



### Criteria on Toxic Chemicals

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.

Although there are five criteria on both chemicals and waste, the top score on chemicals is 18 points, as double points are awarded for vinyl plastic-free (PVC) and BFR-free models on the market, whereas the top score on e-waste is 15 points.

The criteria on Precautionary Principle and Chemicals Management remain the same. The criterion: BFR-free and PVC-free models on the market, also remains the same and continues to score double points.

The two former criteria: Commitment to eliminating PVC with timeline and Commitment to eliminating all BFRs with timeline, have been merged into one criterion, with the lower level of commitment to PVC or BFR elimination determining the score on this criterion.

A new criterion has been added, namely Phase out of additional substances with timeline(s). The additional substances, many of which have already been identified by the brands as suspect substances for potential future elimination are:

- (1) all phthalates,
- (2) beryllium, including alloys and compounds and
- (3) antimony/antimony compounds

### 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. Individual Producer Responsibility (IPR) provides a feedback loop to the product designers of the end-of-life costs of treating discarded electronic products and thus an incentive to design out those costs.

An additional e-waste criterion has been added and most of the existing criteria have been sharpened, with additional demands. The new e-waste criterion requires the brands to report on the use of recycled plastic content across all products and provide timelines for increasing content.

### Criteria on energy

The five new energy criteria address key expectations that Greenpeace has of responsible companies that are serious about tackling climate change. They are:

- (1) Support for global mandatory reduction of greenhouse gas (GHG) emissions;
- (2) Disclosure of the company's own GHG emissions plus emissions from two stages of the supply chain;
- (3) Commitment to reduce the company's own GHG emissions with timelines;
- (4) Amount of renewable energy used
- (5) Energy efficiency of new models (companies score double on this criterion)

**Click here to see more detailed information on the ranking**

### Ranking criteria explained

As of the 8th edition of the Guide to Greener Electronics, Greenpeace scores electronics brands on a tightened set of chemicals and e-waste criteria, (which include new criteria) and on new energy criteria.

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

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

The two issues are connected: the use of harmful chemicals in electronic products prevents their safe recycling once the products are discarded.

Given the increasing evidence of climate change and the urgency of addressing this issue, Greenpeace has added new energy criteria to encourage electronics companies to:

- (3) improve their corporate policies and practices with respect to Climate and Energy

**Ranking regrading:** Companies have the opportunity to move towards a greener ranking as the guide will continue to be updated every quarter. However penalty points will be deducted from overall scores if Greenpeace finds a company lying, practicing 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 and the energy used by their products and operations.

The guide does not rank companies on labour standards, social responsibility or any other issues, but recognises that these are important in the production and use of electronics products.

**Changes in ranking guide:** 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 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.

In the eighth edition, we sharpened some of the existing ranking criteria on toxic chemicals and e-waste and added a criterion on each issue. We also added five new energy criteria.

For the latest version [greenpeace.org/greenelectronics](http://greenpeace.org/greenelectronics)

Philips continues to get a penalty point; however, this is no longer for double standards (as the Electronic Manufacturers' Coalition for Responsible Recycling has been dissolved), but for bad lobby in the EU on Revision of WEEE Directive.

## APPLE Ranking = 4.3/10

Apple's score increases slightly to 4.3 points, but the company drops to 14th position. Apple scores well for putting products on the market whose key components are free of brominated flame retardants (BFRs) and PVC vinyl plastic. Apple's latest iPods - the iPod Touch, Nano and Classic - are now free of both PVC and BFRs and the MacBooks, MacBook Pro and MacBook are almost free of these substances. While Apple has now positioned itself amongst the leaders in the electronics industry on phasing out toxic substances, to score more points the complete phase-out of PVC and BFRs in its iPods should be consistent across all other future product ranges. Apple also needs to commit to phasing out additional substances with timelines, improve its policy on chemicals and its reporting on chemicals management.

Apple scores poorly on most e-waste criteria, except for reporting a recycling rate in 2006 of 18% as a percentage of sales 7 years ago; however, it needs to provide details on how this is calculated.

It does slightly better on energy criteria for disclosing the carbon footprint of every model of product – although not exactly what is being evaluated in the criterion. Apple scores top marks (doubled) for all desktops computers, portable PCs and displays complying with Energy Star 4.0 and their iPod and iPhone power adapters exceeding the Energy Star standard, despite making this information difficult to access.

