production and end-phase is necessary - there may be challenges in applying the directive at different stages in a product life cycle - for example to non-OEM spare parts which may need to be imported when not made available by manufacturers.

The existing policy tools are all voluntary and generally rely on social audits. The ambition level of specific requirements such as those in labelling schemes on working hours (e.g. 60 hours per week for TCO Generation 8²⁸) do not necessarily represent a reasonable level of ambition.

Lastly, efforts to improve the circularity of electronics, such as extending the lifetime of devices, may have positive social impacts but this should not be assumed.

Recommendations

Overarching mandatory due diligence legislation is urgently needed at the European level – to set minimum requirements on businesses that operate in the EU. Circular economy and product policies should be used to reinforce this legislation. For example, minimum requirements can be set through legislation such as ecodesign and would apply to specific products rather than the companies that produce them. This could help to provide a greater level of granularity in legislation, allow specific sectors or issues to be targeted, or help to make the legislation more relevant to consumer interests. Tools such as EPR, GPP, and ecolabels should seek to encourage producers and importers to go beyond the minimum requirements once they are in place, with the overarching objective to create a market for circular products, which respect rather than exploit human rights.

²⁶ [Study on Due Diligence Requirements Through the Supply Chain](#)

²⁷ Ibid.

²⁸ [TCO Certified Generation 8, for notebooks](#)

Public and corporate procurement can notably be used to set criteria for social responsibility in tenders. A recent report by ICLEI and Electronics Watch provides detailed recommendations for such social criteria with the potential to use 50 EUR billion of electronics purchases as leverage annually²⁹. Other specific opportunities exist in forthcoming legislation such as the development of the Regulatory Framework for Batteries, the revision of the GPP criteria for computers, the Circular Electronics Initiative, and the EU Ecolabel for displays.

The forthcoming **Sustainable Products Initiative** should be used to set a framework for integrating social responsibility into Europe's product policy framework by default - progress in these areas cannot be ignored in the context of the objective of making "sustainable products, services and business models the norm."

Widening and revising the Ecodesign Directive as part of this legislative initiative presents an important window to use this powerful instrument to account for social sustainability. Social aspects should also be considered when the Methodology for Ecodesign of Energy-related Products (MEErP) which underpins ecodesign is redesigned (one example could be integrating the cost of spare parts as a measure of repairability).

For other product policy measures such as GPP, EPR, and the EU Ecolabel social criteria must be applied more systematically. As these instruments should identify the "best in class" or "front runner" products and services these tools can create incentives for providers to go beyond what is a requirement or included in the eventual due diligence legislation - examples could be more intensive auditing (beyond assembly at smelters and the point of extraction). The CEAP announces the possibility to set "minimum mandatory green public procurement (GPP) criteria and targets in sectoral legislation" this should be seen as an opportunity to make European public authorities ethical as well as circular buyers of ICT. By safeguarding a proportion of the EPR fee for re-use operators from the social economy (as it will be the case in France³⁰), or making local authorities purchase second-hand goods from them through GPP, these tools could also encourage the development of local and inclusive electronics re-use activities. In any case, preparation for re-use activities are WEEE recovery activities and should, therefore, according to the WEEE directive, be financed by EPR schemes in all member states.

The current WEEE-Directive (*Directive 2012/19/EU*) also theoretically obliges producers/importers of EEE to finance all waste recovery activities, including preparation for re-use. However, due to a lack of procedural regulation, WEEE preparation for re-use activities are not financed by EPR schemes in most Member States. This must be corrected to end this unfair distribution of financial support between WEEE re-use and recycling activities.

Product passports and consumer law could be applied to improve transparency on supply chain sustainability, such as transferring due diligence data through supply chains. As previously mentioned, research has shown that the main incentives for businesses to undertake due diligence measures are 'reputational risks and consumers requiring a high standard³¹.' As a result, transparent

²⁹ [How to procure fair ICT hardware](#)

³⁰ [France to create a Solidarity Re-use Fund \(and other re-use friendly measures\)!](#)

³¹ [Study on Due Diligence Requirements Through the Supply Chain](#)

product information could serve as a tool to mitigate the negative environmental and social impacts on third countries by making performance available at the point of purchase. In this way, consumers would be better informed to make more sustainable purchases based on reusability, durability, recoverability, recycled content, etc. and make use of take-back, recycling schemes, and repair services more likely³².

It is also important to emphasize and to build upon the practices of community and private actors towards circularity. In the case of *Fairphone*, modular design is key in minimizing its environmental impact and the careful monitoring of its supply chain has a positive effect on the mitigation of social issues. *Circular Computing* is another example of circularity through the provision of high-quality refurbished products that focus on employee welfare and conflict-free materials as well as offering corporate sustainability workshops to the private sector³³. Other examples include giving pre-owned computers a second life, as has been the aim of *DigitalForYouth* which has already donated more than 10,000 laptops to Belgian schools and other institutions that do not have the financial means to purchase new hardware³⁴. Community driven efforts like the *Restart Project* also offer opportunities for consumers to extend the life of their products through online skill-sharing and repair cafe information³⁵. Social enterprises, including Work Integration Social Enterprises (WISE), can help to deliver substantial benefits through the employment of people with disabilities, marginalised groups, or the long term unemployed³⁶.

The CEAP offers an opportunity to create a socially sustainable and circular ICT sector but the transition toward sustainability is not guaranteed. Active collaboration between policymakers and CSOs is necessary whereby the focus is directed toward the sectors of the circular economy that may be overlooked so that potential issues are properly addressed and accounted for.

³² [The Product Passport: A Practical and Scalable Standard](#)

³³ [Circular Computing](#)

³⁴ [DigitalForYouth](#)

³⁵ [The Restart Project](#)

³⁶ [RREUSE](#)