



## SAMSUNG Ranking = 6.1/10 - 1 = 5.1/10

Samsung drops down the ranking from 2nd place to joint 7th (tied with Sony and Motorola), as a result of a penalty point imposed for backtracking on its commitment to eliminate brominated flame retardants (BFRs) in new models of all products by January 2010 and PVC by end of 2010. Its new timeline for removing BFRs and PVC in new models of notebooks is 1 January 2011 but there is now no timeline for removing these substances in TVs and household appliances. It also loses points for failing to show support for improvements to the revised EU RoHS Directive (Restriction of Hazardous Substances in electronics); specifically, a methodology for further restrictions of hazardous substances, and an immediate ban on BFRs, chlorinated flame retardants (CFRs) and PVC vinyl plastic.

Since November 2007, all new models of LCD panels are PVC-free, important in driving the market to phase out PVC, with Samsung being the number one supplier globally. It states that all new models of mobile phones were free of BFRs by 1 January 2009 and free of PVC by 1 July 2009, and it has developed halogen-free memory chips and semiconductors for certain applications. It has also committed to eliminate phthalates and beryllium and compounds by the end of 2012 from all its products, not just from PCs, TVs and mobile phones.

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 scores top marks for using 16.1 percent recycled plastic (though only 0.2 percent is post-consumer), 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. The only criterion for which Samsung fails to score any points is renewable energy, where it needs to 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 BAD (1+)</b>
Samsung supports and understands the Precautionary Principle. <b>More information.</b> However, Samsung makes no mention of the need for RoHS 2.0 to adopt an end-of-life methodology for adding new substances and an immediate ban on organo- chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years)	Samsung scores full marks on this criterion, by also identifying future chemicals to be targeted for elimination. <b>More information. SEC Standard (revision 11). Eco-Partner Certification Program.</b>	Samsung has backtracked on its commitment to eliminate BFRs in new models of all products by January 2010 and PVC by end of 2010. It states that all new models of mobile phones were free of BFRs by 1 January 2009 and free of PVC by 1 July 2009. Timeline for removing BFRs and PVC in new models of notebooks is 1 January 2011. There are no timelines for removing these substances in TVs and household appliances. To stay on 1 point, Samsung needs to provide timelines for TVs and household appliances and clarify that PVC and BFRs have been eliminated in mobile phones as its website also states (see C5) that it is phasing out a small number of remaining BFR applications in mobile phones. <b>More information.</b>	Samsung has set a timeline for the phase out of phthalates and beryllium and compounds from new models of all products of 31st December 2012. There is an exemption on the use of beryllium in connectors and certain electronic components. Antimony trioxide is to be phased out from new models of PCs, TVs and mobile phones only, by 31st December 2012, but with 2 exemptions. For full marks, Samsung needs a similar restriction on all uses of antimony in all new product. <b>More information.</b>	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. Since 1st July 2007 all new models of mobile phones use BFR-free materials in most if not all circuit boards; housings and peripherals are BFR-free. Work is ongoing to phase out the small number of remaining BFR applications in mobile phones. In April 2009; Samsung introduced the first halogen- and PVC-free 2.5-inch mobile HDDs in the industry. <b>More information here and here.</b> Samsung has recently launched two halogen free MP3 players (M1 and R1) and two halogen free mobile phones (Blue Earth GT-S7550 and Reclaim M560). <b>More information.</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>GOOD (3+)</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 stay on 2 points Samsung should balance its statement on the current attainability of IPR. 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 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. <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). 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 by region.</b>	Samsung's current use of recycled plastics across all products is some 15.9% post-industrial plastic and only 0.2% post-consumer plastic. 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 total CO <sub>2</sub> emissions of 9,320,000 tons from its global plants in 2008, an increase of 10.6% from the previous year, due to expanded production following capital investments. <b>See Sustainability Report 2009 p.32 – 33 and p.80</b> for verification certificate. Samsung plans a GHG inventory covering the entire product life cycle in order to reduce other indirect GHG emissions (scope 3), including component suppliers, product use, logistics and disposal activities. <b>More information.</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 reports that in the US, Samsung Austin Semiconductor purchases 6% of its electricity from renewable sources. In Europe, several subsidiaries use renewable energy, comprising approximately 15% of their annual electricity consumption. 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 report use of RE as % of all electricity purchased 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 94% of these exceed the Energy Star requirements by 50% or more in no-load mode. 100% of all flat TV models globally have met the latest Energy Star requirements and 43% exceed them for standby mode by 50% or more. 100% of notebook PCs meet the latest ES standard and 12% exceed the requirement for estimated annual energy consumption 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 this edition the criteria for the Precautionary Principle has been made more challenging.

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

In versions 11 and 12 of the Guide, PC manufacturers HP, Dell and Lenovo were served a penalty point for backtracking on their commitment to eliminate vinyl plastic (PVC) and brominated flame retardants (BFRs) from their products from the end of 2009. The penalty point on HP was lifted in version 13; LGE was served a penalty point for backtracking on its timeline to eliminate PVC and BFRs in all its products by end of 2010. LGE, Dell and Lenovo continue to be penalised in this version and are joined by Samsung, who is served a penalty point for backtracking on its commitment to eliminate BFRs in new models of all products by January 2010 and PVC by end of 2010.