



### 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.

## NOKIA Ranking = 6.9/10

Nokia stays in 1st place with a total score of 6.9, dropping slightly from 7. Although its score for its support of Individual Producer Responsibility has dropped, Nokia now scores maximum points for its comprehensive voluntary take-back programme, which spans 124 countries providing almost 5000 collection points for end-of-life mobile phones. However, its recycling rate of 3-5% is very poor and more information is needed on how Nokia calculates these figures.

Nokia scores very well on toxic chemical issues, launching new models free of PVC since the end of 2005 and aiming to have all new models free of brominated flame retardants and antimony trioxide by the end of 2009.

Nokia's energy score is boosted by sourcing 25% of its total energy needs from renewable sources in 2007 and by having a target to increase use of renewable energy to 50% by 2010. Nokia commits to reduce its energy use but loses a point for not providing a commitment to reduce greenhouse gas emissions. Top marks (doubled) are given for product energy efficiency as all its mobile phone chargers exceed the Energy Star requirements by 30-90%.

### NOKIA 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				

# NOKIA 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>
Nokia's definition of the precautionary principle earns them top points.	Nokia has already phased out some harmful chemicals and identified future substances for elimination. <b>More information.</b> <b>New version (2008) of Nokia's substance list.</b>	Nokia has eliminated remaining uses of PVC. See PVC elimination case study. <b>More information.</b> Nokia aims to have all new products launched after the end of 2009 free of restricted flame retardants (all brominated and chlorinated compounds and antimony trioxide). <b>More information.</b>	Antimony trioxide, beryllium oxide and phthalates (with one exemption) are banned in mobile phones and accessories. For all Nokia products, other antimony and beryllium compounds and phthalates are expected to be reduced or gradually phased out. However, no timeline is specified. <b>More information here and here.</b>	New models are PVC-free since the end of 2005. As from January 2007, the first products without components containing BFRs have been introduced. Nokia aims to have all new products launched after the end of 2009 free of these substances. <b>More information.</b> <b>Eco-declarations provided for all Nokia products.</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>GOOD (3+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>
Nokia supports and lobbies for IPR. To regain top marks, Nokia will need to explore options for operationalising IPR. <b>More information.</b>	Take-back is offered in 124 countries, including in Africa and Latin America, with almost 5000 Nokia collection points globally. <b>More information here and here and here.</b> Nokia has announced on their Argentine website that they will soon roll out a take-back programme in Argentina. <b>More information.</b>	The information provided is very good, with addresses, phone numbers and directions to Nokia Care Centres and updates about the development of new take-back programmes. For full marks Nokia needs to resolve some minor problems with its provision of information. <b>More information.</b>	Nokia states that it gets back just 3 percent of redundant phones. But it is unclear if this is as a percentage of all Nokia sales, or all brands of mobiles returned – and over which period and geography. <b>More information here and here.</b> <b>Nokia's consumer survey to identify the fate of end-of-life mobile phones.</b>	Nokia is actively researching the use of recycled plastics, which are currently used only in packaging. <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>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>
Nokia has signed the Bali Communiqué. For full marks, Nokia needs to support specific targets (numbers) and industrialised countries cutting emissions by at least 30% by 2020. <b>More information.</b>	Nokia reports on energy consumption, direct and indirect CO2 emissions. Although it states that calculations are third party verified, neither the certificate nor information about the auditor are provided. <b>More information.</b>	Nokia is committed to reducing the overall energy use of its sites by 6% by 2012 – using data from 2006 as baseline, but there is no commitment to reduce GHG emissions. <b>More information.</b> Nokia is to set energy efficiency and CO2 emission reduction targets for key global suppliers by 2009. <b>More information.</b>	Nokia's target for renewable electricity is to cover 25% of its total needs during 2007 – 2009, increasing to 50% in 2010. The 2007 target has been achieved. <b>More information.</b>	All Nokia's new models of chargers meet or exceed the EPA's Energy Star requirements. Currently available chargers exceed the ES1.1 requirements in no load mode by between 30 and 90%. <b>More information.</b>

## SONY ERICSSON Ranking = 5.9/10

Sony Ericsson climbs to 2nd place with a score of 5.9, which it has achieved by announcing a new product 'environmental warranty', this embodies the principle of Individual Producer Responsibility by guaranteeing take-back and recycling for individual products regardless of location, although so far information for customers is limited to the US and Taiwan

It is the first company to score almost top marks on the chemicals criteria, missing this target by having unreasonably high threshold limits for brominated flame retardants in products that are allegedly BFR-free. All SE products are already PVC-free. SE has already met the challenge of the new criterion on chemicals, by banning antimony, beryllium and phthalates from new models launched since January 2008.

The company scores relatively well on energy criteria because all of its products meet and exceed the Energy Star standard. It is now reporting CO2 emissions from its own manufacturing and product transportation.

### SONY ERICSSON 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				

# SONY ERICSSON 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY GOOD (2.5+)</b>
Sony Ericsson scores top marks for defining the Precautionary Principle and its commitment to it. <b>More information.</b>	Sony Ericsson is ahead of many companies by already eliminating substances from its new products that others have only identified for future action. <b>More information. SE's pdf List of Banned &amp; Restricted Substances.</b>	All SE products are PVC free – except for cables in a few early models of chargers and accessories, and these are being phased out. All models placed on the market after 1 January 2008 are BFR free, older models may still contain BFRs in circuit boards and substrates. <b>More information. Banned &amp; Restricted Substances.</b>	Antimony, beryllium and phthalates are banned with a few exemptions for products placed on the market before 1 January 2008. In addition, antimony and its compounds are exempted in solder alloys and when bound in a ceramic matrix. SE needs to overcome the exemptions on antimony and beryllium. <b>More information.</b>	SE scores 2.5 points (doubled) on this criterion. All SE products are already PVC-free, with the exception of cables in early models of chargers. Since January 2008, all new SE models are BFR-free, but SE's threshold of 1000ppm is too high and needs to be lowered if it is to score full points on this criterion. Older models may still contain BFRs in circuit boards and substrates. <b>More information here and here. Environmental product declarations by region.</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 BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>
Sony Ericsson has launched an individual product 'environmental warranty' as part of its commitment to Individual Producer Responsibility, by which it commits to recycle its products in an environmentally sound way when any SE product is taken to any designated collection point globally, regardless of where the product was originally purchased. <b>More information.</b> For full marks, SE needs to provide details of operationalisation of IPR.	Sony Ericsson has initiated its new 'environmental warranty' programme that includes take-back and recycling in India, Taiwan, China, Thailand, Singapore USA and Mexico, with a total of 500 collection points; Sony Ericsson intends to complete this rollout by 2009 in all the countries in which it operates. However, the <b>dedicated webpage</b> only provides information for US and Taiwanese customers. <b>Product (Environmental) Declaration. (e.g. J100).</b>	Sony Ericsson intends to provide information to customers in all the countries in which it operates by 2009. Currently, full information is accessible only to customers in the USA and Taiwan. <b>More information.</b> Environmental Declarations direct customers to local SE sites with details of Service Centres for some countries (eg. Argentina, Philippines, India) but not all. Individual Product Declarations direct customers to local Service Centres. However, product take-back for recycling isn't mentioned in the information about Service Centres. <b>More information. E.g. for J100a.</b>	Sony Ericsson provides estimates of the amount of mobile phones recycled as a percentage of current (not past) sales: 2 - 13% based on sales volume and 1 - 5% based on the number of subscribers. Although this information is collected only for Europe, it is based on data from those countries where mobile phones are collected or reported separately – i.e. Spain, Sweden and Switzerland. <b>More information.</b>	No 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)
<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>	<b>GOOD (3+)</b>
Sony Ericsson signed up in support of the Bali Communiqué which calls for binding cuts of 50%. It identifies that industrialised countries need to make the greatest effort; however, no targets are specified. For full marks, SE needs to commit to concrete numbers and to industrialised countries cutting by at least 30% by 2020. <b>More information here and here.</b>	Sony Ericsson reports 2007 CO <sub>2</sub> emissions from its own manufacturing and product transportation processes of 15 200 tonnes and 228 800 tonnes respectively. <b>More information.</b>	Sony Ericsson's goal to reduce is relative, namely to cut the carbon footprint from its own activities by 15% per unit of production by 2009 and 20% by 2011, based on 2007 figures. No target for reducing absolute emissions is given. <b>More information.</b>	No information on the use of renewable energy is given.	All new models after 2005 meet the requirements of Energy Star, and "...67% are better than the EU CoC power requirements. The standby power is not more than 0.1 W for all new charger models after 2005." <b>More information.</b>

## TOSHIBA Ranking = 5.9/10

Toshiba climbs to 3rd place with a score of 5.9, gaining extra points on the energy criteria; it is now reporting its use of renewable energy (although it needs to commit to increase this with a timeline) and providing information on the percentage of TVs on the US market that meet the Energy Star standard. It continues to report that 93% of new PC platforms developed since July 07 can be configured to meet Energy Star 4. Toshiba supports global cuts in GHG emissions and greater cuts for industrialised countries; it also scores points for disclosing greenhouse gas emissions from its own operations and committing to an absolute reduction in GHG emissions.

Toshiba does well on chemicals, and gains a point for committing to introduce alternatives to phthalates, beryllium and antimony by 2012 in all its products. It has also launched models of laptops with circuit boards free from brominated flame retardants (BFRs), EcoMark-certified products without PVC, and makes other components and parts that are free from these harmful substances.

The company does not do as well on e-waste; although it reports a recycling rate of 12% for a group of 5 types of products that includes TVs, PCs and 3 types of home appliances, this rate is based on current (not past) sales and is only for Japan.

