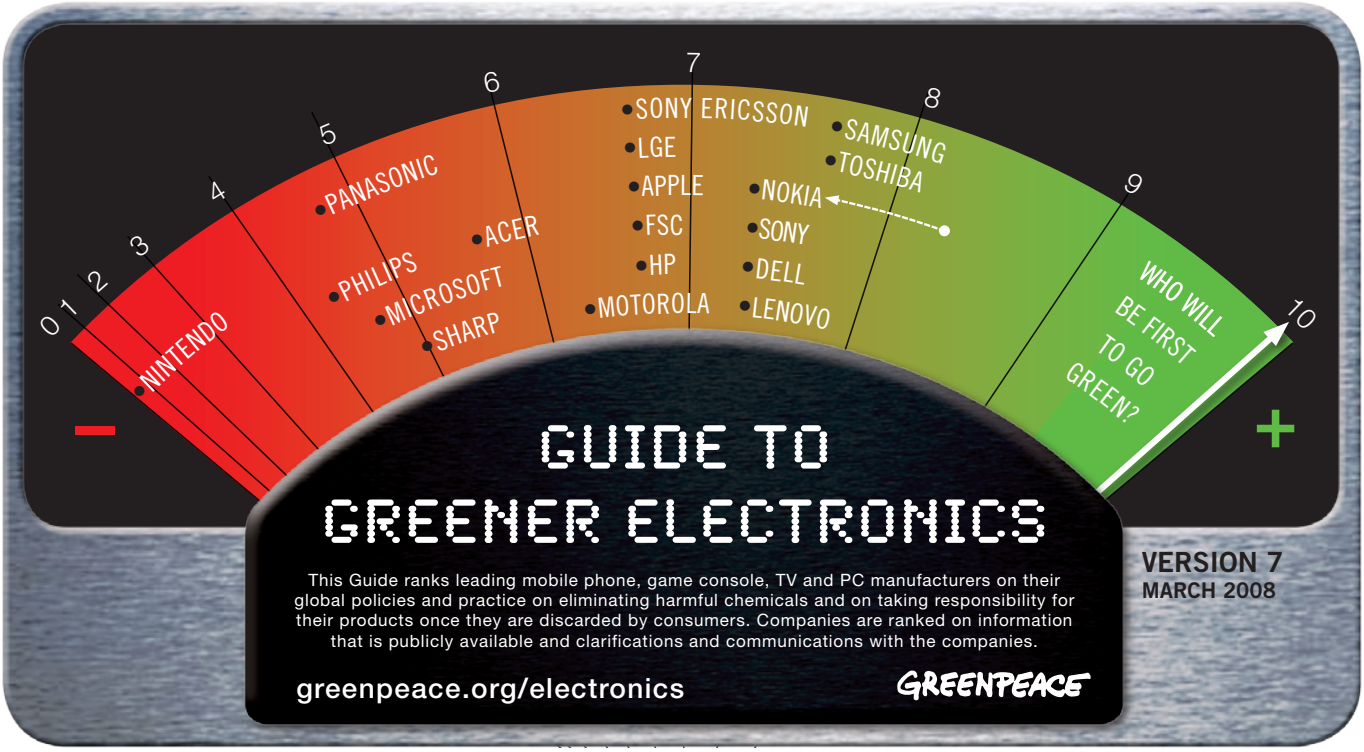


Ranking criteria explained

The ranking criteria reflect the demands of the Toxic Tech campaign to the electronics companies. Our two demands are that companies should:

- clean up their products by eliminating hazardous substances;
- takeback and recycle their products responsibly once they become obsolete.

The two issues are connected. The use of harmful chemicals in electronics prevents their safe recycling when the products are discarded. Companies score marks out of 30, which are then re-calculated to give a mark out of 10 for simplicity.

Toxic chemicals criteria

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.

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 (five criteria, double points for PVC – and BFR-free models) are weighted more heavily than criteria on recycling, because until the use of harmful substances is eliminated in products, it is impossible to secure 'safe', toxic-free recycling.

Where two companies score the same number of total points, the company with the higher score on the chemicals criteria will be ranked higher.

The electronics scorecard ranks companies on:

Chemicals policy and practice (5 criteria)

1. A chemicals policy based on the Precautionary Principle
2. Chemicals Management: supply chain management of chemicals via e.g. banned/restricted substance lists, policy to identify problematic substances for future elimination/substitution
3. Timeline for phasing out all use of vinyl plastic (PVC)
4. Timeline for phasing out all use of brominated flame retardants (not just those banned by EU's RoHS Directive)
5. PVC- and BFR-free models of electronic products on the market.

Policy and practice on Producer Responsibility for taking back their discarded products and recycling (4 criteria)

1. Support for individual (financial) producer responsibility – that producers finance the end-of-life management of their products, by taking back and reusing/recycling their own-brand discarded products.
2. Provides voluntary takeback and recycling in every country where its products are sold, even in the absence of national laws requiring Producer Responsibility for electronic waste.
3. Provides clear information for individual customers on takeback and recycling services in all countries where there are sales of its products.
4. Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled.

Click here to see more detailed information on the ranking

Ranking regrading: Companies have the opportunity to move towards a greener ranking as the guide is updated every quarter. However penalty points are deducted from overall scores if Greenpeace finds a company lying, practising 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. The guide does not rank companies on labour standards, energy use or any other issues, but recognises that these are important in the production and use of electronics products.

Ranking guide addition: 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.

For the latest version **greenpeace.org/greenerelectronics**

A penalty point has been deducted from Nokia's overall score for corporate misbehaviour as a result of Greenpeace testing of the companies' takeback practice in the Philippines, Thailand, Russia, Argentina and India.

