

## SOME HUMAN AND ENVIRONMENTAL ISSUES:

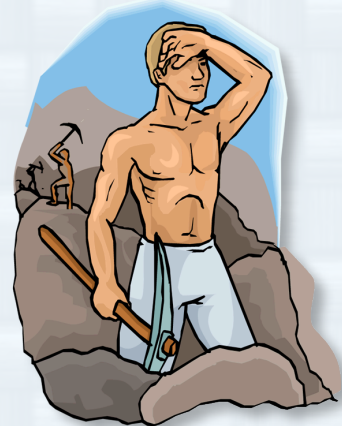
Devastation from resource mining, processing  
True energy costs and climate disruption  
True water footprint, use and toxicity  
Health effects from toxic materials  
Health effects from artificial electromagnetic fields  
Social impact of technology addiction



**Harmful brominated flame retardants** can be released by their plastic casings as the phones age, and heavy metals—namely, **lead and cadmium**—are used as stabilizers in **PVC** plastic, and those too can be released as the phones age... 46 percent of the phones contained **PVC**. Also, **mercury is used in some LCD and touch screens**. Emily Mann

**Every phone sampled in the study contained at least one hazardous chemical...** [which] can pollute throughout a cell phone's life cycle, starting with extraction of the minerals used in their manufacture. These substances can **pollute when they are processed; during phone manufacturing; and when the phones are discarded**. Environmental News Service

**Tin**, in each of 70,000 solder points per phone, **comes from Indonesia, whose people die weekly in mining operations**. Endangered species are being devastated further. Drinking water has been rendered unsafe.



... the bulk of the **carbon emissions generated by electronic devices are produced during manufacture**.

**100 million cell phones are replaced each year.**

In 2006, the United Nations estimated that we threw away between 20 million and 50 million **tons of e-waste globally...**

A Swiss assessment has found that **40-50% of the environmental impacts over the life of a cell phone – including its production, use and disposal – occur during the single process of manufacturing printed wiring boards and integrated circuits**. Inform

## CONTENTS OF CELL PHONE BY PERCENT:

Plastics	60
Copper	14
Glass	11
Iron	1
Aluminum	3
Nickel	1
Bromine	1
Tin	1
Zinc	1

Chromium, lead, silver, liquid crystals, antimony, gold, bismuth, palladium, chlorine, platinum/tantalum, beryllium, arsenic, cadmium

less than 1

Secret Life of Cell Phones

## CONTENTS OF PHONES BY SOURCE COUNTRY:

Lead, cadmium, gold, beryllium, iron, chlorine (USA)  
Silver, bismuth (Mexico)  
Aluminum (Jamaica)  
Tin, zinc (Peru)  
Copper (Chile)  
Nickel, palladium (Russia)  
Bromine (Israel)  
Crude oil (Saudi Arabia)  
Chromium, platinum (So. Africa)  
Tantalum (Australia, Congo)  
Silicon, antimony, arsenic (China)

Secret Life of Cell Phones

**Coltan**, from which tantalum is extracted, **is in every smart phone, 80% comes from Congo, reported stolen from the people by the Rwandan armies**.

According to Apple's numbers, **production and transport account for 65 percent and 70 percent of the total lifetime carbon footprint** of the iPhone and iPad, respectively. Brian Palmer

# CELL PHONES, SMART PHONES AND TABLETS: HUMAN AND ENVIRONMENTAL COSTS

## Rare earths

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[YouTube: Blood in the Mobile](#)  
★ [Coltan mining toxic to gorillas](#)  
[Conflict minerals in digital devices](#)  
[Mongolia, rare earth toxic sludge lake](#)  
[Radioactive waste production, release](#)  
★ [Blood minerals about to get bloodier](#)

## Tin mining

[Ecologist: Tainted tin](#)  
[True cost of tin, human impact](#)  
[Smart phones, island devastation](#)

## ★ Cobalt

★ [Cobalt pipeline, human cost](#)

## Carbon footprint

[Rating system faulty](#)  
[Manufacture, transport](#)  
[Monster Footprint of Digital Technology](#)

## Plastics

[Toxic contents of cell phones](#)  
[Toxic contents in cell phone plastics](#)  
[Tech Giants use hazardous chemicals](#)

## Water

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[Energy and water use in microchips](#)  
[Water, energy, chemicals, cell phone](#)  
★ [Data centers and hidden water use](#)  
[Electronics industry, huge water footprint](#)  
[NSA facility requires 1.7 million gallons/day](#)

## Electromagnetic fields

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[Artificial cellular frequencies](#)

## Energy of use

★ [Large energy footprint of digital economy](#)

## ★ Toxic recycling

★ [Illness in workers doing recycling](#)  
★ [ToxiCity, world's largest e-waste dump](#)  
★ [E-waste: harm to vulnerable populations](#)

## Landfills, toxins

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★ [Electric cars, battery waste](#)  
[Rating of phones, toxic concern](#)  
[Environmental threat, cell phones](#)  
[Trashing your phone before broken](#)  
[Tracking America's electronic waste](#)  
★ [400 iPhone's worth of waste yearly](#)  
★ [The West is dumping e-waste in Africa](#)



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[iPhone5 more toxic than iPhone4](#)  
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★ [iPhone: oppression, inequality, profit](#)  
[Environmental issues, electronics industry](#)  
[Anatomy of a SmartPhone: impact of contents](#)  
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