## TOSHIBA 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				

# TOSHIBA 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>
Toshiba scores top marks for committing to the total eradication of specified chemical substances, regardless of lack of full scientific certainty. <b>More information here. For PC Division see commitment 4.</b>	Toshiba has <b>Green Procurement Guidelines</b> for suppliers and ranks suppliers. <b>See pdf file.</b> Toshiba's <b>PC and Network Company Guidelines for Green Procurement v.6.</b>	Toshiba has committed to phasing out PVC and BFRs from all their products, with a timeline of 2009 – not only from their notebook PCs and mobiles. <b>More information here and here.</b>	Toshiba has committed to replace Phthalates, Beryllium and compounds and Antimony and compounds by 2012 in all its Consumer Electronic products, if alternatives are available. <b>More information. For commitment to phase out these substances in notebook PCs.</b>	Toshiba makes notebook PCs with circuit boards free of halogens and antimony and EcoMark-certified products, some of which do not contain PVC. The information can be found in ' <b>Factor T</b> ' brochure (large pdf file) (p.15 for Dynabook info and p.26 for mobile phones). <b>Halogen-free Notebook PC, the Portégé. Information on mobile phones</b> which use PVC/BFR alternatives.

## 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>PARTIALLY BAD (1+)</b>
Toshiba believes that IPR provides incentives for Design for Recycling. To regain the lost point, Toshiba needs a stronger commitment to IPR, and for full marks it needs to lobby for IPR and explore how IPR can be operationalised. <b>More information.</b>	Voluntary take-back of PCs is offered routinely in the US, but only sporadic collection events for TVs. PC take-back is also provided in Canada, South Korea, Australia, New Zealand, China, Singapore, Thailand and there are plans to initiate a programme in India in 2009. Toshiba claims to have recycling programs in regions that cover 80% of total (PC) sales volume. But what about Toshiba's other products besides PCs, like TVs that are so problematic at end-of-life? <b>More information here and here.</b> Toshiba is part of recycling joint venture MRM, together with Sharp and Panasonic, which has announced US nationwide recycling, including TVs, from Nov 1 2008, with take-back offered in 10 States so far. <b>More information.</b>	Comprehensive information to customers mainly in OECD countries with take-back programmes, almost exclusively for PCs. <b>More information.</b>	Toshiba reports its ratio of "recycling weight to the sales weight" for specified products (including TVs, PCs and 3 types of home appliances) based on current (not past) sales. For 2007, the recycling rate is 12%. Although Toshiba provides figures for the quantities recycled per product category globally, it does not provide a calculation of % recycled by product type (TVs and PCs), although this can be deduced and is below 25% per product group. <b>More information.</b> To stay on 2 points, Toshiba needs to clarify how it calculates EU recycling rates given solely collective schemes, 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.	Toshiba used 1,300 tons of recycled plastics in the manufacture of washing machines, Multi-Function Peripherals (MFPs), and other products in 2007, representing a recycled plastic ratio of 1.3%. Toshiba plans to increase the ratio of recycled plastics to up to 25% of total plastics use as part of its next voluntary plan. Toshiba also needs to provide a timeline for increasing use of recycled plastic. <b>More information. Example of recycled plastic parts used in PC case and in a Multi Function Peripheral.</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>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>
Toshiba supports global mandatory cuts in GHG emissions by over 50% and by 60-80% for developed nations (as compared to 1990 levels) by 2050. The 2050 timeline for industrialised countries is unacceptable as it allows a period of business as usual, before any action is started. <b>More information.</b>	Toshiba reports on emissions from R&D, through procurement, manufacturing, use & recycling, <b>see P.49 of CSR report 2008.</b> GHG emissions are calculated in accordance with ISO14064, but there is no third party verification. <b>More information.</b>	Toshiba has a target of reducing GHG other than CO2 by 35% and CO2 by 25% by 2010, (baseline year 1990) from 'business processes' (manufacturing). However, Toshiba does not use the baseline year specified by Greenpeace of 2006/7/8. <b>See P. 42 CSR report 2007.</b> Toshiba has a target of reducing CO2 emissions by 47% by 2012, but this is a relative 'rate to net production output'. Reduction of non-CO2 GHG emissions is 38% by 2012 for total emissions. The baseline year is 2000. <b>See P.48 CSR report 2008.</b>	Toshiba gives some examples of renewable energy at Toshiba facilities and estimates that the percentage of renewable energy used by Toshiba Groups in total is approximately 10.1%. However, this includes renewable energy supplied as part of the general Japanese power supply (10% in Japan). To stay on 2 points, Toshiba needs to set a target and timeline for increased use of RE globally. <b>More information.</b>	Toshiba reports that 93% of new PC platforms developed since July 07 can be configured to meet Energy Star 4. Toshiba needs to clarify what it understands by 'Energy Star compliant configurations'. PCs should not go out of ES compliance when consumers tweak power management settings. <b>More information.</b> Toshiba now reports that 17.6% of LCD TVs that have been introduced to the North American market since 1/7/05 are ES compliant, with 5.6% exceeding the requirements but this is information only for the US market, not globally. <b>More information.</b>

## SAMSUNG Ranking = 5.9/10

Samsung drops to 4th place but increases its score to 5.9, scoring well on chemicals and waste criteria.

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 #1 supplier globally. The company has launched partially BFR-free models of mobile phone and developed halogen-free memory chips and semiconductors for certain applications.

Samsung scores well on e-waste; it reports recycling rates of 137% for TVs (based on past sales 10 years ago, the average life span, since when Samsung's TV sales have increased 10-fold), 12% for PCs (based on 7 year lifespan) and 9% for mobile phones (based on 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 scores top marks on its use of recycled plastic, which is 16.1%, though only 0.2% is post-consumer plastic, with a goal to increase to 25% by 2008.

On energy, Samsung scores points for disclosing total GHG emissions from its operations in Korea (the majority of its operations) and double points on the energy efficiency of its battery chargers, all of which meet and 99.4% of which exceed the Energy Star standard.

### SAMSUNG 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				

# SAMSUNG 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Samsung scores top marks on its support for and understanding of the Precautionary Principle. <b>More information.</b>	Samsung scores full marks on this criterion, by also identifying future chemicals to be targeted for elimination. <b>More information.</b> <b>SEC Standard (version 11.1).</b> <b>Eco-Partner Certification Program.</b>	Full marks for providing a timeline of end of 2010 for phasing out PVC. The first totally PVC-free mobile phones to be launched in April 2008. All new models of LCD panels are PVC-free since November 2007. <b>More information here.</b> Timeline for phasing out BFRs in all new models is January 2010. <b>More information.</b>	Samsung has set a timeline for the phase out of phthalates and antimony trioxide from new models of PCs, TVs and mobile phones only, of 31st December 2012. Beryllium oxide is not used. Restrictions on antimony and beryllium copper are under consideration. To score higher, Samsung needs to expand the scope of products to which the substance bans apply. <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. The housings of all mobile handsets and peripherals are BFR-free. In June 08, Samsung released the SGH-F268 model of mobile phone which is totally free of BFRs and PVC in both the phone and its accessories. <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 GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>GOOD (3+)</b>
Samsung supports and lobbies for IPR. To regain top marks, Samsung will need to explore further options for operationalising IPR. <b>More information.</b>	Samsung now provides voluntary take-back for all its products 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. For more points Samsung needs to extend its voluntary take-back for all products to non-OECD countries. <b>Voluntary initiatives.</b> <b>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, here and here.</b> <b>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.</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. To stay on 3 points, Samsung needs to bring forward its timeline for increasing use of recycled plastic. <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>
Samsung refers to the reductions required by the Kyoto Protocol but does not mention support for greater global mandatory cuts in GHGs in the next phase of the Kyoto process. <b>More information.</b>	Samsung reports on total GHG emissions from its operations in Korea (the majority of its operations) of 8,21 million tonnes/year. There is no reporting of product supply chain emissions and no verification. <b>More information.</b>	In 2000, SAMSUNG Electronics signed a Korean government-initiated Voluntary Agreement on reducing green house gases. As part of this Catch CO2 project, Samsung is to reduce GHGs by 45% from 2001 levels by 2010 (per unit production basis). There is no target for absolute reduction of GHG emissions. <b>More information.</b>	No information.	Since January 2006, 100% of Samsung models of mobile phone External Power Supplies on the market globally have met the latest Energy Star requirements, and 99.4% of these have exceeded the Energy Star requirements by 50% (@ 115V) or more on the no-load mode. All Samsung mobile phone EPS already comply with California's Amended Appliance Efficiency Regulations effective from July 1st, 2008. A high percentage of other Samsung products also meet and exceed the Energy Star requirements: TVs, Monitors, PCs, Printers, Scanners and All in One Devices. <b>More information.</b>

## FUJITSU-SIEMENS Ranking = 5.7/10

Fujitsu Siemens Computers increases its score to 5.7 points but drops to 5th place, just behind Toshiba and Samsung. FSC gains extra points for its use of renewable energy and commitment to increase this by 2020. On the other energy criteria, FSC gets top marks for its political support for global cuts of greenhouse gas emissions. It also scores points for reporting that 27% of consumer PCs meet the Energy Star 4 standard, 75% of Business Line professional notebooks and 58% of PCs meet ES4. Of these models, 100% exceed the Energy Star requirements by 26 – 57%.

FSC sells a range of green-certified products, which use halogen-free flame retarded plastics and halogen-free circuit boards for mainboard and power supply. FSC has finally put a timeline of end of 2010 for the complete elimination of PVC and BFRs in all its products.