SAMSUNG Ranking = 7.7/10

Samsung, while maintaining its score from the previous edition, has now moved from 2nd position to joint 1st. The company scores top marks on most of the chemicals criteria and is now bringing products on the market that are free from the worst chemicals; all new models of LCD panels are now free from polyvinyl chloride (PVC) plastic and all new models of mobile phones have circuit boards that are largely free from brominated flame retardants (BFRs), together with the housing and peripherals.

Samsung has also improved its reporting on the recycling of obsolete products and supplies good information to consumers on what to do with discarded products – at least for those products for which Samsung offers a take-back service. On the down side, it loses points for providing voluntary take-back of electronic waste in only a few countries and for only some product groups.

SAMSUNG Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

SAMSUNG Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Samsung scores top marks on its support for and understanding of the Precautionary Principle. **More information.**
Chemicals Management				Samsung scores full marks on this criterion, by also identifying future chemicals to be targeted for elimination, adding beryllium, phthalates, chlorinated flame retardants and antimony to the list. **Identification and management of targeted substances. SEC Standard 0QA-2049. Eco-Partner Certification Program.**
Timeline for PVC phaseout				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. **More information here.**
Timeline for BFR phaseout				Timeline for phasing out BFRs in all new models is January 2010. **More information.**
PVC-free and/or BFR-free models (companies score double on this criterion)		Since 1st November 2007, all new models of LCD panels are PVC- free. 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. Samsung has developed halogen-free memory chips and semiconductors for certain applications. **More information.**		

SAMSUNG Detailed Scoring

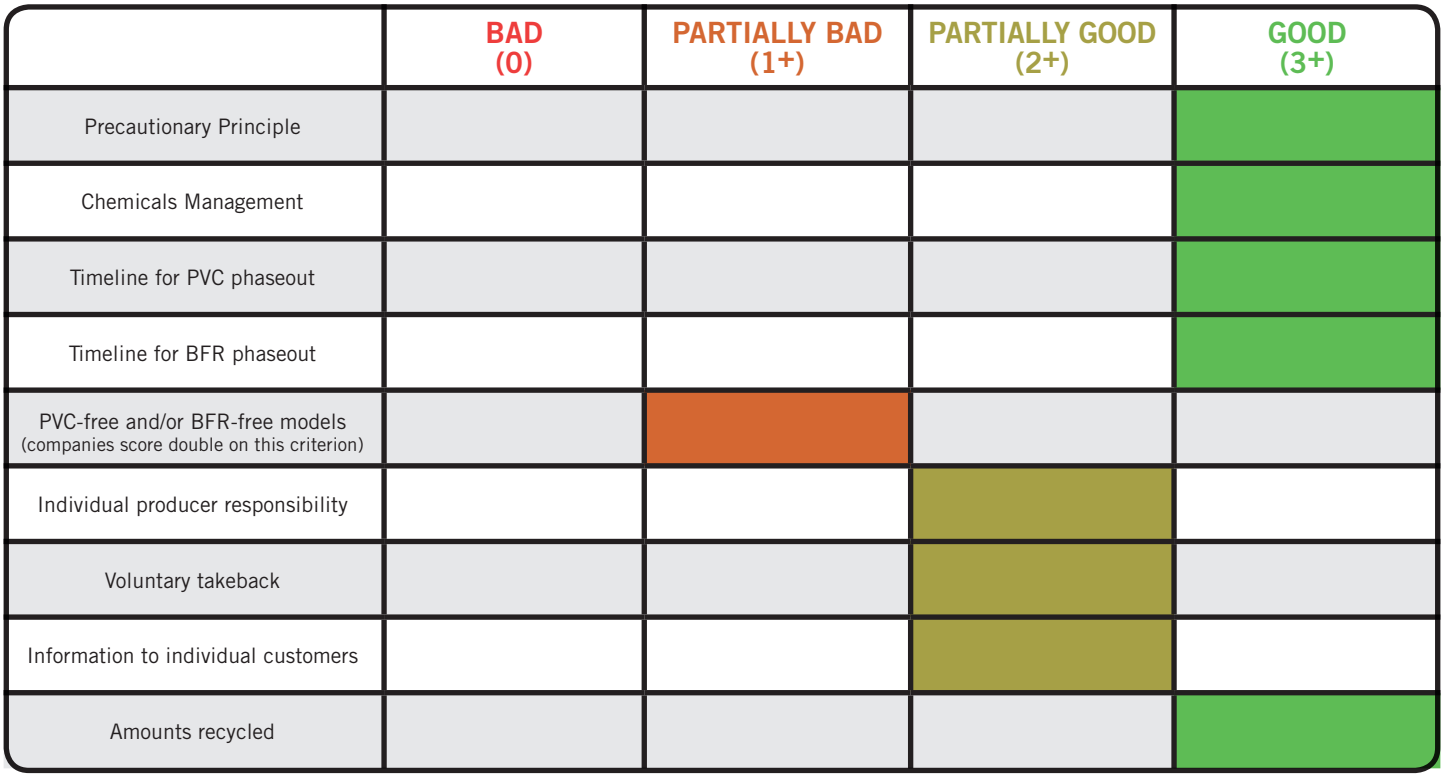
EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				Samsung scores top marks for its support for IPR. **More information.**
Provides voluntary takeback where no EPR laws exist		Samsung provides voluntary takeback only in a few countries and only for some product groups. **Voluntary initiatives. Mobile phone recycling. Regional compliance. Domestic (Korean) recycling**		
Provides info for individual customers on takeback in all countries where products are sold			Samsung scores an extra point for providing accessible information to consumers on what to do with their discarded products. **More information. Voluntary programmes. Mobile phone takeback.**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				Samsung estimates that in 2006 its recycling rate as a percentage of current sales was 5% (for all products). Samsung also started to break down the recycling volumes to product types to better evaluate its performance. Samsung reports a recycling of rate for TVs of 3.7%, PC/monitors of 10.5%, mobile phones of 4.3% and household appliances of 5%. **More information.**

