



Ranking criteria explained

The ranking criteria reflect the demands of the Toxic Tech campaign to the electronics companies. Our two demands are that companies should:

- (1) clean up their products by eliminating hazardous substances; and
- (2) takeback and recycle their products responsibly once they become obsolete.

The two issues are connected. The use of harmful chemicals in electronics prevents their safe recycling when the products are discarded.

Toxic chemicals criteria

Greenpeace wants to see electronics companies clean up their act.

Substituting harmful chemicals in the production of electronics will prevent worker exposure to these substances and contamination of communities that neighbour production facilities. Eliminating harmful substances will also prevent leaching/off-gassing of chemicals like brominated flame retardants (BFR) during use, and enable electronic scrap to be safely recycled. The presence of toxic substances in electronics perpetuates the toxic cycle – during reprocessing of electronic waste and by using contaminated secondary materials to make new products.

The issue of toxicity is overarching. Until the use of toxic substances is eliminated, it is impossible to secure 'safe' recycling. For this reason, the points awarded to corporate practice on chemicals are weighted more heavily than criteria on recycling. There are five criteria on chemicals as compared to four on waste and double points for vinyl plastic-free (PVC) and BFR-free models.

Criteria on e-waste

Greenpeace expects companies to take financial responsibility for dealing with the electronic waste (e-waste) generated by their products, to take back discarded products in all countries with sales of their products and to re-use or recycle them responsibly.

A chemicals policy based on the Precautionary Principle

Greenpeace believes that companies should embrace strong principles that dictate decision-making on their environmental practices.

A chemicals policy underpinned by the precautionary principle means that companies would take action to substitute/eliminate a suspect chemical or group of chemicals, even if the scientific jury was still out on whether these chemicals were definitely causing environmental harm. Implementing a precautionary chemicals policy requires: a system for collecting information on new suspect chemicals and mechanisms for triggering corporate action to phase out the chemical and begin looking for safer substitutes.

Top marks for this criteria go to companies whose definition of precautionary principle includes taking action to substitute a chemical despite scientific uncertainty (e.g. 'potential' effects) of environmental and health effects.

What is the Precautionary Principle?

The Precautionary Principle is not a new idea. It has been adopted by a number of international environmental treaties, conventions and political declarations. But what does it mean?

In the context of chemicals management, it means that when (on the basis of available evidence) the use of a chemical or groups of chemicals may harm human health or the environment, action to eliminate the use of the chemical(s) should be taken - even if the full extent of harm has not yet been fully established scientifically. It recognises that such proof of harm may never be possible, at least until it is too late to avoid or reverse the damage done.

Chemicals Management

This criterion examines how companies manage their supply chain, in order to ensure that suppliers do not continue to use substances that are banned or restricted. Companies need to describe what systems they have in place to implement the phase out of harmful substances (like PVC, BFRs) and thus are in a position to meet their commitments.

A chemicals policy embracing the precautionary principle needs at minimum, a system for collecting information on new evidence of suspect chemicals and mechanisms for triggering corporate action to phase out the chemical and begin looking for safer substitutes.

Top marks for this criterion go to companies who make their lists of restricted/banned substances publicly accessible and describe how these requirements are enforced along the supply chain. In addition, companies need to provide lists of substances being considered for future restriction or elimination.

Timeline for phasing out all use of vinyl plastic (PVC)

Greenpeace wants companies to eliminate all hazardous substances, based on the precautionary principle, but as a start, to phase out all substances on the OSPAR+ list. The 1998 'List of Chemicals for Priority Action' was drawn up by governments as part of the Oslo-Paris Commission for the Protection of the Marine Environment of the North-East Atlantic. Greenpeace extended the OSPAR list to include PVC in the so-called OSPAR+ list.

Polyvinyl chloride (PVC) is a chlorinated plastic used in some electronic products and for insulation on wires and cables. PVC is one of the most widely used plastics but its production, use and disposal create toxic pollution. Chlorinated dioxins and furans are released when PVC is produced or disposed of by incineration (or simply burning). Dioxins and furans are classes of chemical compounds widely recognised as some of the most toxic chemicals ever made by humans and many are toxic even in very low concentrations.

Top marks on this criterion go to companies that have committed to eliminating PVC in all applications with a reasonable timeline by which phase out is complete and to those that have fully implemented this commitment.

Timeline for phasing out all use of brominated flame retardants

Greenpeace wants companies to eliminate all hazardous substances, based on the precautionary principle, but as a start, to phase out all substances on the OSPAR list, which includes all brominated flame retardants (BFRs). The 1998 'List of Chemicals for Priority Action', was drawn up by governments as part of the Oslo-Paris Commission for the Protection of the Marine Environment of the North-East Atlantic.