FSC scores relatively poorly on the e-waste criteria. The only voluntary take-back service offered by FSC is in South Africa. The company reports a recycling rate of 22.5% for Germany based on past sales, using a 7-year average lifespan of a computer, and over 30% in 13 other countries where its products are sold

## FUJITSU-SIEMENS 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				

# FUJITSU-SIEMENS 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>
FSC's definition of the precautionary principle recognises the need to eliminate potentially harmful substances "even if the full extent of harm has not been definitively established". <b>More information.</b>	Fujitsu Siemens provides comprehensive lists of banned and restricted substances, materials specifications and associated documents and gets top marks. <b>More information.</b> <b>Environmental Guideline FSC03230.</b> <b>List of prohibited substances.</b>	FSC gives a timeline of the end of 2010 for complete elimination of PVC and all BFRs, provided technically feasible alternatives are available. <b>More information.</b>	FSC does not use beryllium. Antimony will be phased out when BFRs are eliminated as its use is linked to BFRs; phthalates will be eliminated with the phase out of PVC, both to be phased out by the end of 2010. FSC loses a point as it also needs to ban the use of phthalates in applications other than PVC, such as adhesives and coatings. <b>More information.</b>	Fujitsu Siemens Computers sells a range of green-certified products such as its FUTRO thin clients, ESPRIMO professional PCs and CELSIUS workstations. 'Green Products' use halogen-free flame retarded plastics and halogen-free circuit boards for mainboard and power supply. PVC is not used in the housing or mechanical parts. <b>More information.</b> <b>Green models.</b> <b>History of green products.</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>BAD (0)</b>
FSC makes a <b>clear statement</b> in support of Individual Producer Responsibility, but fails to explore options for operationalisation of this principle and to actively lobby for it.	FSC has started a take-back programme in South Africa and plans to extend its voluntary take-back service to the whole EMEA region (Europe, Middle East and Africa). NOTE, the FSC brand is only marketed in EMEA. <b>More information here and here.</b>	FSC now provides a list of recycling schemes in 32 countries, mostly in Europe, but also South Africa, Taiwan and USA (for its business customers there). <b>More information.</b> It also provides an e-mail address for countries outside EU. <b>More information here and here.</b> <b>Information about its 'recycling hub' in South Africa.</b>	FSC is now reporting a recycling rate of 22.5% in Germany and over 30% in 13 other EMEA countries, based on past sales, using a 7-year PC lifespan. Additional figures from the other EMEA countries will be available in 2009. FSC should provide more information on how the calculations are made, given that in EU, recycling of e-waste is financed collectively by current market share, and may not represent what actually comes back into the collective recycling systems. <b>More information.</b> <b>2007-2008 Environmental Report</b> (p.14-16).	FSC states that it does not use recycled plastic in its products, although it uses recycled plastics for corporate gifts. <b>More information.</b> However, FSC's 03230 Guideline (Section 3.2.2 Material Requirements for Plastic Products, p.6) states: "...the plastic products utilised should consist of at least 5 % by weight of recycled plastics." <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>BAD (0)</b>	<b>BAD (0)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>
FSC states that it "clearly supports global mandatory cuts of Greenhouse Gas emissions of at least 50% by 2050 (from 1990 levels) and cuts by industrialized countries of at least 30% as a group by 2020." <b>More information.</b>	FSC reports on energy consumption at its Augsburg manufacturing site in Germany only. There is no information on emissions from 2 stages of product supply chain. <b>More information.</b>	FSC has documented significant relative reductions in emissions of CO2 since 2001, but makes no concrete commitment to further cuts of absolute emissions. <b>More information.</b>	At least 15 % of FSC's purchased electricity in 2007 was generated by renewable energy sources and it has a target to increase its use of RE to 20% by 2020. <b>More information.</b>	FSC reports that 27% of consumer PCs meet Energy Star 4, 75% of Business Line professional notebooks and 58% of PCs meet ES4. Of these models, 100% exceed the Energy Star requirements by 26 – 57%. <b>More information.</b>

## LG ELECTRONICS Ranking = 5.7/10

LG Electronics remains in 6th position, but increases its score to 5.7, gaining extra points for energy efficiency of its products; LGE reports that 100% of its chargers exceed the Energy Star standard (v.1.1) by 50%, and data provided for energy efficiency of TVs is for models introduced since the latest Energy Star standard, which came into effect July 2005.

LGE has launched new models of mobile phones with halogen-free housings, packaging and main printed wiring board. It now provides a timeline of 2012 for eliminating phthalates and antimony – but only in new models of mobile products.

LGE scores well on e-waste by starting 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%, but without a timeline. 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.

### 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)
<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
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. <b>More information.</b>	LGE's product specs in the Manual for Preparation of Environmental Regulations earn them top marks. <b>More information here and pdf here.</b> LGE's substance list includes future substances to be reduced, including beryllium and antimony.	The first PVC-free products are to be launched in 2008; the remaining uses of PVC are to be phased out by the end of 2010. All new models released in 2010 are to be BFR-free. <b>More information.</b>	The use of phthalates and antimony will be prohibited in new mobile products from 2012. Beryllium 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. <b>More information.</b>	Mobile phones now have halogen-free housing, packaging and main printed wiring board. <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 GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>
LGE supports individual producer responsibility, although it recognises that for IPR to be operationalised, technically and economically feasible identification solutions are needed. To stay on 2 points, LGE needs to provide evidence of lobbying for IPR and make efforts to operationalise IPR. <b>More information.</b>	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. <b>More information.</b> LGE has a nationwide recycling program in the US for LG, Zenith and GoldStar brands of TVs, computer monitors and other consumer electronics products. <b>More information.</b> To stay on 2 points, LGE needs to provide voluntary takeback of more product types and in more non-OECD countries. <b>Info about takeback of other end-of-life products.</b>	<b>Information</b> to customers on what to do with discarded mobile phones. <b>Information on other discarded products here.</b> <b>Information on take back of consumer electronics other than mobile phones in the US here.</b>	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. <b>More information.</b> 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%, but with no timeline. To stay on 2 points, LGE needs to provide a timeline for increasing use of recycled plastics to 25%. <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>
LGE makes no reference to support for global mandatory cuts of GHG emissions. <b>More information.</b>	LGE reports GHG emissions of 464,449 tonnes in 2007 from its Korean operations. Verification of these emissions is in progress. LGE reports that an inventory of emissions from overseas manufacturing units and part of the product supply chain will be complete by the end of 2009. <b>More information.</b>	LGE has no commitment for absolute reduction of emissions of GHG. LGE has reduced some 5000 tons of GHGs at its Chang-Won facility and will begin reduction activities for all its other domestic facilities. <b>More information.</b> More details of LGE's plan for reducing energy costs are in its 2005 sustainability report (p. 20). <b>More information.</b>	LGE gives some examples of its use of renewable energy. Solar panels at one of its 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. <b>More information here and here.</b>	All LGE mobile phone chargers launched since January 1, 2005 meet the Energy Star standard and exceed the requirements of the ES standard by more than 50%. All LGE's PCs launched since July 2007 meet ES4 and 40% exceed the sleep mode by 30% and 27% exceed the standby mode standard by 30%. More than 85% of monitors meet the ES standard and more than 80% exceed its requirements. For TVs, around 90% of products satisfy the ES standard and more than 30% exceed. <b>More information.</b>

## MOTOROLA Ranking = 5.3/10

Motorola climbs to joint 7th place, up from 15th, with a score of 5.3 points, gaining points on chemicals by finally setting a goal to eliminate PVC and BFRs in all products introduced after 2010, joining the other mobile phone brands in the ranking that make this commitment. Motorola also scores relatively well on the other chemicals criteria; it has launched 59 models of mobile phone with BFR free circuit boards.

It also gained points on energy efficiency for providing information that approximately half of all new external power adapters (chargers) met the Energy Star requirements and 100% of these exceed the requirements for standby/no-load modes by 50%, since the standard came into force. On the other energy criteria Motorola scores relatively well for disclosing greenhouse gas emissions, committing to cuts and reporting a 5.4% renewable energy use (as proportion of all electricity purchased) in 2007, although it needs to commit to increase the use of renewable energy with a timeline.

On waste issues, Motorola scores well for its take-back and recycling service in 73 countries, representing over 90% of global mobile phone unit sales. It reports a global take-back rate of 3% of total handsets sold in 2005 but it needs to explain how its EU figures are calculated.

## MOTOROLA 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				

# MOTOROLA 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Motorola has a definition of the precautionary principle which identifies precautionary measures to be taken. <b>More information.</b>	Motorola provides a list of banned and reportable substances in its Global Common Specification No. 12G02897W18 (updated 15 May 2008) <b>More information.</b> <b>As a pdf.</b>	Motorola has now set a goal to eliminate PVC and BFRs in all new designs introduced after 2010, with such products available in 2010. <b>More information.</b>	Motorola has now set a goal to eliminate phthalates in all new designs introduced after 2010, with such products available in 2010. <b>More information.</b> Antimony and compounds and Beryllium and compounds are listed as reportable in Motorola's list of banned and reportable substances. <b>More information.</b>	Motorola lists 59 models of mobile phone whose circuit boards are free of BFRs. No models free of PVC are listed. Moreover, Motorola's product portfolio includes home network equipment (e.g. set top boxes, wireless routers) and network equipment (e.g. base stations), as well as walkie-talkies. <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 BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>BAD (0)</b>
Motorola supports Individual Producer Responsibility, but there is no reference to the need for brand differentiation and no evidence of active lobbying for IPR. Motorola needs to improve its understanding of individual producer responsibility. It confuses responsibility for products that Motorola sells with shared responsibility of stakeholders. <b>More information.</b>	Motorola offers recycling services in 72 countries, representing over 90% of global mobile phone unit sales. Motorola also operates take-back services for network equipment, on request. In the US it is now taking back modems, routers and cordless phones. Motorola has extended its Ecomoto take-back programme to Argentina. <b>More information.</b>	Information is provided to individual customers in the countries where Motorola offers voluntary programmes. <b>More information.</b> Motorola also gives a list of the equipment other than mobile phones it takes back in a few countries eg: India, Malaysia. <b>More information.</b> Modems, routers and cordless phones can be returned with a pre-paid mail label in the US. <b>More information.</b> Motorola has added information about extending its Ecomoto take-back programme to Argentina, on its Argentine website.	In 2007 Motorola's global take-back rate was an estimated 3% of total handsets sold in 2005. The end-of-life mobiles are collected via regulatory and voluntary programmes, including Motorola's own 'bring back' events. Although Motorola provides the source of data for calculation, there is no explanation of how EU figures were calculated. To stay on 2 points, Motorola 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 country – and provide indications of how it intends to expand this sampling in the future. <b>More information.</b>	One of Motorola's product design goals is to increase the use of recycled materials in its products. However, no examples or quantities are given. <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 GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>
Motorola makes no reference to supporting global mandatory cuts of GHG emissions. <b>More information.</b>	Motorola calculates that direct and indirect greenhouse gas emissions were 375,324 tonnes CO2 equivalent. Motorola's emissions are reported annually, audited and verified by the Financial Industry Regulatory Authority, through the Chicago Climate Exchange. However, there is no data about product supply chain emissions. <b>More information.</b>	As a founding member of the Chicago Climate Exchange (CCX), a voluntary emissions-reduction program, Motorola has committed to a 6 percent reduction in its absolute greenhouse gas emissions by 2010, compared with 2000 – not 2006-2008 baselines specified by Greenpeace. <b>More information.</b>	Currently 9.7 percent of Motorola's total electricity purchases are from renewable energy sources. Motorola will continue to try to increase use of renewable energy globally. Motorola needs to commit to a target and timeline for increasing RE use globally. <b>More information.</b>	From January 2005 to March 2007, approximately half of all new external power adapters (chargers) met the Energy Star requirements and 100% of these exceed the requirements for standby/no-load modes by 50%. All new chargers released since March 2007 meet or exceed these requirements. <b>More information.</b>

## SONY Ranking = 5.3/10

Sony drops to joint 7th place with the same total score of 5.3. Sony does relatively well on chemicals, its score boosted by having models on the market that are partially free of PVC and BFRs, including three models of video recorders and many models of the Personal Computer VAIO, "WALKMAN", Camcorder and Digital camera.