TOSHIBA Ranking = 7.7/10

Toshiba has climbed up the ranking from joint 6th to joint 1st, by improving its score on Individual Producer Responsibility, whereby each company takes care of the electronic waste from its own-branded discarded end-of-life products. This is as a result of leaving the Electronic Manufacturers' Coalition for Responsible Recycling, which does not support Producer Responsibility for e-waste generated by electronic products, but is demanding that consumers pay ARFs (Advanced Recycling Fees). The company also scores well on the other e-waste criteria.

Toshiba has made commitments to phase out polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs) from its whole product range by 2009; it offers models of laptops whose circuit boards are free from BFRs, EcoMark-certified products without PVC, and provides examples of other components and parts that are free from these harmful substances.

TOSHIBA Overall Score



TOSHIBA Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Toshiba scores top marks for committing to the total eradication of specified chemical substances, regardless of lack of full scientific certainty. **More information here. See commitment #4.**
Chemicals Management				Toshiba has **Green Procurement Guidelines** for suppliers and ranks suppliers. Toshiba's **PC and Network Company**. **Guidelines for Green Procurement v.6.**
Timeline for PVC phaseout				Toshiba has now committed to phasing out PVC from all their products, with a timeline of 2009 – not only from their notebook PCs and mobiles. **More information here** and **here.**
Timeline for BFR phaseout				Toshiba is committed to phasing out all BFRs from their whole product range, with a timeline of 2009 – not only from their notebook PCs and mobile phones. **More information here.**
PVC-free and/or BFR-free models (companies score double on this criterion)		Toshiba make a range of notebook PCs including the 'Dynabook', 'Qosmio', 'Satellite', 'Tecra' and 'Portege' models that have circuit boards free of halogens and antimony. Toshiba also make EcoMark-certified products, some of which do not contain PVC. **Halogen-free Notebook PC, the Portégé.** **New information on mobile phones** which use PVC/BFR alternatives – all mobiles use PVC free coating in casings and have halogen free rigid PCBs. **Examples of products** some of whose components are PVC-free and/or BFR-free, but no product systems totally free of these substances. **Info on environmentally conscious products. 2008 version of Factor T brochure**, (large pdf file) see page 15 for Dynabook notebook computer (halogen-free and antimony-free PWB substrates and mercury-free LED backlight), page 26 for mobile phones. **Product information in Japanese here** and **here. More information in Japanese.**		

TOSHIBA Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility			Toshiba believes that IPR provides incentives for Design for Recycling. For full marks, a stronger commitment to IPR is needed. **More information**. In January 2008, Toshiba withdrew from the Electronic Manufacturers Coalition for Responsible Recycling (EMCRR).	
Provides voluntary takeback where no EPR laws exist			Voluntary take-back of PCs and TVs is offered in US. PC take-back is also provided in Canada, South Korea, Australia, New Zealand, China and Singapore. Toshiba claims to have "recycling programs in regions that cover 80% of total (PC) sales volume." **More information here** and **here.** **Info about Toshiba's new recycling joint venture MRM in US.**	
Provides info for individual customers on takeback in all countries where products are sold			Improved geographical coverage and comprehensive information to customers in those countries with takeback programmes in place. **More information. Information on US, Canada, Europe, Australia and New Zealand, Japan (in Japanese), Korea (in Korean), China (in Chinese), Singapore.**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				Toshiba now 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 2006, the recycling rate is 12.4%. Although Toshiba provides figures for the quantities recycled per product category, it does not provide a calculation of % recycled by product type, although this can be deducted from the data supplied. **More information.**

NOKIA Ranking = 8.3/10 - 1 Penalty Point = 7.3/10

Nokia rises from 9th position to 3rd, despite the fact that it retains a penalty point for corporate misbehaviour on its take-back and recycling practice. Further testing of Nokia's take-back programme by Greenpeace revealed that staff are still not informed about the take-back service in Russia and India, although the service was much improved in the Philippines and Thailand. However, Nokia has increased its score for the information it gives to customers on its take-back service.

Nokia scores well on the chemicals criteria; it has already eliminated polyvinyl chloride (PVC) plastic from new models of mobiles and is now eliminating brominated flame retardants (BFRs) from the remaining applications – in new flexible circuits. Nokia gets top marks for its support for Individual Producer Responsibility, whereby each company takes care of the electronic waste from its own-branded discarded products.

NOKIA Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

NOKIA Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				**Nokia's definition of the precautionary principle earns them top points.**
Chemicals Management				Nokia has already phased out some harmful chemicals and identified future substances for elimination, including beryllium, nonyl phenols and NPEs (nonyl phenol ethoxylates), antimony trioxide. **Nokia substance list.**
Timeline for PVC phaseout				Nokia has now eliminated remaining uses of PVC. **PVC elimination case study.**
Timeline for BFR phaseout				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). **More information.** The substance list shows that 'bromine and compounds' are being eliminated; schedule shows components where BFRs are already restricted. **More information.**
PVC-free and/or BFR-free models (companies score double on this criterion)			Nokia gives the example of the Nokia 3110 Evolve which is 99.5% free of restricted flame retardants (all brominated and chlorinated compounds and antimony trioxide) **More information.** New models are PVC-free since the end of 2005. From January 2007, Nokia will launch the first products without components containing BFRs, although some models will still contain components with BFRs. **More information.** **Eco-declarations** are provided for all Nokia products.	

