Regulatory Ecology of Hotspots in the Mobile Phone Life Cycle

The concept of regulatory ecology enables the mapping of the interactions of four modes of regulation (social norms, law, markets, architecture) on an unsustainable activity. It helps us to identify options of regulatory interventions through, for example, design, policy, consumer behaviour, and business regulation.

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Regulatory ecology of toxicity in the end-of-life phase

Laws

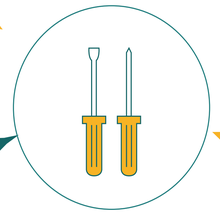
- Basel Convention
- ILO Core Conventions
- EU WEEE Directive
- Extended Producer Responsibility
- RoHS Directive
- REACH
- Freedom of association
- Workplace health and safety

Market

- Designed, economic, and symbolic obsolescence
- Product-as-a-service business models
- Informality
- Cost competition

Social Norms

- WEEELABEX
- Offset programmes
- Global EPR
- Increasing interest in durable and repairable electronics
- Maximising shareholder value
- Decent work



Architecture

- Increasing ecotoxicity of materials
- Low repairability
- Non-durable materials
- Lack of backwards compatibility

What is eco-human toxicity?

Human Toxicity

Toxic substances, such as synthetic organic pollutants and heavy metal compounds, are used and produced in the mobile phone lifecycle. Workers and communities in the mining, manufacturing, and e-waste sector have a high risk of increased levels of concentrations of toxic materials in their blood. These materials can result in acute or long-term health problems and can be fatal.

Eco Toxicity

Emissions of toxic and long-lived substances such as synthetic organic pollutants, heavy metal compounds, and radioactive materials affecting ecosystems around mines, electronics industry, and informal e-waste recycling sites. For example, in artisanal mining, mercury and cyanide are used to process gold from ore and uranium and cadmium are by-products of cobalt mining and cobalt processing.

We analysed the regulatory ecology of three hotspots

What we found

Biodiversity loss in the resource extraction phase

In the extraction phase, mining continues to threaten biodiversity despite a convention on Biological Diversity (CBD) and an EU Biodiversity Strategy.

Precarious work in the manufacturing phase

In the manufacturing phase, factory labour continues to bear the risks of precarious and unsafe work despite International Labour Organisation Conventions and national level regulation, including in the EU.

Eco-human toxicity in the end-of-life phase

In the End-of-Life phase, the health of people and the environment is threatened by toxins released by products disposed of through national systems with improper or inadequate safeguards despite international conventions governing hazardous waste, such as the Basel Convention aand the EU WEEE Directive.

Modes of resistance against regulation aimed at sustainability

1. **Regulatory Disjunctures** arising from globalised production (offshoring and outsourcing).
2. **Business Models** that foster decision making that rewards regulatory arbitrage, evasion and avoidance with respect to sustainability regulation.
3. **Technology Design** that promotes unsustainable production and consumption.
4. **Marginalisation of affected constituencies**, which undermines the demand for enforcement.

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