On waste issues, Sony scores relatively well for its voluntary take-back and recycling of the e-waste generated by its branded products, although not much in non-OECD countries. It reports a recycling rate of 53% based on past sales of TVs and PCs, but this information is only for Japan.

On energy Sony still has room for improvement; it scores points for disclosing externally-verified greenhouse gas emissions for over 200 sites, reporting on its use of renewable energy (1.02% as a proportion of total electricity use) in 2006 and committing to absolute cuts in GHG emissions. Sony is now reporting on energy efficiency: all AC adapters of "VAIO" PCs meet the requirements of California's Energy Efficiency Regulations. However, the reporting period for energy efficiency of PCs is incorrect and Sony has yet to report on compliance with the Energy Star standard for all of its TV models, put on the market since July 2005.

## SONY 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				

# SONY 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>PARTIALLY GOOD (2+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>
Sony scores 2 points for stating that it will take steps to reduce, substitute and eliminate the use of substances that are potentially hazardous to the environment. <b>More information.</b>	Sony provides information in SS-00259 (7th edition, March 2008) Management Regulations and Green Partner programme to ensure implementation of the Regulations. <b>More information here and here.</b>	Sony provides a timeline of end of 2010 to substitute PVC in all new models of Mobile products (excluding accessories), and BFRs in the casing and main PWBs of all new models of Mobile Products. <b>More information.</b>	Sony is working to eliminate specific phthalates used as a plasticiser in PVC, although a timeline for all products isn't specified. <b>More information.</b> Sony has banned beryllium oxide from April 2008 with exemptions, although beryllium copper is listed as a controlled substance with no timeline for elimination. Antimony is not listed. <b>More information.</b>	Sony has examples of products that are partially free of PVC and BFRs, including three models of video recorders, many models of the Personal Computer VAIO, "WALKMAN", Camcorder, Digital Camera and Digital Photo Frames. These models are free of PVC in the casings and internal wiring and free of BFRs in casings and main printed wiring boards. <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 GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Sony scores 2 points on this criterion because it 'respects' rather than supports the principle of Extended Producer Responsibility - rather than Individual Producer Responsibility (IPR). Sony needs to provide information on what it is doing to lobby for IPR and its operationalisation. <b>More information.</b> Sony is a member of the European Recycling Platform established to implement IPR. <b>More information.</b>	Sony has now established a nationwide recycling program in the US, together with WM Recycle America. To stay on 2 points, Sony needs to expand its take-back programme in non-OECD countries. <b>More information.</b> All Sony handheld products are accepted for recycling, and notebook PCs can be traded in, at its Sony Style stores across Canada. 25 non-retail locations accept all Sony products for recycling at no charge. <b>More information.</b> <b>Sony offers battery take-back and recycling in Brazil, Australia and New Zealand.</b>	Sony provides information to individual customers in the EU, US (including on batteries) and Japan, but not in Canada. <b>More information.</b> <b>Also see Sony Take Back Recycling Program website for the US.</b>	In fiscal 2007, Sony recovered 68,133 tons of resources from e-waste from Japanese consumers, which included end-of-life TVs and PCs, equating to a "resource reuse/recycling ratio of around 54% based on average lifespan of TVs and PCs. But this figure is only for Japan. <b>More information.</b> Sony reports on the amounts of WEEE and batteries collected in N. America, recycling rates for TVs and PCs in Japan and recycling volumes for batteries in Asia & Australia. <b>More information here and here.</b> <b>Recycling in Europe and ERP</b>	Sony currently uses approximately 2,000 tons recycled plastics annually in various products. Sony has set its reused/recycled materials ratio targets at 12% or higher. Although Sony commits to increasing its use of recycled plastic, it has yet to provide a timeline for increasing recycled content to 12%. <b>More information.</b> <b>Sony describes the development of its resource conservation system.</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>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Sony fails to score more points because the Tokyo Declaration it co-signed uses a baseline year of 2000 (not 1990) and fails to differentiate between the higher cuts in GHG emissions required by industrialised countries. <b>More information.</b>	Sony discloses third party verified GHG emissions totalling approximately 22.52 million tons in fiscal 2007, up approximately 7% from fiscal 2006. The increase in GHG emissions was due primarily to an increase of approximately 8% in CO2 generated during product use. <b>More information here and here.</b> <b>Methods and approach. Verification is detailed.</b>	Sony is committed to reducing emissions from business sites by 7% or more by 2010, but uses emission data from 2000 as baseline – not 2006-2008 baselines specified by Greenpeace. Data and targets could be presented more clearly. <b>More information here and here.</b>	In Japan the Sony Group has finalised a contract for 55.45 million kWh annually using the Green Power Certification System, equivalent to around 2.5% of the Group's total power use. In Europe, 9 Sony sites are fully powered by renewable energy, representing 43% of Sony's total energy consumption in Europe. Since April 2008, four of Sony's US sites are buying renewable energy (approx 50 million kWh in 2008). <b>More information.</b> Sony needs to commit to a target and timeline for increasing RE use globally.	All AC adapters of VAIO PCs meet the requirements of California's Energy Efficiency Regulations. Although Sony reports on VAIO models meeting Energy Star 4 requirements, it is for new models launched April-August 2008, and not all models launched since 20 July 2007, when ES4 came into effect. Ten out of eleven BRAVIA TVs released in Japan earn a 5 star energy rating under Japanese standards. <b>More information.</b>

## PANASONIC Ranking = 5.1/10

Panasonic increases its score to 5.1 points and rises up the ranking to 9th place from 11th, because it now scores maximum points for energy efficient products; 100% of External Power Supplies for mobile phones for the Japanese market, which are only sold in Japan, meet the Energy Star requirement and exceed it in no load mode by approx. 85%. For TVs 99.2% of its main models launched in 2005 meet Energy Star and 64% exceed by 50%; 100% of PCs launched since 2007 meet the latest Energy Star standard and 30% exceed. Panasonic discloses externally-verified greenhouse gas (GHG) emissions from its own operations and commits to absolute reduction in emissions.

It earns most of its points on chemicals issues; its many models of PVC-free products include DVD players and recorders, home cinemas, video players and lighting equipment. Panasonic gives two examples of products free of BFRs – fluorescent ceiling lamps and a kitchen lamp. Despite putting these PVC-free and BFR-free products on the market, Panasonic has yet to commit to fully eliminating all PVC and BFRs in its full product portfolio.

The company scores poorly on all the e-waste criteria. Voluntary take-back so far does not cover all of Panasonic's product groups but this will be partly addressed by voluntary take-back for TVs in the USA which will eventually be nationwide.

## PANASONIC 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				

# PANASONIC 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>PARTIALLY GOOD (2+)</b>
Panasonic endorses the Precautionary Principle as defined in the 1992 Rio Declaration. <b>More information here and here.</b>	Panasonic's web pages on chemicals management contain a lot of detailed information. <b>Summary explanation on management of chemical substances here.</b> <b>More information here and here.</b> <b>Chemical Substances Management Rank Guidelines Ver.5</b> (for Products)	Panasonic has committed to eliminating PVC in internal wiring of all products for the Japanese market by end of March 2009 and globally by the end of March 2011. No timelines yet for substitution of PVC external cables and other applications. All new models of mobile phones and computers should be free of BFRs by 2011, but there is no commitment to eliminate BFRs from Panasonic's whole product portfolio. <b>More information.</b>	Panasonic states that its commitment to eliminating PVC will reduce or eliminate the use of phthalates, used primarily as softeners in PVC. Likewise, use of antimony trioxide will be reduced as BFRs are eliminated. No timelines are given. <b>More information.</b> Beryllium is a Managed Substance whose use (above 1000 ppm) needs to be monitored. However, no time line for total elimination. <b>More information.</b>	<b>Examples of PVC-free models</b> including cameras, DVD recorders and LCD projectors. Panasonic gives two examples of products free of BFRs – fluorescent ceiling lamps and a kitchen lamp - & are manufacturing halogen-free printed wiring boards for certain applications and markets. <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 BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Panasonic supports Extended Producer Responsibility in its <b>global policy</b> and demonstrates this by creating recycling companies in Europe and in the US. But it is not fully committed to supporting Individual Producer Responsibility (IPR) as it consistently confuses financial IPR with physical IPR and IPR with Collective Producer Responsibility on its website and in presentations – even though it DOES support EPR clearly. <b>Panasonic ppt on IPR.</b>	Voluntary take-back programmes are not worldwide and do not cover all Panasonic's product groups, mainly mobiles, PCs and toner cartridges. Panasonic's recycling services for PCs now offered in countries where 95% of sales of new PCs. Panasonic has announced US nationwide recycling, together with Sharp and Toshiba including TVs, from Nov 1 2008, with take-back offered in 10 States so far. <b>More information here and here.</b> <b>Information on the different regions.</b>	Information to customers is available in European countries with EPR laws and for electronics, batteries and toner cartridges in US. However, the webpages are difficult to navigate and hence the information is not easy to access. <b>More information here, here and here.</b>	Panasonic provides data on home appliances and PCs recycled in Japan (2008) (by product weight but not as a percentage of past sales) and recycling quantities for the US (PCs, batteries and other) and Korea. <b>More information.</b> For Europe information on recycling rates (2007) based on current sales is provided, but for just a few countries. For more points Panasonic 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. <b>Recycling quantities for the US and Korea are also provided.</b>	Panasonic states that in fiscal 2008, it used 3,000 tons of recycled resin mainly in washing machines and refrigerators (the ratio of recycled resin usage was 6.8% in these products). No target for increasing use of recycled plastics. Panasonic needs to provide a target and timeline for increasing use of recycled plastic. <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>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>GOOD (3+)</b>
Panasonic refers to cuts advocated by IPCC (50% by 2050 compared to present level) and the more ambitious target of 50% cuts by 2050 compared to 1990 levels. <b>More information.</b>	Panasonic reports its total GHG emissions as 4.27 million Global Warming Potential tons (new FY2008 data). There is no data from its product supply chain. Data on GHG emissions in Japan (p10), globally (p 31) and verification (p 66) are also presented in <b>Panasonic's Environmental Data Book 2008.</b> <b>More information.</b>	Panasonic is committed to reducing the absolute amount of CO2 emissions by 300,000 tons between fiscal year (FY) 2008 to FY2010 compared to FY 2007 level. In addition it also promised to lower CO2 emissions to the level of FY 2001 by the end of FY 2011. <b>More information.</b> Targets are also presented in <b>Panasonic's Environmental Data Book 2008</b> (page 8). <b>pdf here.</b>	Panasonic reports that the renewable energy consumed in Japan in fiscal 2008 was 64,000 kWh. The figure isn't given as a percentage of electricity consumption and no targets are set. <b>More information.</b>	99.2% of TVs launched from 2005 to 2007 meet the latest Energy Star requirement and 64% exceed the standby mode requirement by 50% or more. 100% of new PCs launched in 2007 meet the latest Energy Star requirement and 30% exceed the requirements in OFF mode by 30%, and by 41% in Sleep mode. 100% of External Power Supplies for mobile phones for the Japanese market (Panasonic only sells mobile phones in Japan) meet the Energy Star requirement and exceed it in no load mode by approx. 85%. <b>More information.</b>