NOKIA Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				Nokia scores top marks for supporting IPR. New information on this page explains Nokia's training and awareness program designed to ensure that those working in care centres operated on behalf of Nokia can take back unwanted devices and advise consumers on recycling issues. **More information.**
Provides voluntary takeback where no EPR laws exist			The number of countries covered by Nokia's take-back and recycling programme has increased in Africa, Latin America as well as the number of collection points within countries. However, not all of the links to Nokia Care Centres are currently working (eg. Singapore, Gambia, Botswana, Nigeria, Ghana) **More information.** E.g. **free mail-back for US. Greenbox, China. In Chinese.** The penalty point served on Nokia and deducted from Nokia's overall score in November 2007 stays. The penalty is for corporate misbehaviour on the company's take-back practice. Although the take-back service has improved in the Philippines and Thailand, the service is still not functioning on the ground in Russia and India.	
Provides info for individual customers on takeback in all countries where products are sold			Nokia is in the process of updating this information. Where the links work, the information provided is very good, with addresses and phone numbers of Care Centres, as well as updates about where new take-back programmes are being developed, e.g. Argentina. **More information.**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled			Nokia provides a figure of 2% for mobiles recycled, but it unclear if this is as a percentage of all Nokia sales, or all brands of mobiles returned – and over which period and geography. **More information here** and **here.**	

SONY Ranking = 7.3/10

Sony has dropped one place to 4th position. The company gets top marks for reporting the quantities of electronic waste it recycles.

The company gets a good score for providing many examples of products that are partially free from polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs), including models of the VAIO notebook, Walkman, camcorders and digital cameras. It has committed to phasing out PVC and BFRs in new models of its mobile products – from video cameras, to laptops, to digital cameras - by 2010, but Sony has not made this commitment for all its products. Sony's take-back and recycling programme has good coverage, particularly in the US, and the company provides clear information to its customers on what to do with discarded products but the company fails to do this globally.

SONY Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

SONY Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle			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. **More information.**	
Chemicals Management				Sony has set a timeline of 1st April 2008 for eliminating all uses of beryllium oxide. Information on SS-00259 (6th edition, March 2007) Management Regulations and Green Partner programme to ensure implementation of the Regulations at. **More information.**
Timeline for PVC phaseout			Sony now provides a timeline of end of 2010 to substitute PVC in all new models of Mobile products (excluding accessories). **More information.**	
Timeline for BFR phaseout			Sony scores 2 points for providing a timeline of end of 2010 to substitute BFRs in the casing and main PWBs of all new models of Mobile products by the end of fiscal 2010. **More information.**	
PVC-free and/or BFR-free models (companies score double on this criterion)			Sony has added more examples of products that are partially free of PVC and BFRs, including three models of video recorders to the many models of the Personal Computer VAIO, “WALKMAN”, Camcorder and Digital camera. These models are free of PVC in the casings and internal wiring and free of BFRs in casings and main printed wiring boards. **More information.**	

SONY Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility			Sony scores 2 points on this criterion because it 'respects' rather than supports the principle of extended producer responsibility – rather than individual producer responsibility. **More information.**	
Provides voluntary takeback where no EPR laws exist			Sony has now established a nationwide recycling program in the US, together with WM Recycle America. There is also a Sony Notebook trade-in program in the US and Canada. **More information.** **Sony offers recycling programs in Korea, Taiwan, Brazil and Australia.**	
Provides info for individual customers on takeback in all countries where products are sold			Sony provides information to individual customers in the EU, North America (including batteries) and Japan. **More information.** **Also see Sony Take Back Recycling Program website for the US.**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				In fiscal 2006, Sony recovered 36,355 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 53% based on average lifespan of TVs and PCs. **More information.** Sony also reports this 36,355 tons recycled figure as a percentage of total current sales (across all products), which is 3%, **in CSR Report 2007** (p. 15). Sony reports on the amounts of WEEE and batteries collected in N. America, recycling rates for TVs and PCs in Japan and recycling rates for batteries in **Asia & Australia**. **Figures for recycling of TVs and PCs in Japan.** **Recycling in Europe.**

DELL Ranking = 7.3/10

Dell is slowly slipping down the ranking; it loses its position at number 4 in the ranking to share joint 5th position, mainly because its score has not altered since the last ranking and it has therefore been overtaken by other companies.

The company has a strong definition of the precautionary principle, timelines of 2009 for substituting toxic polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs) and explicit support for Individual Producer Responsibility. Dell has announced its intention to provide free take-back and recycling services globally to individual consumers wherever its products are sold. Dell loses points for having no models free from PVC and BFRs on the market.

DELL Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

DELL Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				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. **More information.**
Chemicals Management				Dell's chemicals management programme lists substances targeted for substitution and provides a good description of how it manages its supply chain to achieve its substitution goals. **Guidance Document on Restricted Materials. More information.**
Timeline for PVC phaseout				Dell has **committed to eliminate all remaining uses of PVC** in new products by 2009. **An update on progress towards eliminating PVC.**
Timeline for BFR phaseout				Dell has **committed to eliminate all remaining uses of BFRs** in new products by 2009. **Update on progress towards eliminating BFRs.**
PVC-free and/or BFR-free models (companies score double on this criterion)	No products fully free of PVC and BFRs. Dell provides an **update on progress** toward eliminating PVC and BFRs. BFRs in plastic parts are eliminated for all products developed after June 2006, and PVC is prohibited in mechanical plastic parts. Environmental data sheets for products **here** and **here**.			

