



## SAMSUNG Ranking = 6.3/10 – 1 = 5.3

Samsung rejoins the leaders in the Guide, rising from 13<sup>th</sup> place to 5<sup>th</sup>, as a result of one of its penalty points being lifted and improvements in its score on chemicals. It remains encumbered by one penalty point, which was first imposed in v.14 of the Guide for backtracking on its commitment to eliminate brominated flame retardants (BFRs) in new models of all products by January 2010 and PVC vinyl plastic by end of 2010. The second penalty point, served in v.15 for misleading its customers and Greenpeace by not admitting that it would not meet its public commitment until the timeline for that commitment had passed, has been lifted.

Samsung gains points on the chemicals criteria, mostly for bringing products on the market that are free from PVC and BFRs; all models of mobile phones and MP3 players are free from BFRs as of January 2010 and PVC from April 2010, all HDD models launched after April 2009 are free from PVC and BFRs and all models of digital cameras and camcorders launched after April 2010 have main PWB and cases free from BFRs and internal wires free from PVC. The housings of some TVs, and all notebooks and monitors are BFR free and since November 2007, all new models of LCD panels are PVC-free. It regains full marks for its SEC Standard after clarifying its definition of 'phase out date' and it has clarified its commitment to eliminate other toxic chemicals, like phthalates, antimony compounds and alloys and beryllium and its compounds. It continues to score poorly for its commitment to eliminate PVC and BFRs in all new models of products; Samsung provides timelines for some product groups e.g. BFRs and PVC will be removed from new models of notebooks from 1 January 2012 (a year later than before), but it no longer plans to fully phase out the use of these substances in its TVs and household appliances. Although Samsung has a statement on the revision of the EU RoHS Directive (Restriction of Hazardous Substances in electronics), it does not specify the need for RoHS 2.0 to adopt a ban on organo- chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years), as well as an end-of-life focused methodology for adding future substance restrictions.

Samsung scores well on e-waste; it reports recycling rates of 137 percent for TVs (based on past sales 10 years ago - the average life span - since when, Samsung's TV sales have increased tenfold), 12 percent for PCs (based on a 7-year lifespan) and 9 percent for mobile phones (based on a 2-year lifespan). However, to score top marks Samsung needs to put a reality check on the EU figures of e-waste recycled. It also needs to extend its take-back programme to non-OECD countries. It loses a point on its use of recycled plastic, which has reduced from 16.1 percent in 2008 to 8.5 percent in 2009, (although the proportion of post-consumer plastic has increased from 0.2 percent to 0.4 percent), with a goal to increase to 25 percent by 2025 and use a majority of post-consumer plastic.

On energy, Samsung has committed to reduce its absolute greenhouse gas (GHG) emissions, despite growth in the company's sales; it also supports the levels of cuts required globally and by industrialised countries to keep dangerous climate change in check, and it provides a certificate of verification of its GHG emissions in Korea. Samsung scores top marks (doubled) on the energy efficiency of its battery chargers, most of which exceed the latest Energy Star standard. Samsung continues to score zero for its use of renewable energy; although it now reports its use as approximately 0.23 percent globally, this is too low a rate to score; Samsung needs to boost its investment in renewable energy and set a target with a timeline to increase the percentage of renewable energy it uses globally.

## SAMSUNG Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle and support for revision of RoHS Directive.				
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 <small>(companies score double on this criterion)</small>				