## SHARP Ranking = 4.9/10

Sharp climbs up the ranking from 16th place with a score of 3.1 to 10th with 4.9 points.

Sharp scores well for its policy and practice on toxic chemical issues and gains a point for providing a timeline of 2010 for eliminating phthalates and antimony. It has launched many models of LCD TVs and solar modules that are free of PVC (except accessories).

On e-waste criteria, Sharp is now supporting Extended Producer Responsibility – though not Individual Producer Responsibility. It also gains points for reporting its recycling rate in Europe. Sharp provides information to consumers in a few countries on what to do with their discarded Sharp branded products and reports on the use of small amounts of recycled plastic.

Sharp's sharp rise up the ranking is primarily due to improvements in its energy score. It scores top marks for supporting global cuts in greenhouse gas (GHG) emissions of 50% by 2050 and at least 30% in industrialised countries by 2020. Sharp discloses third party verified GHG emissions from its own operations and reports that 0.2% of the electricity generated at its Japanese production sites in 2007 and 85% of electricity used at its US sites came from renewable energy sources. Sharp's reporting of energy efficiency of its products continues to be weak.

### SHARP 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				

# SHARP 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>GOOD (3+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>
Sharp scores top marks for its commitment and understanding of the Precautionary Principle. <b>More information.</b> <b>Basic Environmental Philosophy</b> (point 2.2).	To achieve top marks Sharp needs to define the criteria for identifying substances for future elimination. <b>Manual for Survey of Chemical Substances and Green Procurement Guidelines.</b> <b>Manual for Survey of Chemical Substances Contained in Parts and Materials.</b> <b>Green Procurement Guidelines.</b>	Sharp commits to eliminate PVC and BFRs from all products by the end of 2010, provided it can find suitable alternatives. <b>More information.</b>	Sharp commits to eliminate phthalates and antimony from all products by the end of 2010, provided it can find suitable alternatives. The company has already banned beryllium, but there are many exemptions for which Sharp needs to find substitutes. <b>More information.</b>	Sharp provides a list of many models of LCD TVs and solar modules that are free of PVC, except accessories. Many models of LCD TVs, DVD projectors, audio and video products have casings free of BFRs, but none are totally free of BFRs. <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 BAD (1+)</b>	<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
In support of Extended Producer Responsibility, Sharp is taking a lead in recycling e-waste and designing more recyclable products. It is actively participating in the design of recycling systems now being considered in China and other parts of Asia. <b>More information.</b>	Sharp stays on zero as the voluntary take-back efforts to date are insufficient to score one point. <b>More information.</b> In the US, Sharp is part of US EPA's Plug-In To eCycling. Offers voluntary take-back of toner cartridges in Canada, France and Japan, and mobiles (Mobile Muster) in Australia: In Canada, Sharp also recycles old electronic equipment for a small fee, through a recycling partner, Accu-Shred. <b>More information.</b> Sharp has announced the beginning of nationwide recycling in the US, including TVs, which so far covers 10 States. <b>More information.</b>	Links to local Sharp contacts for customers in EU, US, Canada, Japan and Australia have improved with addition of phone numbers, but Sharp needs to expand takeback services so that it can serve more of its customers. <b>More information.</b>	Although Sharp provides figures for recycling of TVs, copiers, PCs & washing machines (in units and wt) as well as weight of batteries collected in Japan for 2007, it does not report this as a percentage of past (or even current) sales. <b>More information here and here.</b> Sharp also reports on amounts of used electrical products collected in Maine, Minnesota and as part of the EPA Plug-in to eCycling program. It reports on the amounts collected in Germany, UK and Czech Republic as a percentage of current sales. <b>More information.</b>	In 2007 Sharp recycled 850 tons of post-consumer plastics and has a target to increase this to 1000 tons in 2008. The data is not presented as a percentage of all plastic sourced. <b>More information here and here.</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>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Sharp contributes to a mandatory global initiative that requires industrialised countries to cut their greenhouse gas emissions at least 30% by 2020 and calls for worldwide emissions to be reduced at least 50% from 1990 levels by 2050. To stay on 3 points, Sharp needs to make its support for cuts of at least 30% in industrialised countries by 2020 more explicit. <b>More information.</b>	Sharp reports on GHG emissions from its own operations in absolute terms and per production unit. <b>More information.</b> <b>Verification details.</b> <b>Calculation standards for Envi Performance Indices.</b>	Sharp has a target to reduce relative CO2 emissions (per adjusted production unit) by 28% compared to fiscal 1990 by 2010, but for domestic production sites only. There is no target for an absolute reduction of emissions of all GHGs. <b>See CSR report 2008</b> (p.24 - 25)	Sharp estimates that 0.2% of the electricity generated at its domestic production sites in 2007 came from renewable energy sources. <b>More information.</b> In Europe some of its companies are operating on 100% renewable sources of energy and 85% of electricity used at its US sites is renewable. However, no global percentage of renewable energy use is given and there is no commitment or timeline to increase its use. <b>More information.</b>	"Most" Sharp TVs launched in or after June 2005 meet the Energy Star standards, nearly 70% of these are at least 30% more energy efficient than the baseline requirements and 30% are at least 50% more energy efficient. Sharp needs to put a percentage on TVs meeting Energy Star standards, as 'most TVs' could be just over 50%. It also needs to report on energy efficiency of other 'specified products', namely mobile phone chargers (external power supplies) and PCs (sold only in Japan). <b>More information here and here.</b>

## ACER Ranking = 4.7/10

Acer increases its score slightly to 4.7 points but drops to 11th place. It scores most points for its efforts on toxic chemicals with a commitment to phase out all phthalates, beryllium and compounds and antimony and compounds in all new products by 2012, although it does not yet have any products that are free of PVC and BFRs on the market.

Acer scores poorly on e-waste even though it is reporting a recycling rate of 31.7% based on past sales, for desktops and notebooks, but only those sold and recycled in Taiwan. It loses a point for failing to operationalise and do more lobbying for Individual Producer Responsibility.

On energy, Acer gains points for supporting global cuts in greenhouse gas (GHG) emissions of 50% by 2050 and 30% by 2020 from industrialised countries (compared to 1990 levels). It provides data on its GHG emissions in Taiwan and for reporting on the energy efficiency of its products; since 20 July 2007, 75% of Acer's notebook PCs, 10% of desktop PCs and 100% of LCD monitors have been verified as Energy Star compliant.

## ACER 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				

# ACER 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>BAD (0)</b>
Acer scores top marks on its statement on the precautionary principle that recognises the need for preventive action, even if scientific evidence is not conclusive. <b>More information.</b>	Top marks for describing the mechanisms for identifying <b>future substances of concern. Supply chain management HSF Plan.</b>	Acer pledges to prohibit PVC and BFRs from use in new products by 2009, in their <b>Hazardous Substances Free (HSF) plan. Technology assessment results.</b>	Acer has adopted a timeline of 2012 for the phase out of all phthalates, beryllium and compounds and antimony and compounds in all new products. Certain phthalates are to be phased out by 2009. <b>More information.</b>	No PVC-free or BFR-free models on the market. <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 BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>
Acer supports and actively strives for IPR. For top marks, Acer needs to provide examples of where it is doing advocacy and details of operationalisation of IPR. <b>More information.</b>	Acer provides take-back services where required to do so by national EPR laws. Exceptions are some US states and Canadian provinces where Acer provides contacts to SVTC and to recyclers and India, where Acer now takes back and recycles for free. <b>More information.</b>	Recycling information provided for EU, Japanese, Taiwanese, Indian and US customers only. <b>More information here, here and here for India.</b>	Acer now reports a recycling rate of 29.8% in 2007 based on past sales, for desktops and notebooks sold and recycled in Taiwan. However, the percentage given is in relation to the disposal rate. Also, the data is only for Taiwan. <b>More information.</b>	Currently no Acer products contain recycled plastics, however Acer is following technological advancements in applications of secondary plastics. <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>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>	<b>PARTIALLY GOOD (2+)</b>
Acer supports the reduction targets proposed by the EU, which are to cut GHG emissions by at least 50% by 2050 globally and 30% by 2020 from industrialized countries (compared to 1990 levels). To score full marks Acer needs to support cuts of at least 30% by 2020 from industrialised countries. <b>More information.</b>	Acer reports on its GHG emissions from its operations in Taiwan, including two subsidiaries that in total emitted 25,680 CO <sub>2</sub> equivalent tonnes in 2007. Acer plans to extend this reporting in stages to its global operations, and to its supply chain, through the Supply Chain Leadership Collaboration (SCLC) of the Carbon Disclosure Project (CDP). <b>More information.</b>	Acer expects to finalize its mid- and long-term GHG reduction targets in winter 2008. <b>More information.</b>	A global survey will be conducted in 2008 on purchasing renewable energy. Acer is also assessing the feasibility of using renewable energy such as solar power and wind power in its global operations. <b>More information.</b>	Since Energy Star published its updated standards on July 20, 2007, 65% of Acer's notebook PCs, 19% of desktop PCs and 100% of LCD monitors have been verified as Energy Star compliant. Computers need to leave the factory with the highest settings for energy efficiency. <b>More information.</b>

## DELL Ranking = 4.7/10

Dell has been dropping down the ranking from 5th place in v.8, to 8th in v.9 and now is in 12th position, albeit with the same score of 4.7 points.