DELL Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				**Strong support for IPR** and legislation embracing IPR. **More information on policy. Additional info on their support of IPR in the US.**
Provides voluntary takeback where no EPR laws exist			Voluntary takeback service is planned to be virtually global, with timeline of end of 2007 for additional countries in Latin America. **More information here** and **here. Links to various countries and regions.**	
Provides info for individual customers on takeback in all countries where products are sold			Information provided to Dell's individual customers, but not yet worldwide: **Dell Recycling Program. Asset Recovery Service. Links to various countries and regions.**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				Dell scores top marks for reporting its recycling rate based on sales 7 years ago. **Dell's latest recycling results** show they are ahead of schedule to meet their 2009 goal, and report a recycling rate of 12.4% (as percentage of sales 7 years ago). Figures are presented in their **2007 sustainability report** (see p.66). **Recycling figures.**

LENOVO Ranking = 7.3/10

Lenovo drops from number 4 to joint 5th position, and has been overtaken by other companies, having made no changes on any of the criteria since the last ranking.

The company has good chemicals policies and commitments to eliminate all uses of polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs) by 2009. Lenovo offers an extensive take-back and recycling service, but it has weaknesses, such as the time-limited take-back offer in Thailand. Lenovo also still fails to score any points for providing models on the market that are free of PVC and BFRs.

LENOVO Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

LENOVO Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Lenovo scores top marks on its definition of **Precautionary Principle** in **Sustainability Report 06/07** (p.41)
Chemicals Management				Lenovo's Engineering Specification 41A7731 reflects its commitments on eliminating PVC and BFRs. **More information.**
Timeline for PVC phaseout				Lenovo's target for elimination of all uses of PVC by 2009 earns the company top marks, in **Sustainability Report 06/07** (p.41). See also **suppliers letter.**
Timeline for BFR phaseout				Lenovo's target for elimination of all BFRs by 2009 earns the company top marks, in **Sustainability Report 06/07** (p.41). See also **suppliers letter.**
PVC-free and/or BFR-free models (companies score double on this criterion)	Lenovo provides Product Environmental Data Sheets, but no products are free of PVC or BFRs. **More information.**			

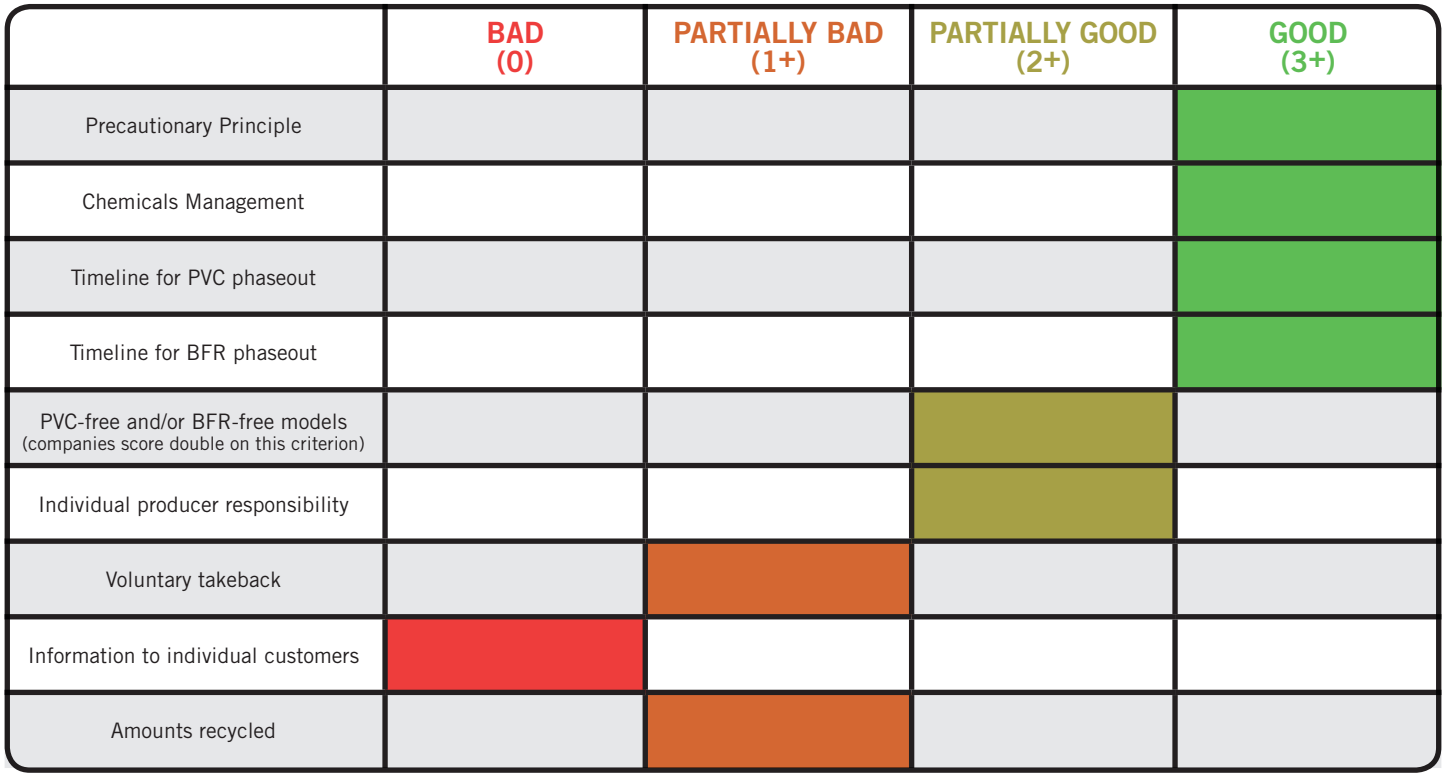
EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				Lenovo scores top marks for their IPR position and for support for legislation, in **Sustainability Report 06/07** (p.44)
Provides voluntary takeback where no EPR laws exist			Voluntary take-back is offered in 57 countries where Lenovo sells products directly, but not in countries where re-sellers sell its products. Moreover, some take-back services are time-limited **e.g. Thailand. More information.** Product take-back has been extended in **India.**	
Provides info for individual customers on takeback in all countries where products are sold			Lenovo provides takeback information to both business and individual customers in countries where the company sells its products directly. **More information.**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				Lenovo recycled 1.5 % of the weight of product shipped in 2006, and 11.8 % of the weight of products shipped in 1999.Take-back is hampered by many of its business customers selling their e-waste to other companies and the fact that Lenovo's global sales operations are only three years old. **See Sustainability Report 06/07** (p.45-46)