# SAMSUNG Detailed Scoring

## Chemicals

Precautionary Principle and support for revision of RoHS Directive.	Chemicals Management	Timeline for PVC & BFR phaseout	Timeline for additional substances phaseout	PVC-free and/or BFR-free models (double points)
<b>PARTIALLY BAD (1+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>
Samsung supports and understands the Precautionary Principle. <b>More information.</b> However, although Samsung states that RoHS 2.0 has an important role in the phase out of PVC and BFRs it does not specifically state that RoHS 2.0 needs to adopt a ban on organo- chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years), as well as an end-of-life focused methodology for adding future substance restrictions.	Samsung scores full marks for identifying future chemicals to be targeted for elimination. <b>More information. SEC Standard (revision 13). Eco-Partner Certification Program.</b>	Samsung has backtracked on its commitment to eliminate BFRs in new models of all products by January 2010. It has communicated to Greenpeace that it will not remove PVC by end of 2010. It scores one point for its new timelines for eliminating PVC and BFRs for some product groups, but the commitment no longer covers TVs and household appliances. The timelines beyond 2010 are not acceptable. Samsung has phased out BFRs and PVC in new models of mobile phones and MP3 players. From January 2012, notebooks will be free from BFRs and PVC (except power cord and adapter). In addition, BFRs will be phased out of the main PWB and case of digital cameras and camcorders by July 2010, along with PVC in internal wires. PVC will not be used in the internal wires of TVs by January 2011; and monitors and home theatres by January 2012. <b>More information.</b>	All new models of all products will be free from beryllium from January 2013. There is an exemption on the use of beryllium in connectors and certain electronic components. Phthalates are now to be phased out in mobile phones and MP3 players by January 2011 and otherwise in the same applications as PVC from January 2013. New models of the same list of products and applications will be free from antimony trioxide from January 2013, but with 2 exemptions. For more points, Samsung needs to eliminate these substances from its whole product portfolio as well as antimony and compounds. <b>More information.</b>	All models of mobile phones and MP3 players are free from BFRs as of January 2010 and PVC from April 2010. All HDD models launched after April 2009 are free from PVC and BFRs. All models of digital cameras and camcorders launched after April 2010 have main PWB and cases free from BFRs and internal wires free from PVC. The housings of some TVs, and all notebooks and monitors are BFR free. Since 1st November 2007, all new models of LCD panels are PVC-free. Samsung has developed halogen-free memory chips and semiconductors for certain applications. <b>More information here and here.</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 GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>
Samsung supports and lobbies for IPR. <b>More information.</b> Samsung works with governments and industry associations to ensure that the appropriate legal framework is in place to facilitate IPR. <b>More information.</b> To gain top marks, Samsung will need to explore options for operationalising IPR and to continue to lobby for IPR, inter alia to ensure the revised EU WEEE legislation sets clearer requirements (enforcement criteria) for the implementation of IPR - ensuring a shift to differentiated/ individualised financing for own-brand real end-of-life costs for new WEEE.	Samsung provides voluntary take-back for its consumer electronics (except home appliances) in the US. In other countries voluntary take-back is provided for mobile phones and printer cartridges, a small part of Samsung's product portfolio. Samsung is operating mobile product collecting points through ASC (Authorised Service Centre) in India, and plans a voluntary recycling programme in Delhi, Mumbai and Bangalore in 2010. A voluntary programme is also planned for China in 2010. For more points Samsung needs to extend its voluntary take-back for all products to non-OECD countries. <b>Voluntary initiatives. Global mobile phone recycling.</b>	Samsung provides accessible information to consumers on what to do with their discarded products, especially for mobile phones and for the Recycling Direct programme in the US and now Canada. <b>More information here and here. Regional WEEE take-back schemes and contacts. Mobile phone take-back.</b>	Samsung estimates its 2007 recycling rates, based on sales and recycled amounts from Korea, Japan, Europe and North America: TVs - 137% (based on average life-span of 10 years, since when Samsung's TV sales have increased 10-fold). Computers - 12% (7 years) Mobile phones - 9% (2 years). New total data for 2009 is provided. For top marks, Samsung 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. <b>More information. Recycling amounts for 2009 by region.</b>	Samsung loses a point as the amount of recycled plastic used in 2009 has decreased from 16.1% in 2008 (15.9% post-industrial plastic and 0.2% post-consumer plastic) to 8.9% (8.5% post-industrial plastic and 0.4% post-consumer plastic), although its use of post-consumer plastic has increased. Samsung has set a target of 25% recycled plastic content out of total plastics used by 2025 and will maximise the use of post consumer recycled plastics over post industrial plastics. It needs to set intermediate targets, to monitor progress towards 2025. <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>GOOD (3+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>GOOD (3+)</b>
Samsung Electronics supports global mandatory cuts of greenhouse gas emissions of at least 50% by 2050 (from 1990 levels) and cuts by industrialised countries of at least 30% as a group by 2020. Samsung scores maximum points for also calling for global greenhouse gas emissions to peak by 2015. <b>More information.</b>	Samsung reports its global scope 1 & 2 GHG emissions of 9,115,000 tons for 2009, (down from 9,210,000 tons in 2008) and scope 3 emissions for product use, transportation and business travel. Verification is provided according to the GHG Protocol, however, the certificate needs to be more legible for Samsung to keep these points. <b>More information.</b> Samsung has set up a GHG inventory for suppliers of its LCD division; it plans to manage the GHG inventory for all suppliers in Korea in 2010, which will be extended to global suppliers by 2013. <b>More information.</b> Data is also presented in Samsung's <b>2010 Sustainability Report, p.42 - 43.</b>	Samsung aims to reduce absolute emissions of GHGs from its global manufacturing sites by 2% by 2011, from a baseline year of 2008, despite a growth in company sales. <b>More information.</b>	Samsung estimates that the amount of renewable energy used globally is approximately 0.23%, however, this is too low a rate to score. Samsung reports that in the US, Samsung Austin Semiconductor purchases 22 million kWh of renewable energy annually. In Europe, several subsidiaries use renewable energy. Samsung also states that it is seeking to increase its use of renewable energy by investing in fuel and solar cells; to score points Samsung needs to boost its investment in renewable energy and set a target with a timeline for increasing its use. <b>More information.</b>	Since November 2008 100% of Samsung models of mobile phone External Power Supplies (EPS) globally have met the latest Energy Star requirements, and 100% of these exceed the Energy Star requirements by 50% or more in no-load mode. 96% of all flat TV models globally have met the latest Energy Star requirements (version 4.1) and 100% exceed them for standby mode by 50% or more. 100% of notebook PCs met the latest ES standard and 14% exceed them for estimated annual energy consumption by 50% or more. 85% of LCD monitors have met the latest ES standard, with 100% exceeding the standards for sleep mode and off-mode by 50% or more. <b>More information here and here.</b>

## 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 first criterion has been sharpened to require companies not only to have a chemicals policy underpinned by the Precautionary Principle, but also to support a revision of the RoHS Directive that bans further harmful substances, specifically BFRs, chlorinated flame retardants (CFRs) and PVC. The criterion on Chemicals Management remains 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. In the fourteenth edition the criteria for the Precautionary Principle was made more challenging.

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

Toshiba, Samsung, LGE, Dell and Lenovo continue to be penalised in this latest version of the Guide for backtracking on their commitments to phase out vinyl plastic (PVC) and brominated flame retardants (BFRs). Toshiba is served with a further penalty point for misleading its customers and Greenpeace by not admitting that it would not meet its commitment. In addition, Microsoft is served with a penalty point for the first time for backtracking on its commitment to phase out PVC and BFRs by the end of 2010.