On chemicals, the company earns points for putting on the market the first 'Halogen-Reduced' products, including a desktop with a motherboard containing halogen free laminates and halogen free chassis, a notebook with motherboard made of halogen-free laminates, halogen-free chassis plastics and fan housings and several monitors with halogen free boards and chassis. However, Dell loses points for withdrawing from its commitment to eliminate all PVC plastic and brominated flame retardants (BFRs) by the end of 2009.

On waste, Dell loses a point for failing to operationalise the principle of Individual Producer Responsibility. It reports a recycling rate of 12.4%, based on sales 7 years ago.

On energy Dell gets points for reporting that over 42 % of laptops and 57 % of desktops (consumer and client) introduced since 20 July 2007 offer configurations that meet or exceed Energy Star requirements. Dell also scores points for disclosing its GHG emissions from global operations, gaining an extra point for getting the emissions third party verified. Dell is now reporting that in 2008 approximately 3.7% of its directly purchased electricity globally was from renewable sources – but the information is buried in its reply to the Climate Disclosure Project (CDP) questionnaire.

### DELL 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				

# DELL 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>
Definition of precautionary principle reflects need to eliminate potentially harmful chemicals even without full scientific certainty of cause and effect and earns Dell top marks. <b>More information.</b> and <b>here.</b>	Dell's chemicals management programme lists substances targeted for substitution and explains how it manages its supply chain to achieve its substitution goals. <b>Guidance Document on Restricted Materials.</b> <b>More information.</b>	Dell loses points because there is no longer the timeline of 2009 for eliminating PVC. <b>More information here and here.</b>	Dell has identified Antimony, Phthalates and Beryllium as substances of concern. They are not currently restricted. See p.4 Guidance Document on Restricted Materials. <b>More information.</b>	No products are fully free of PVC and BFRs, but Dell has now launched some "Halogen-Reduced" products. The Studio Hybrid desktop has a motherboard containing halogen free laminates and halogen free chassis. Also, several monitors with halogen free boards and chassis: (E2009W, E2209W & E1909W monitors). <b>More information.</b> The Latitude E4200 notebook has a motherboard made of halogen-free laminates, as well as halogen-free chassis plastics and fan housings. <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 GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>BAD (0)</b>
<b>Strong support for IPR and legislation embracing IPR.</b> For top marks, Dell needs to explore options for the operationalisation of IPR i.e. brand differentiation by sampling of return share and continue lobbying for IPR. <b>Policy accessed from here.</b> Additional info on Dell's support of IPR in the US is given in its <b>Corporate Responsibility Report 2008</b> , see p73 – 74.	Dell is striving for a free global voluntary takeback service and has added Columbia, Middle East and Hong Kong. It now provides takeback services in 71 countries, having expanded its service in Mexico and Brazil. <b>More information here. p.73 2008 CSR Report. Worldwide Asset Recovery Services Map.</b>	Information provided to Dell's individual customers, but not yet worldwide: <b>More information.</b>	Dell scores 2 marks for reporting a 2006 recycling rate of 12.4%, based on sales 7 years ago. Dell's recycling rate does not include e-waste recycled via collective programmes in the EU. p.82 of <b>CSR report.</b> To stay on 2 points, Dell 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.</b> Dell reports that 61 million kg of WEEE recycled in 2008, up from 53.4 million kg in 2007. <b>More information.</b> Figures are presented in their 2008 sustainability report (p.81 - 82). For Michael Dell's challenge, see p. 73. See CSR report above.	Dell provides a few models of products with 25% or more recycled plastic content, but provides no info on what these models use in terms of % of total plastics sourced and no target and timeline for increasing use. In May 2008, Dell launched the <b>E207WFP</b> monitor which features external chassis with more than 25% post-consumer recycled plastic content (by weight). <b>More information.</b> Several Monitors with 25%+ post consumer content have recently been introduced: (E2009W, E2209W & E1909W Monitors) <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 GOOD (2+)</b>	<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>
Dell's climate strategy is aligned with the fundamental elements of the Kyoto Protocol. However, Dell does not identify support for mandatory cuts of GHG emissions. <b>2008 Sustainability Report, see p.57. More information.</b>	Dell reports third party verified Scope 1 and 2 GHG emissions and also emissions from business travel (Scope 3) in <b>2008 Sustainability Report</b> (pp.58, 62 and 107). <b>More information.</b>	Dell's goal is to reduce its carbon intensity by 15 percent by the year 2012 (based on 2006 levels), but no goal for absolute cuts in GHG emissions. See pp 57-58 of <b>2008 Sustainability Report.</b>	Dell reports that in FY2008 approximately 3.7% of its directly purchased electricity globally was from renewable sources. The information is hidden in its reply to the CDP (Climate Disclosure Project) questionnaire and needs to be made more prominent. Dell also needs to commit to a target and timeline for increasing the use of renewable energy globally. See <b>See Carbon Disclosure Project.</b>	50% of laptop models and 63% percent of desktop models introduced since July 20, 2007 meet or exceed Energy Star requirements. Dell needs to clarify what it understands by 'Energy Star compliant configurations'. PCs need to leave the factory with the most energy efficient settings, which should not go out of ES compliance when consumers tweak power management settings. <b>More information here and here.</b>

## HP Ranking = 4.5/10

HP drops to 13th place because its score has dropped to 4.5 points, losing points on e-waste for failing to operationalise the principle of Individual Producer Responsibility and for its weak voluntary take-back programme, which is mainly oriented towards its business rather than individual customers. The company gains points for reporting a reuse and recycling rate in 2007 of 15% of relevant sales, although more information is needed on how this is calculated, and for some use of recycled plastics.

On chemicals, although HP provides a timeline for eliminating polyvinyl chloride (PVC) plastic and all brominated flame retardants (BFRs) by 2009, it is only in computing equipment – not for its entire product portfolio. HP has yet to put on the market products that are entirely free from the worst substances.

HP discloses externally verified greenhouse gas emissions from its own operations and estimates the supply chain greenhouse gas emissions of 80% of its first tier suppliers. It scores top marks for its goal to reduce GHG emissions of operations and products to 25 percent below 2005 levels by 2010. HP gains a point for reporting its use of renewable energy as 2% of global energy consumption and for reporting that more than 87% of HP Notebook PC platforms and 32% of Desktop PC platforms offer Energy Star compliant configurations.

## HP 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				

# HP 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>
HP's definition of Precautionary Principle reflects the need to eliminate potentially harmful chemicals even without full scientific certainty of harm . <b>More information.</b>	HP scores top marks on its chemical management. <b>More information.</b> <b>General Specification for the Environment.</b>	HP's goal is to eliminate all remaining uses of BFRs and PVC from new computing products as technologically feasible alternatives become readily available. It expects to achieve this goal for new computing products – but not for entire product portfolio - launched in 2009. <b>More information.</b>	Beryllium and beryllium compounds, and phthalates have been identified for future possible restriction but no timeline for their elimination is given. There is no reference to antimony. <b>More information here and here.</b>	No HP products are completely free of PVC or all BFRs. Although no BFRs are used in external casings, they are still used in the circuit boards. Some products are free of PVC except for external cables. Substitution of BFRs and PVC in these key applications is needed before substantial progress is recognised. <b>More information.</b> <b>Information about other products.</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>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>
HP supports and lobbies for IPR. <b>More information here and here.</b> In Europe, Hewlett Packard is a founding member of the European Recycling Platform that supports IPR. <b>More information.</b> To regain top marks, HP will need to explore options for operationalising IPR and continue lobbying for IPR.	Most of HP's voluntary take-back programme is only for business customers. HP recently stated that it has no intention of launching a comprehensive consumer take-back programme in Argentina. For PC hardware take-back, major gaps in Africa and South America and most take-back services in Asia are for corporate customers only. <b>More information here and here.</b> <b>Trade in and product reuse.</b>	HP only scores one point as it fails to provide information to its individual customers in Latin America, Africa, India, New Zealand, but the information provided is good and accessible. <b>More information here and here.</b> <b>Info on a range of options (asset recovery, donation).</b>	HP reports a reuse and recycling rate in 2007 of 15% of relevant sales, and no longer includes consumables in the calculation. <b>More information.</b> More information is needed on how the 15% is calculated, specifically for the EU where companies currently pay for recycling collectively, by current market share. To earn more points, HP 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.	HP used more than 5 million pounds (2,300 tonnes) of recycled plastic in its original HP inkjet cartridges in 2007, and has committed to using twice as much in 2008. <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>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
HP supports the IPCC recommendation that global GHG emissions be reduced by well below half of the emission levels in 2000 by the middle of this century, but does not differentiate the need for greater cuts by industrialised countries. <b>More information.</b> HP is a signatory of the Bali Communiqué. For top marks, HP needs to support concrete global targets (numbers) and cuts by industrialised countries of at least 30% by 2020. <b>More information here and here.</b>	HP reports its GHG emissions from its operations, estimates its supplier GHG emissions and reports on product transport. HP could score full marks, but it estimates – and only estimates - the supply chain GHG emissions of just 80% of their first tier suppliers. <b>More information.</b> <b>Details of emissions from operations.</b> <b>External verification details.</b> HP recently delivered on its goal to report emissions from first-tier suppliers by reporting that in 2007, the aggregated carbon dioxide equivalent (CO2e) emissions associated with more than 80% of first-tier manufacturing expenditures totalled approximately 3.5 million metric tons. <b>More information here and here.</b>	HP's overall goal is to reduce the combined energy consumption and associated GHG emissions of HP operations and products to 25 percent below 2005 levels by 2010. <b>More information.</b> HP aims to reduce GHG emissions from HP-owned and HP-leased facilities worldwide to 16 percent below 2005 levels by 2010. HP provides detailed information on its use of 2005 as a baseline year <b>(see footnote #2)</b> Though the number of HP's employees increased 10 percent in 2007, its global GHG emissions from operations decreased 5 percent in absolute terms and 17 percent per unit of revenue. <b>More information.</b>	HP reports that it purchased 50 million kWh of renewable energy credits in the US in 2007, representing 2% of its global energy consumption. <b>More information.</b> HP has announced renewable energy initiatives in its facilities, research and products to support a new goal to double the company's global purchases of renewable power from under 4 percent in 2008 to 8 percent by 2012. <b>More information.</b>	HP reports that more than 87% of HP Notebook PC platforms and 32% of Desktop PC platforms introduced since July 2007 offer ENERGY STAR® compliant configurations. HP needs to clarify what it understands by 'Energy Star compliant configurations'. PCs need to leave the factory with the most energy efficient settings, which should not go out of ES compliance when consumers tweak power management settings. <b>More information.</b> <b>HPs products that qualify for ENERGY STAR®</b>