SONY ERICSSON Ranking = 6.7/10

Sony Ericsson drops from 1st position to 7th, as a result of losing points on its e-waste policy and practice. The company states strong support for the Precautionary Principle but needs to show more explicit support for Individual Producer Responsibility. The company only reports on the quantities of obsolete phones recycled in Europe and does not calculate this figure as a percentage of past sales.

It scores well on the chemicals criteria with a timeline of 1st January 2008 for eliminating brominated flame retardants (BFRs) in two remaining applications and the same timeline for substituting phthalates, beryllium and some uses of antimony compounds. Although phthalates have been eliminated, substitutes for the other substances are still being developed. All new models of mobiles put on the market since 2006 are free from polyvinyl chloride (PVC) plastic.

SONY ERICSSON Overall Score



SONY ERICSSON Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Sony Ericsson scores top marks for defining the Precautionary Principle and their commitment to it. **More information.**
Chemicals Management				Sony Ericsson is ahead of many companies in already setting timelines to eliminate substances that others have only identified for future action. The company is to eliminate phthalates, beryllium and some uses of antimony compounds by 1st January 2008. **More information. SE's pdf List of Banned & Restricted Substances.**
Timeline for PVC phaseout				All SE products are PVC free – except for cables in a few early models of chargers and accessories, and these are being phased out. **More information. Banned & Restricted Substances.**
Timeline for BFR phaseout				Two remaining uses of BFRs have still to be phased out. Otherwise, most models are now BFR-free. **More information. SE's List of Banned & Restricted Substances.**
PVC-free and/or BFR-free models (companies score double on this criterion)			All SE products are now PVC-free, with the exception of cables in early models of chargers; and BFR-free with two exemptions for which substitutes are still being developed. **More information. Environmental product declaration W300 example.**	

SONY ERICSSON Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility			Sony Ericsson believes in the idea of "taking responsibility for our own products" but no explicit support for the principle of Individual Producer Responsibility. **More information.**	
Provides voluntary takeback where no EPR laws exist		Sony Ericsson does not provide a list of countries where it offers voluntary takeback. Instead its Product Declarations inform customers to contact local SE representatives. Testing of SE's takeback by Greenpeace revealed that no takeback services are offered in Thailand, Russia, Argentina or India. **More information. Product (Environmental) Declaration** (e.g. J100). **USEPA's Plug-In To eCycling.**		
Provides info for individual customers on takeback in all countries where products are sold	Information on what customers should do with their discarded mobiles is not provided by country. Instead, Product Declarations direct customers to local SE representatives. **More information. E.g. for J100. Info for US customers.**			
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled		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, but this information is collected only for Europe. **More information.**		

LG ELECTRONICS Ranking = 6.7/10

LGE is down from joint 6th to 8th position, having lost a point on its reporting of the quantities of end-of-life products it recycles; it has made no progress on any of the other criteria since the last ranking.

LGE scores well on all the chemicals criteria and has also launched models of mobile phones with components free from brominated flame retardants (BFRs). It also scores well for its policy on Individual Producer Responsibility and has improved its voluntary product take back and recycling efforts, but LGE needs to provide more take-back services for discarded products other than mobile phones.

LG ELECTRONICS Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

LG ELECTRONICS Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				LGE provides a strong definition of the precautionary principle reflecting the need to take action to eliminate harmful chemicals even though their effects may not be scientifically proven. **More information.**
Chemicals Management				LGE's product specs in the Manual for Preparation of Environmental Regulations earn them top marks. **More information here** and **pdf here.** LGE provides a substance list that includes **future substances to be reduced**, including beryllium and antimony.
Timeline for PVC phaseout				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. **More information here.**
Timeline for BFR phaseout				All new models released in 2010 are to be BFR- free. **More information here.**
PVC-free and/or BFR-free models (companies score double on this criterion)		Mobile phones now have halogen-free housing, packaging and main printed wiring board. **More information here** and **here.**		

