



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.

LG ELECTRONICS Ranking = 5.5/10

LG Electronics remains in 6th position, although its score drops from 5.7 in v.10 to 5.5, losing points for backtracking on its commitment to have all its products free of PVC and BFRs by the end of 2010. Now only mobile products will be free of these toxic substances from 2010; the timeline for eliminating them in TVs and monitors has been delayed until after 2012. BFRs are still to be eliminated in other product lines like washing machines, but no timeline is given and eliminating PVC in household appliances is no longer in LGE's work plan. LGE has launched new models of mobile phones with halogen-free housings, packaging and main printed wiring board. It provides a timeline of 2012 for eliminating phthalates and antimony – but only in new models of mobile products.

LGE also loses a point on its support for IPR for failing to lobby for this principle, especially during the revision of the EU WEEE Directive and for poor efforts in operationalising IPR. LGE scores relatively well on the other e-waste criteria by providing a take-back programme for its products in the US, including LG, Zenith and GoldStar brands of TVs. It also reports its use of (post-industrial) recycled plastic across all LGE products as 11%, with plans to increase this to 25% by 2025. The company has compiled figures for e-waste recycling in Europe, Asia and North America and reports a recycling rate in relation to current sales for all regions. Globally, the recycling rate for total IT and telecom equipment is 13.2% and consumer equipment (that includes TVs) is 13.7%. However, LGE fails to disclose the source of EU recycling data or how it was calculated, if this is not merely extrapolated from market shares.

LGE gains points for supporting global cuts in GHG emissions and for committing to cutting absolute GHG emissions by 5% below the 2008 level by 2012 and by 10% by 2020. On the energy efficiency of its products; LGE reports that 100% of its chargers meet and 74.6% exceed the latest Energy Star standard (v.2.0) by 50%; all PCs meet and 71% exceed sleep and standby modes by 30%; all TVs meet the latest ES standard (v.3.0) and 50% LCD TVs and 41% PDP TVs exceed the standby requirements.

LG ELECTRONICS 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				

LG ELECTRONICS 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)
GOOD (3+)	GOOD (3+)	PARTIALLY BAD (1+)	PARTIALLY BAD (1+)	PARTIALLY BAD (1+)
LGE provides a strong definition of the precautionary principle reflecting the need to take action to eliminate harmful chemicals even though their effects may not be scientifically proven. More information.	LGE's product specs in the Manual for Preparation of Environmental Regulations earn them top marks. More information here and pdf here. LGE's substance list includes future substances to be reduced, including beryllium and antimony.	LGE loses points for backtracking on its commitment to eliminate PVC and BFRs in all its products by 2010. Now only mobile products will be free of these toxic substances from 2010; the timeline for eliminating them in TVs and monitors has been delayed until after 2012. BFRs are still to be eliminated in other product lines like washing machines, but no timeline is given and eliminating PVC in household appliances is no longer in LGE's workplan. More information.	The use of phthalates and antimony will be prohibited in new mobile products from 2012; phthalates, antimony, and beryllium will be prohibited for all TVs and monitors developed after 2012; phthalates will be banned for all washing machines, fridges, air conditioners, cleaners, and microwave ovens developed after 2014. The use of beryllium in mobile products is not mentioned, although it is listed as a substance that is to be either monitored or reduced. To score higher, LGE needs to expand the scope of products to which the substance bans apply. More information.	Mobile phones now have halogen-free housing, packaging and main printed wiring board. More information here and here. European LCD TVs are produced with halogen free housing, wire and drive IC. More information. Notebooks are produced with PVC & BFR free housing. More information.

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
PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)
LGE supports individual producer responsibility, although it recognises that for IPR to be operationalised, technically and economically feasible identification solutions are needed. LGE loses a point as it needs to provide evidence of lobbying for IPR inter alia to ensure the revised WEEE legislation sets clearer requirements (enforcement criteria) for the implementation of IPR and prevents the indefinite use of the Visible Fee. LGE also needs to make efforts to operationalise IPR. More information.	LGE provides voluntary take-back of its discarded mobile phones in some 50 countries with 392 drop off points globally. However, large gaps still exist in Africa, Middle East and Latin America. More information. LGE has a nationwide recycling program in the US for LG, Zenith and GoldStar brands of TVs, computer monitors and other consumer electronics products. More information. For more points, LGE needs to provide voluntary takeback of more product types and in more non-OECD countries. More information.	Information to customers on what to do with discarded mobile phones. Information on other discarded products here. Information on take back of consumer electronics other than mobile phones in the US here.	LGE reports its recycling rates for 2007 (as a percentage of past sales) as: 110% for TVs, 25% for computers and 4% for mobile phones. LGE has also compiled figures for e-waste recycling in Europe, Asia and North America. More information. To get full marks, LGE needs 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.	LGE reports its use of (post-industrial) recycled plastic across all LGE products as 11%, with plans to increase this to 25% by 2025. 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)
PARTIALLY BAD (1+)	PARTIALLY BAD (1+)	PARTIALLY BAD (1+)	BAD (0)	GOOD (3+)
LGE supports the need for global mandatory cuts of GHG emissions proposed by the UN and others, specifically to "reduce CO2 emissions by at least 50 percent below 1990 levels by 2050 in order to relieve global warming". However, no reference is made to the need for greater cuts by industrialised countries. More information.	LGE reports GHG emissions of 812,935 tonnes in 2007, which have been sent for verification to DNV; however, no certification is published on LGE's website. The figures include scope 1, 2 and 3 but details of what comprises the scope 3 emissions aren't given. An inventory of overseas subsidiaries is planned to be established by the end of 2009. More information.	LGE aims to reduce GHG emissions by 5% below the 2008 level by 2012 and by 10% by 2020. More information. More details of LGE's plan for reducing energy costs are in its 2005 sustainability report (p. 20). More information.	Solar panels at one of LGEs facilities are capable of producing 0.00072% of the electricity used by all LGE factories in 2007. But there are no specific targets for increasing use of renewable energy. More information. LG Group's domestic solar power has a total generation capacity of 25.1 MW, however, the percentage of energy use that this figure relates to isn't given. More information. LGE is investing in crystalline solar cells. More information.	All LGE mobile phone chargers launched since January 1, 2005 meet the latest Energy Star standard and 74.6% exceed the requirements of the ES standard by 50%. All LGE's PCs launched since July 2007 meet ES4 and 71% exceed the sleep mode by 30% and 59% exceed the standby mode standard by 30%. All TVs qualify for the ES 3.0 standard, 50% of LCD TVs and 41% of PDP TV exceed the standby limit. More than 88% of monitors meet the ES standard and more than 80% exceed its requirements. More information.