## 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.

## PHILIPS Ranking = 4.1/10

Philips drops from 12th place to 15th, scoring 4.1, reduced from its overall score of 5.1 points because it keeps the penalty point incurred in v.8, due to regressive lobbying against the principle of Individual Producer Responsibility in an EU consultation on the revision of the WEEE Directive. Philips previously incurred a penalty point for its membership of the Electronic Manufacturers' Coalition for Responsible Recycling in the US. This coalition has now been dissolved. Philips also scores zero on most of the other e-waste criteria, but gains a point for reporting on the recycling rate of the e-waste it collects in Europe.

Philips scores well on both toxic chemical and energy issues. On chemicals, Philips has committed to eliminating all phthalates and antimony by December 31 2010. Beryllium and its compounds are already restricted and arsenic is to be phased out of TV glass and other display products from 2008.

Philips score on energy drops by a point because the figure of "approximately 10%" renewable energy in its total electricity mix in 2007 is too vague. The company supports mandatory cuts in greenhouse gases by industrialised countries of at least 30%. It continues to score the highest marks of all the ranked brands on energy criteria, disclosing externally verified carbon dioxide equivalent emissions and committing to absolute cuts in its operational carbon footprint by 25% by 2012 (using a baseline year of 2007). Although Philips scores well on energy efficiency, reporting that some 71% of all TV models put on the US market after 2005 met the Energy Star standard, these data are only for US models and not all their new models globally.

### PHILIPS 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				

# PHILIPS 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>BAD (0)</b>
Philips' definition of the Precautionary Principle now identifies the need to take preventative measures without full scientific certainty. <b>More information. Sustainability Report.</b>	Philips scores top marks for providing Product and Process Specs, criteria for identifying 'future substances' for elimination and examples, namely 'reported' substances. <b>More information. Restricted substances in Products list. Restricted substances in Processes list. Criteria for identifying 'future' substances for phase out. List of "reported" substances.</b>	Philips aims to have certain models of consumer products free of PVC and BFRs by the end of 2008 and to phase out PVC and all BFRs in new models by the end of 2010. Philips has eliminated BFRs in TV housings for the EU market. <b>More information.</b>	All phthalates and antimony will be eliminated by December 31 2010. Arsenic is to be eliminated from TV glass and other displays from 2008. <b>More information.</b> Beryllium and its compounds are already restricted with a threshold of 1000 ppm, but include exemptions. <b>More information.</b> Philips needs to overcome the exemptions on beryllium.	Green Flagship products are listed but there are no examples of BFR free or PVC free products. <b>More information. See Sustainability Report 2007</b> (p84-85).

## 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>BAD (0)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>
Philips believes that the concept of producer responsibility does not exclude shared systems and shared responsibilities for actions. <b>More information.</b> However, Philips scores no points on this criterion and keeps the penalty point incurred inv.8 and v.9, because it has been lobbying against the principle of Individual Producer Responsibility in a consultation on revision of the EU WEEE Directive. <b>More information.</b> Philips previously incurred a penalty point for its membership of the Electronic Manufacturers' Coalition for Responsible Recycling in the US. This coalition has now been dissolved. <b>More information.</b>	No voluntary take-back offered by Philips, although in the US Philips lists local recyclers for customers to contact. Philips is to start pilot projects for voluntary product recycling in 2008 in India and early 2009 in Brazil and Argentina. <b>More information here and here.</b>	Philips provides general advice to customers on recycling, contacts for recyclers in the EU, and a search tool to locate recyclers courtesy of the Consumer Electronics Association in the US. <b>More information here and here.</b>	Philips reports amounts (in tons) of end-of-life displays recycled in EU with a recycling rate of 65% in 2007, 47% in 2006, and 26% in 2005, based on an average lifespan of 10 years. Philips scores 1 point, as the data is at least partly based on sampling return rates in some EU countries, although in other countries this data is based on current market share. To earn more points, Philips needs to extend the geographical coverage of its reporting and 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.</b>	No information is given on use of recycled plastics.

## 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>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>
Philips supports cuts of 50% of global emissions by 2050, and states that mandatory cuts of at least 30% by 2020 are needed in industrialised countries. <b>More information.</b>	Philips discloses its CO2 equivalent emissions to be approximately 2.35 million tons that are verified by KPMG in its Sustainability Report. Some of these emissions are from supply chain inbound logistics. For top marks, emissions from a second stage of the product supply chain (scope 3) are needed. <b>More information. Sustainability Report 2007</b> (pp.24-25 and 68-96).	Philips is committed to reducing its operational carbon footprint by 25% by 2012, using 2007 as a baseline. <b>More information here and here.</b>	Approximately 10% of purchased electricity in 2007 was generated by renewable sources. The figure of approximately 10% is too vague to score 2 points. By 2012, the number of sites that use green electricity should be raised to the level needed to achieve the 25% carbon footprint reduction target by 2012. <b>More information.</b>	Some 71% of all TV models put on the US market after 2005 met the Energy Star standard. But data are only for the US market. <b>More information.</b> 10% of Philips current battery chargers models fulfil the Energy Star requirements. These models exceed the technical Energy Star requirements by 5-15%. <b>More information.</b>

## LENOVO Ranking = 3.7/10

Lenovo drops from 14th position to 16th as its score drops to of 3.7 points, mostly lost on the e-waste criteria. Lenovo now has a take-back programme in the US and reports a recycling rate of 2.16% of the weight of products shipped in 2007 and 7.74% of the weight of products shipped in 2000. However, Lenovo loses a point as almost 80% of that data is based on the amount of EU e-waste whose recycling was financed by Lenovo – by current market share – and may bear no relation to the amount of Lenovo branded e-waste actually recycled. It also loses a point for failing to provide information to individual customers about its take-back & recycling programme, which is mostly aimed at business customers, while its competitors continue to improve their services to individual customers.

Lenovo scores well on most of the toxic chemical criteria. Although it has recently put on the market a monitor largely free of brominated flame retardants and PVC vinyl plastic, this one model is insufficient to score a point. It also needs to commit to the phase out of beryllium (including alloys and compounds), antimony and its compounds and all phthalates.

Lenovo scores poorly on the energy criteria; it discloses greenhouse gas (GHG) emissions from global operations in 2007, although these are not externally verified. It also scores points on energy efficiency, for having all global models of notebook, desktop and monitor introduced since the effective date of Energy Star 4 meeting the current Energy Star requirements, either in the basic models or as an option. However, Energy Star compliance is not supplied as standard for all models; for some models, customers can opt for non-Energy Star compliant PCs.