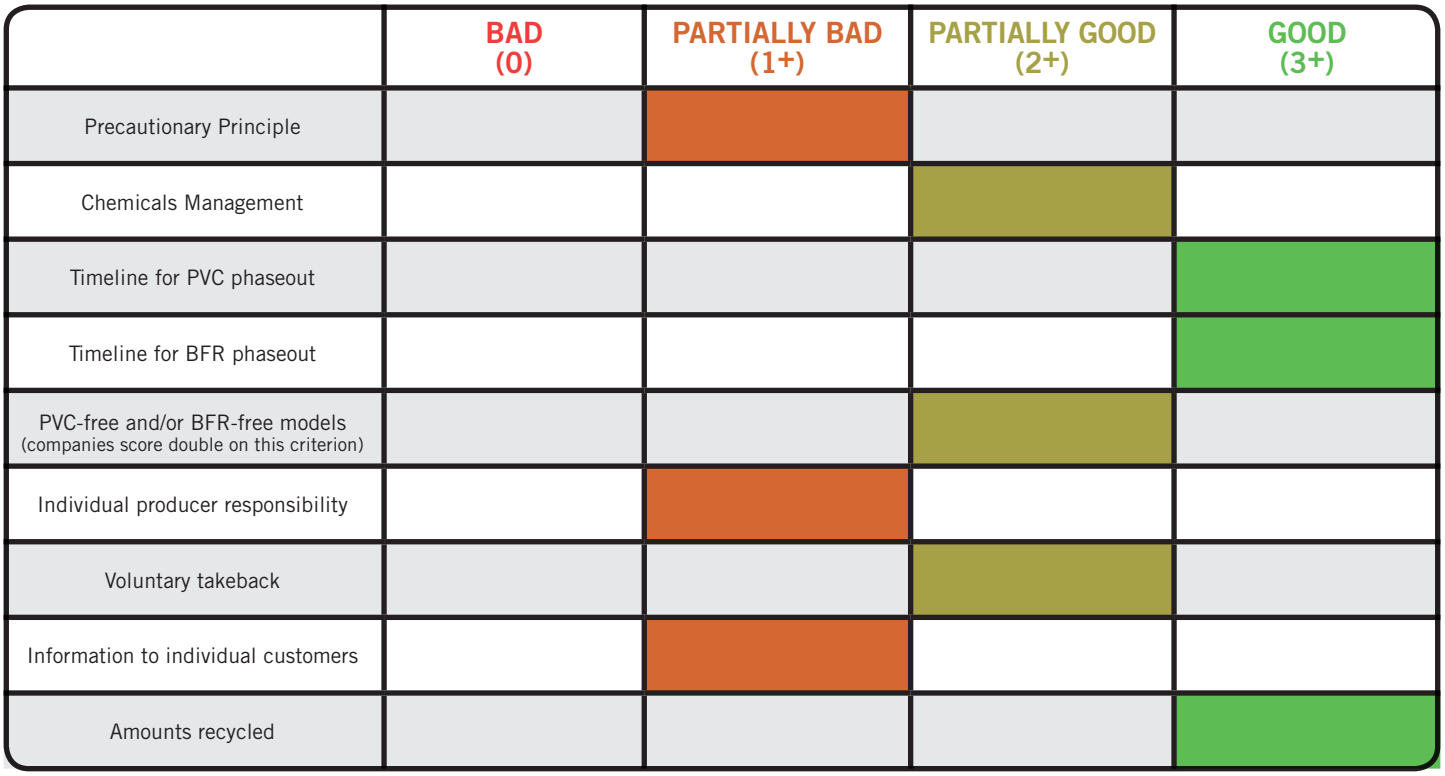
LG ELECTRONICS Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				LGE supports individual producer responsibility, although it recognises that for IPR to be operationalised, technically and economically feasible identification solutions are needed. **More information.**
Provides voluntary takeback where no EPR laws exist		LGE now provides voluntary takeback of its discarded mobile phones in some 50 countries with 392 drop off points globally. However, large gaps still exist in Africa, Middle East and Latin America. **More information.** LGE has added a free mailing service in the US for mobile phones and accessories. **More information.** **More information about takeback of other end-of-life products here.**		
Provides info for individual customers on takeback in all countries where products are sold		**Information** to customers on what to do with discarded mobile phones. **Information on other discarded products here.**		
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled		LGE has compiled figures for e-waste recycling in Europe, Asia and North America. **More information.** But LGE does not report the amounts recycled as a percentage of past or even current sales.		

APPLE Ranking = 6.7/10

Apple continues to progress up the ranking to 9th position from 11th, having improved its score for the new models of MacBook and MacBook Pro with the majority of internal cables free of polyvinyl chloride (PVC) and the majority of circuit board laminates free of brominated flame retardants (BFRs). New iMacs are also sold with bromine-free casings and printed circuit board laminates as well as PVC-free internal cables. Many iPods now have bromine-free casings and printed circuit board laminates. The company has committed to eliminate all uses of PVC and BFRs in its products by the end of 2008. It also provides examples of additional substances that it plans to eliminate, with timelines, such as arsenic in LCDs and mercury. But Apple still needs to provide a strong commitment to the principles of precaution and Individual Producer Responsibility, post its Restricted/Banned Substance list on the web and improve geographical coverage of its take-back programmes.