## APPLE Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models				

# APPLE Detailed Scoring

## Chemicals

Precautionary Principle	Chemicals Management	Timeline for PVC & BFR phaseout	Timeline for additional substances phaseout	PVC-free and/or BFR-free models (double points)
<b>BAD (0)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>
Apple makes no reference to the precautionary principle even though its progress in eliminating hazardous substances seems to be guided by this principle of environmental policy. <b>More information.</b>	Apple provides examples of substances that it plans to eliminate with timelines e.g. arsenic in LCDs and mercury by moving to LEDs. However Apple still fails to disclose its Substance Specification 069-0135. <b>More information.</b>	Apple plans to completely eliminate the use of PVC and brominated flame retardants in its products by the end of 2008 and is on track to meet its commitment. <b>More information here, here and here.</b>	Apple states that it has made its small remaining applications of beryllium a future target for phase-out. Phthalates, including DEHP, DBP, BBP, DINP, and Arsenic are now on Apple's list of substances that it is in the process of substituting. However, no timeline for completing this phase-out is given. Antimony is not mentioned. <b>More information.</b>	<b>The MacBook, MacBook Pro and MacBook Air</b> now come with mercury-free displays and arsenic-free display glass. Printed circuit boards, electrical components, mechanical parts, and internal cables are BFR-free and PVC-free. <b>Environmental reports and specs here, here and here.</b> iMacs have the majority of internal cables PVC-free and majority of circuit board laminates free of BFRs. <b>More information.</b> Apple's latest iPods - the iPod Touch, iPod Nano and iPod Classic - are now PVC, BFR and mercury free, and use arsenic-free glass. <b>More information. iPhone 3G.</b>

## E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>BAD (0)</b>
Apple refers to its "individually responsible approach" to recycling through its own take-back initiatives and national collective take-back programmes. The definition of IPR needs to be more explicit. <b>More information.</b>	Apple now operates or participates in recycling programs in countries where more than 95 percent of its products are sold. Most of Apple's voluntary take-back programmes are in <b>US and Canada</b> including <b>free recycling for iPods &amp; mobile phones</b> of all brands. <b>New free recycling</b> of old monitors and PCs of any brand from Apple stores & online sales (seems to be still US only). <b>Apple product batteries take-back</b> (US only)	Information to customers in US and 'Old Europe' is good, but what about 'New Europe' and customers outside Japan, Taiwan, US and Canada? <b>More information here and here.</b> <b>US &amp; Canada.</b> <b>Europe.</b> <b>Japan.</b> <b>Taiwan.</b>	Apple reports a recycling rate of 18% as a percentage of sales 7 years ago, ahead of its target of 13%. Apple forecasts that its recycling rate will be 32% for 2008. <b>More information.</b> However, it's not clear if Apple is using EU data in its calculation of recycling rate, and if so what this is based on (e.g. estimates of return share). To stay on 2 points, Apple has to provide EU figures from own brand sampling of return rate, undertaken in at least one Northern EU country, one Southern EU country and one new Member State – and provide indications of how it intends to expand this sampling in the future.	No information on overall amount of recycled plastic used but some examples of applications e.g. in packaging of MacBook Air. <b>More information here and here.</b> e.g. Agent 18 EcoShield for iPhone 3G is made of recycled post-consumer plastic bottles. <b>More information.</b>

## Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>	<b>GOOD (3+)</b>
No information	Apple reports on GHG emissions per employee and its use of electricity and natural gas, however, the total GHG emissions from its facilities are not reported. <b>More information here and here.</b> Apple has estimated the life cycle GHG emissions, including a breakdown of their source, for individual models of products which are provided in Product Environmental Reports. Although useful, it is impossible to use these data to calculate Apple's GHG emissions. To score more points, Apple needs to present the information in the required format. <b>More information here and here.</b>	Apple seeks to minimise GHG emissions by setting stringent design-related goals for material and energy efficiency. However, there are no details of these goals. <b>More information here and here.</b>	The purchasing of renewable energy in Austin Texas has led to the avoidance of 64 million pounds (29 million kg) CO2 equivalent emissions. Apple's manufacturing site in Cork, Ireland will convert to 100% local renewable sources in 2008, avoiding 4 million pounds of CO2 equivalent emissions. <b>More information here and here.</b>	According to the product Environmental Reports, all Apple desktop computers, portable computers and displays exceed the Energy Star version 4.0 standard and the iPod and iPhone power adapters exceed Energy Star efficiency requirements. But Apple is too modest to report the percentage by which they exceed the standard. To stay on 3 points, Apple needs to make its information more accessible. <b>More information.</b> <b>See Product Environment Reports</b> for details on Energy Star compliance.