## LENOVO 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				

# LENOVO 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>
Lenovo scores top marks on its definition of the Precautionary Principle in its new <b>Environmental Report 07/08 (p. 6)</b>	Lenovo's Engineering Specification 41A7731 reflects its commitments on eliminating PVC and BFRs and lists Reportable Substances that include Beryllium, antimony and their compounds. <b>More information here and here</b>	Lenovo's target for elimination of all uses of PVC and BFRs by 2009 earns the company top marks, in its <b>Environmental Report 07/08 (p.6/7)</b> . See also <b>suppliers letter</b> .	Antimony, beryllium and most phthalates are listed as reportable substances, which may be candidates for further restrictions in the future. The threshold for reporting is 1000 ppm except for beryllium that is 200 ppm, due to the requirements of European recyclers. <b>More information. pdf file (p.15-16)</b> .	It's good to see Lenovo bringing out one model of monitor, ThinkVision L2440x wide, with trace levels (less than 900ppm) of PVC and BFRs. But, information about this model is not available on Lenovo's Environmental Data Sheets page. <b>More information.</b> To score on this criterion, Lenovo needs to bring out more models of monitors and PCs free of BFRs and PVC. <b>Information on ThinkVision L2440x wide monitor 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 GOOD (2+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Lenovo supports IPR legislation that allows manufacturers to recover their own brand products. However, for more points, Lenovo needs to provide examples of where it is doing advocacy and details of operationalisation of IPR. <b>See new Environmental Report 07/08 (p. 9).</b>	Voluntary take-back is offered in 56 countries where Lenovo sells products directly, but not in countries where re-sellers sell its products. Moreover, some take-back services are time-limited <b>e.g. Thailand.</b> <b>More information.</b> Product take-back has been extended in <b>India.</b> Lenovo now has a free take-back programme in the US. <b>More information.</b>	Lenovo provides take-back information to both business and individual customers in countries where the company sells its products directly. Lenovo loses a point as most of its information is for business customers only. <b>More information. Information about Lenovo's free take-back programme in the US.</b>	Lenovo recycled 2.16% of the weight of products shipped in 2007 and 7.74% of the weight of products shipped in 2000. The majority of this was EU e-waste for which Lenovo financed the recycling based on current market share. To earn more points Lenovo 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. <b>See Environmental Report p.11-13</b>	Recycled resins, ranging in recycled content from 10% to 50%, are used in a number of Lenovo hardware applications. See p. 8, Environmental Report. In 2007/8, 1% of the total plastic used came from recycled sources. Lenovo's goal is to use 4% post consumer recycled plastics in 2008/2009. <b>See p.5-6, Environmental Report.</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>PARTIALLY BAD (1+)</b>
Lenovo does not refer to support for global mandatory reductions in GHG emissions. <b>More information. See p.8. Environmental Report.</b>	Lenovo reports GHG emissions of 73,566 metric tons from global operations in 2007; this includes scope 1 and 2 emissions, and scope 3 emissions from employee travel. No reference to external verification. <b>See p. 14 18 Environmental Report.</b>	Lenovo has pledged to increase carbon efficiency by 10% by 2012 based on 2007 emissions. However, these reductions are not absolute. <b>More information. See p.14 Environmental Report.</b>	Lenovo estimates that over 10% of its total electricity usage comes from renewable sources, as the majority of its electricity usage is in China, where 17% of electricity comes from renewable sources. However, other than this, the percentage of renewable energy that Lenovo has invested in is not given and there is no global target for increasing its use. To score points on this criterion, Lenovo needs to report on renewable energy use sourced through its own efforts. <b>See p.18. Environmental Report.</b>	All Lenovo notebook, desktop and monitor global models introduced since the effective date of Energy Star 4 satisfy the current Energy Star requirements, either in the basic models or as an option. However, ES compliance is not supplied as standard for all models; for some models customers can opt for non-ES compliance. <b>See p. 8, Environmental Report.</b>

## MICROSOFT Ranking = 2.9/10

Microsoft remains in 17th position with an improved score of 2.9 points, which it earns mainly on the toxic chemicals criteria. The company has committed to removing PVC vinyl plastic and brominated flame retardants (BFRs) from its hardware products by or before 2010, and phthalates by the end of 2010.

On e-waste, Microsoft scores only on its weak support for Individual Producer Responsibility and on reporting that it financed the collection and recycling of e-waste equivalent to 17% of worldwide sales in 2007, without elaborating on how the figure was calculated. On energy, the company gets points for reporting its total carbon dioxide equivalent emissions from its own operations, and that in 2007, 24.4% of all the electricity used was from renewable sources.

### MICROSOFT 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				

# MICROSOFT 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>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>GOOD (3+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>
Microsoft has a definition of the Precautionary Principle, as defined in the UN Rio declaration. <b>More information.</b> Select Precautionary Principle Word file. (may require software)	Microsoft lists its Chemical Specifications and a procedure for identifying future substances for elimination. <b>More information.</b> See Section D, page 14 of H00594 <b>Restricted Substances Specification.</b> Suspect substances for potential future elimination include those on the Canada Environmental Protection Act Domestic Substance List and California Proposition 65 List. However, the latter List includes 100s of substances, most of which are not used by the electronics industry.	Microsoft is committed to eliminating PVC and brominated flame retardants from all of its hardware products by or before 2010. <b>More information.</b> <b>Select 'business practices' &amp; 'Sustainability Fact Sheet'</b> (may require software).	Microsoft provides a timeline of the end of 2010 for eliminating phthalates. See Section D, page 13 of H00594 <b>Restricted Substances Specification.</b> Microsoft currently restricts certain phthalates and antimony in line with the EU Toys Directive, for use in selected products such as game controllers Beryllium compounds, antimony and phthalates are all listed as reportable substances. See p.10, 11 & 12 of Restricted Substances Specification.	No products free of PVC and BFRs.

## 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>BAD (0)</b>	<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>
Although Microsoft now states that it "supports the mandatory collection and recycling of consumer electronics funded by individual producers...", for full marks, Microsoft needs to support the principle of Individual Producer Responsibility more explicitly and lobby for its operationalisation. <b>More information.</b> <b>Select 'business practices' &amp; 'Sustainability Fact Sheet'.</b>	Microsoft's Authorised Refurbisher (MAR) Programme extends the lifespan of otherwise obsolete PCs. <b>More information here and here.</b>	Microsoft provides links to various recycling initiatives by Microsoft (MAR, Digital Pipeline), other organisations (eg. CEA's myGreenElectronics) and other electronic manufacturers but it still does not provide free take-back for its own products. <b>More information.</b> <b>A link listing Microsoft's recycling partners in the EU</b> requires software to download.	Microsoft states that in 2007 it funded the collection and recycling of over 2.46 million kgs of consumer electrical and electronic goods, approximately 17% of worldwide sales in 2007. <b>More information.</b> Select 'business practices' & <b>'Sustainability Fact Sheet'.</b> To stay on one point, Microsoft needs to clarify how it calculated the figure of 17%, whether this relates to global take-back & recycling facilities or just in Europe. If only Europe, Microsoft pays for recycling historical waste by current market share and not for the actual amount recycled. So, in the European recycling schemes there is no relationship between the fee paid by Microsoft for recycling and the amount actually recycled.	Microsoft is using recycled plastics in product packaging but no details are given about its use in hardware products. <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>PARTIALLY GOOD (2+)</b>	<b>BAD (0)</b>
Microsoft now has a Climate Change Policy Statement which supports government actions to transition to a low-carbon economy. However, the need for mandatory reduction of GHG emission is not mentioned. <b>More information.</b> <b>Performance.</b>	Microsoft reports its total CO2 equivalent emissions in 2007 at 15100 metric tonnes (scope 1), 152480 metric tonnes (scope 2) and 255370 metric tonnes from employee business travel (scope 3), but these are not third party verified. <b>More information.</b> <b>Link to Carbon Disclosure Project</b> , see question 2 (b) (i) to question 2 (d), (note log in is required to view). <b>More information.</b>	Microsoft has not set specific emissions reduction targets. <b>More information.</b> <b>Link to Carbon Disclosure Project</b> , see question 3(a), (note log in is required to view).	Microsoft reports that in 2007, renewable energy supplied 24.4% of its total electricity load associated with its facilities and data centres; it is currently investigating opportunities to boost this percentage. Microsoft needs to commit to increase its use of renewable energy with a timeline in order to keep these points. <b>More information.</b> Examples of its use of renewable energy are also given <b>'Sustainability Fact Sheet'</b> (may require software).	Microsoft does not report on Energy Star compliance but states that it is collaborating with the Natural Resources Defense Council to help make the Xbox 360 more energy-efficient; energy use has been lowered by 34% from product launch in 2005 through 2008. Microsoft has committed to reduce energy consumption of the Xbox 360 by an additional 10% by 2010. <b>More information.</b> <b>'Sustainability Fact Sheet'</b> (may require software).

## NINTENDO Ranking = 0.8/10

Nintendo remains in last place with a pitiful 0.8 points out of 10, scoring zero on all e-waste criteria. The company has banned phthalates and is monitoring use of antimony and beryllium and although it is endeavouring to eliminate the use of PVC, it has not set a timeline for its phase out.

Nintendo discloses carbon dioxide (CO2) emissions from its own operations and commits to cutting CO2 emissions and other greenhouse gases by 2% over each previous year. However, Nintendo admits that an increase in business led to a 6% rise in CO2 emissions in 2006.

### NINTENDO Overall Score

	<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY GOOD (2+)</b>	<b>GOOD (3+)</b>
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				

# NINTENDO 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 BAD (1+)</b>	<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>
No reference to the Precautionary Principle. <b>More information.</b>	Nintendo has Green Procurement Standards for Suppliers, although details are not provided. No mechanism for identifying substances for future elimination or examples of these substances. <b>More information.</b> Nintendo publishes its list of 'Environment-Related Substances in its <b>CSR report (p22)</b> . <b>More information.</b>	PVC is listed as a substance 'subject to early withdrawal', although no timeline is given for its phase-out. BFRs are listed as 'substances under application control, which are monitored for content amount.' <b>More information here and here.</b> Nintendo is in the process of phasing out PVC in its packaging. <b>More information.</b>	Phthalates are listed as 'banned substances' by Nintendo on their Environment-Related Substances List. Antimony and Beryllium and their compounds and Bis (2-methoxyethyl) phthalate are listed as substances under application control. <b>More information here and here.</b>	Nintendo states that it has "endeavoured to eliminate the use of PVC. However, it continues to use PVC in certain products such as AC adapters. Details about which products avoid the use of PVC are not provided." <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>BAD (0)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>
No reference to Individual Producer Responsibility or recycling of used Nintendo products. <b>More information.</b>	Nintendo now links to the USEPA's eCycling hardware and battery recycling programmes. It also provides a phone number with business hours given in Pacific time for hardware and battery recycling. <b>More information.</b> Nintendo of Europe reports participation in recycling schemes in Germany. <b>More information here and here.</b>	Nintendo gives links to US EPA disposal and recycling pages, and provides a freephone number to call. <b>More information.</b> In the EU 'Customer Information' is available in 8 languages. <b>More information.</b>	NOE reports 2,900 tons of recycled hardware and accessories were recycled in 2007 in Germany. <b>More information.</b>	No 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)
<b>BAD (0)</b>	<b>PARTIALLY BAD (1+)</b>	<b>PARTIALLY BAD (1+)</b>	<b>BAD (0)</b>	<b>BAD (0)</b>
No information	Nintendo reports on emissions of CO <sub>2</sub> , both absolute and per unit of output for all business offices, but these are not externally verified. <b>More information.</b>	Nintendo aims to reduce CO <sub>2</sub> emissions and other greenhouse gases by 2% over each previous year. However, an increase in business led to a 6% rise in 2006. <b>More information here and here.</b>	No information	No information