



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.

From this version of the Guide, Fujitsu Siemens Computers will no longer be scored. Fujitsu will acquire the Siemens share in Fujitsu Siemens Computers (FSC). The new company will operate under the brand Fujitsu from April 1, 2009. Fujitsu will be evaluated in the next Guide due in June 2009.

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In this version of the Guide, PC manufacturers HP, Lenovo and Dell have been served a penalty point for backtracking on their commitment to eliminate vinyl plastic (PVC) and brominated flame retardants (BFRs) from their products by the end of 2009.

APPLE Ranking = 4.7/10

Apple's score increases to 4.7 points and the company leaps to 10th position – up from 14th in v.10. All Apple products are now free of PVC and BFRs with the exception of PVC-free power cords which are in the process of being certified. But Apple fails to score top marks on this criterion because it uses unreasonably high threshold limits for BFRs and PVC in products that are allegedly PVC-/BFR-free. The company needs to be commended for running a bold advertising campaign highlighting the green credentials of its MacBooks. Apple still needs to commit to phasing out additional substances with timelines, improve its policy on chemicals and its reporting on chemicals management.

Apple's score on the e-waste criteria has improved with take-back and recycling services now extended to the Asia-Pacific region, including India, China, Hong Kong, Malaysia, Singapore, New Zealand, Korea and Australia. It reports 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. Apple has set a new goal of achieving a 50% recycling rate by 2010.

It does slightly worse on the energy criteria. The company discloses the carbon footprint of every model of product – although not exactly what is being evaluated in the criterion. Apple's score on the energy efficiency of its products drops slightly because it fails to provide data on what proportion of its products exceed the latest Energy Star standards and by how much.

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)
PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	GOOD (3+)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2.5+)
Although Apple makes no reference to the precautionary principle, its progress in eliminating hazardous substances seems to be guided by three important elements of this principle: preventive action, voluntary elimination and proactive search for safer substitutes. To keep the 2 points, Apple needs to use the term Precautionary Principle and take action on eliminating potentially hazardous substances even if the scientific jury is still out as to their degree of harm. More information.	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. More information.	Apple planned to completely eliminate the use of PVC and brominated flame retardants in its products by the end of 2008. Currently nearly all Apple desktops and notebooks ship with PVC-free and DEHP-free internal cables and Apple is in the final stages of certifying PVC-free AC power cables that are also free of phthalates. Apple plans to eliminate all forms of chlorine and bromine, not just those in PVC and flame retardants. More information here and here.	Apple states that it has made its small remaining applications of beryllium a future target for phase-out. Apple is banning DEHP and other phthalates from all new product designs. Arsenic is 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. More information.	All Apple products are now free of BFRs and PVC with the exception of power cords which are undergoing certification. Apple scores 2.5 points on this criterion – not full marks as Apple's threshold of 900ppm for defining BFR/PVC-free is too high and needs to be lowered if it is to score full points on this criterion. Greenpeace applauds Apple's new advertising campaign highlighting the green credentials of its MacBook. The MacBook , MacBook Pro and MacBook Air . Environmental reports and specs here, here and here. The Mac Mini and iMac , iPod and iPhone .

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
BAD (0)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	BAD (0)
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 and refer to the eco-design benefits of IPR. More information.	Apple now operates or participates in recycling programs in countries where more than 95 percent of its products are sold. Apple has recently added India, China, Hong Kong, Malaysia, Singapore, New Zealand, Korea and Australia to its voluntary take-back programmes that accept all Apple branded e-waste. More information. Free recycling for iPods & mobile phones of all brands (US only). New free recycling of old monitors and PCs of any brand from Apple stores & online sales (US only). Apple product batteries take-back (US only)	Information is provided to individual customers on how to recycle e-waste in the US, Canada, Europe, Japan and Asia Pacific; however, no information is available to customers in 'New Europe'. More information here and here. US & Canada. Europe. Japan. Asia Pacific.	Apple recycled 30.5 million pounds of electronic waste and reports a recycling rate of over 38% in 2008, as a percentage of sales 7 years ago. This has surpassed its 2009 and 2010 goals and Apple has now set a new goal of achieving a 50% recycling rate by 2010. More information. Apple's recycling programmes across Europe accounted for 37% of the global recycling weight in 2008; for full marks, Apple needs to provide the methodology used to calculate this data, by supplying EU figures from own brand sampling of return rate.	No information on overall amount of recycled plastic used but some examples of applications e.g. in cover for iPhone. More information. e.g. Agent 18 Ecoshield for iPhone 3G is made of recycled post-consumer plastic bottles. More information.

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)
BAD (0)	PARTIALLY BAD (1+)	BAD (0)	BAD (0)	PARTIALLY GOOD (2+)
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. More information here and here. Apple has estimated the life cycle GHG emissions, including a breakdown of their source, for individual models of products in Product Environmental Reports. However, there is no data on GHG emissions from its full operations. To score more points, Apple needs to present the information in the required format. More information here and here.	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. More information.	Apple does not provide data on renewable energy sourced globally as a proportion of total electricity use. The only reference to renewables concerns Apple's manufacturing site in Cork, Ireland which will convert to 100% local renewable sources in 2008, avoiding 4 million pounds of CO2 equivalent emissions. More information.	Apple states that every Mac it ships is Energy Star 4.0 compliant as a standard feature. More information. 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. For full marks, Apple needs to make its information more accessible. More information. See Product Environment Reports for details on Energy Star compliance.