Greenpeace expects responsible companies to phase out all BFRs and not just those banned by European Union's RoHS Directive.

BFRs, used in circuit board and plastic casings, do not break down easily and build up in the environment. Long-term exposure can lead to impaired learning and memory functions. They also interfere with thyroid and oestrogen hormone systems. Exposure in the womb has been linked to behavioural problems. TBBPA, a type of BFR used in circuit boards has been linked to neurotoxicity.

The presence of high levels of BFRs in electronics products has the potential to generate brominated dioxins and furans, when the electronic waste comes to be smelted, incinerated or burnt in the open. Dioxins and furans are classes of chemical compounds widely recognised as some of the most toxic chemicals ever made by humans and many are toxic even in very low concentrations.

Top marks on this criterion go to companies that have committed to eliminating all brominated flame retardants in all applications, with a reasonable timeline by which phase out is complete and to those that have fully implemented this commitment.

PVC- and BFR-free models of electronic products on the market

Companies score double points for meeting this criterion. For top points, a company's whole product portfolio needs to be both PVC- and BFR-free. PVC-free and/or BFR-free peripherals and accessories do not score points because they are not product systems.

Support for Individual Producer Responsibility

It is important for a company to support Individual Producer Responsibility (IPR) as this shows positive action on getting its own-brand products back for reuse and recycling. Companies supporting IPR believe that their product design innovations should be rewarded. Companies opposing IPR, (or even the principle of Extended Producer Responsibility) and calling for COLLECTIVE producer responsibility are driven by wanting the burdens of their end-of-life products to be carried by all taxpayers and/or cross-subsidised by the other companies on the market.

Top marks on this criterion go to companies that state explicit support for the principle of IPR.

Provides voluntary takeback of electronic waste in countries not legally required to do so

This criterion scores companies on their voluntary takeback and recycling programmes in countries/states where there are no laws requiring them to do so. The European Union has the WEEE Directive (Waste from Electrical and Electronic Equipment) that requires producers to takeback and recycle their waste. Likewise, Japan has the Household Appliance Recycling Law that makes producers responsible for recycling waste from household appliances and computers. Taiwan and South Korea also have EPR programmes for large household appliances.

Top points on this criterion go to companies who provide takeback and recycling services to both business and individual customers, in every country where their products are sold.

Provides information for individual customers on takeback

This criterion rates companies on the information they provide to individual customers on what to do with their discarded electronics products e.g. free postal service, collection depots etc.

Top marks on this criterion go to companies who provide easily accessible information to individual customers on what to do with their branded discarded electronics in every country where their products are sold.

Reports on the amount of electronic waste collected and recycled

This criterion scores companies on reporting on the amounts of electronic waste recycled.

Many companies that report on electronic waste recycling do so by providing annual or cumulative weight or units of electronic waste recycled. This metric does not allow an evaluation of a company's recycling performance based on (past) sales. It also makes it impossible to compare the recycling rates of different companies, given that every company makes a different portfolio of products of various weights e.g. mobiles only versus wide range of household appliances.

Ideally, Greenpeace wants companies to report on recycling volumes/units based on the sales in year X (where 'X' is the average age of the product when it becomes electronic waste). So, if the average age of a branded PC when it becomes waste is six years, we want the brand owner to report how many PCs (units or weight) it recycled in 2006 as a percentage of sales of PCs in 2000.

Top marks on this criterion go to companies that report their recycling rate as a percentage of past sales. If every company adopted this metric, it would allow us to compare the recycling rates across companies with very different product portfolios..

Ranking regrading: Companies have the opportunity to move towards a greener ranking as the guide is updated every quarter. However penalty points are deducted from overall scores if Greenpeace finds a company lying, practising double standards or other corporate misconduct.

Disclaimer: Greenpeace's 'Guide to Greener Electronics' aims to clean up the electronics sector and get manufacturers to take responsibility for the full life cycle of their products, including the electronic waste that their products generate. The guide does not rank companies on labour standards, energy use or any other issues, but recognises that these are important in the production and use of electronics products.

Ranking guide addition: We first released our 'Guide to Greener Electronics' in August 2006, which ranked the 14 top manufacturers of personal computers and mobile phones according to their policies on toxic chemicals and recycling.

In the sixth issue of the Guide, we have added the leading manufacturers of TVs – namely, Philips and Sharp – and the game console producers Nintendo and Microsoft. The other market leaders for TVs and game consoles are already included in the Guide.

For the latest version greenpeace.org/greenerelectronics

A penalty point has been deducted from Nokia and Motorola's overall score for corporate misbehaviour as a result of Greenpeace testing of the companies' takeback practice in the Philippines, Thailand, Russia, Argentina and India.