APPLE Overall Score



APPLE Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle		Definition of precautionary principle reflects poor understanding of this principle in chemical policy. **More information.**		
Chemicals Management			Apple provides examples of additional substances that it plans to eliminate with timelines e.g. arsenic in LCDs and mercury by moving to LEDs. Apple has added beryllium to its list of substances targeted for phase out, but so far without a timeline. It also provides Material Safety Data Sheets for its product portfolio. However Apple still fails to disclose it Substance Specification 069-0135. **More information.**	
Timeline for PVC phaseout				Apple plans to completely eliminate the use of PVC in its products by the end of 2008. **More information here** and **here.**
Timeline for BFR phaseout				Apple plans to completely eliminate the use of brominated flame retardants by the end of 2008. **More information here** and **here.**
PVC-free and/or BFR-free models (companies score double on this criterion)			All new iMacs and the MacBook Air have bromine-free enclosures and printed circuit board laminates as well as PVC-free internal cables. Millions of iPods now have bromine-free enclosures and printed circuit board laminates. **More information.** The MacBook Air also has mercury free LCD display with arsenic-free glass. **More information.** Also MacBook Pros with mercury-free LED backlit displays in Chronology. **More information.** New models of MacBook and MacBook Pro have the majority of internal cables PVC-free and majority of circuit board laminates free of BFRs. **More information here and here.**	

APPLE Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility		Apple refers to its "individually responsible approach" to recycling through its own takeback initiatives and national collective take-back programmes. The definition of IPR needs to be more explicit. **More information.**		
Provides voluntary takeback where no EPR laws exist			Most of Apple's voluntary takeback programmes are in **US and Canada** including **free recycling for iPods & mobile phones** of all brands. **New free recycling** of old monitors and PCs of any brand from Apple stores & online sales (seems to be still US only). **Apple product batteries takeback** (US only)	
Provides info for individual customers on takeback in all countries where products are sold		Information to customers in US and 'Old Europe' is much improved, but what about the 'New Europe' and customers outside US? **More information here** and **here.** **US & Canada.** **Europe.** **Japan.** **Taiwan.**		
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				Apple scores top marks for reporting its recycling rate as a percentage of sales 7 years ago. In 2006, Apple recycled 9.5% of the weight of all products sold seven years earlier and has set goals to recycle 13% in 2007, 20% in 2008 and nearly 30% in 2010. **More information.**

FUJITSU-SIEMENS Ranking = 6.7/10

FSC drops two places from 8th position to 10th in the ranking. The company has a good position on the Precautionary Principle and sells PCs which do not use brominated flame retardants (BFRs) in several major components. Despite this, it has not yet set timelines for the complete phase out of polyvinyl chloride (PVC) plastic and all BFRs in all of its products.

FSC scores top marks for its policy on Individual Producer Responsibility and scores well for the coverage of its take-back and recycling programme; it is also reporting the quantities of e-waste recycled as a percentage of past sales, but loses a point as this is for ewaste collected only in Germany.

Fujitsu-Siemens Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

FUJITSU-SIEMENS Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				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". **More information.**
Chemicals Management				Fujitsu Siemens provides comprehensive lists of banned and restricted substances, materials specifications and associated documents and gets top marks. **More information.**
Timeline for PVC phaseout		No final timeline for complete PVC elimination. **More information.**		
Timeline for BFR phaseout		No final timeline for complete elimination of all BFRs. **More information.**		
PVC-free and/or BFR-free models (companies score double on this criterion)			Fujitsu Siemens Computers sells a wide 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. **More information. Green models. History of green products.**	

FUJITSU-SIEMENS Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				FSC makes a **clear statement** in support of Individual Producer Responsibility.
Provides voluntary takeback where no EPR laws exist			FSC will extend its voluntary takeback and recycling programme to the whole EMEA region (Europe, Middle East and Africa) and provides an e-mail address for countries outside EU and South Africa. NOTE, the FSC brand is only marketed in EMEA. **More information here** and **here.**	
Provides info for individual customers on takeback in all countries where products are sold			FSC now provides a list of **recycling schemes** in the 30 European countries and South Africa. **More information here** and **here.**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled		FSC is now reporting according to the weight of WEEE recycled as a percentage of pervious sales, using a 7-year lifespan, but the figure is only for Germany. **More information.** FSC also provides data on **recycling rates** (as a % of whole product) within EU countries. **2005-06 Environmental Report** (p.14-15) **More information in German.**		

HP Ranking = 6.7/10

HP drops one place to number 11, after rising from 13th at the last ranking. HP now provides a timeline for eliminating polyvinyl chloride (PVC) plastic and all brominated flame retardants (BFRs) by 2009, but only in computing equipment – not for its entire product portfolio.

HP also scores well for its support for Individual Producer Responsibility and was the first company to devise an electronic waste take-back/recycling metric based on a percentage of past sales. It still has to improve coverage of its voluntary take-back programme to score full marks on all waste criteria.

HP Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

HP Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				HP's definition of Precautionary Principle reflects the need to eliminate potentially harmful chemicals even without full scientific certainty of harm . **More information.**
Chemicals Management				HP scores top marks on its chemical management. **More information. General Specification for the Environment.**
Timeline for PVC phaseout			HP has a timeline for eliminating PVC in 2009 from its new computing products, but not from its entire product portfolio. **More information.**	
Timeline for BFR phaseout			HP has a timeline for eliminating BFRs in 2009 from its new computing products, but not from its entire product portfolio. **More information.**	
PVC-free and/or BFR-free models (companies score double on this criterion)	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. **More information. Computer systems here, here and here**			

HP Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				**HP supports and lobbies for IPR.** In Europe, Hewlett Packard is a founding member of the European Recycling Platform that supports IPR. **More information here** and **here**.
Provides voluntary takeback where no EPR laws exist			Voluntary takeback - not for all products and not in every region of the world. For PC hardware takeback, major gaps in Africa and South America. **More information here** and **here.** **Global map of recycling programs, return and recycling choices.** Byteback programme in **Victoria Australia, China, Thailand.**	
Provides info for individual customers on takeback in all countries where products are sold			No information for HP's individual customers in Latin America, Africa, India, New Zealand. **More information here, here** and **here.** **Info on a range of options (asset recovery, donation).**	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				HP reports a reuse and recycling rate in 2006 of 10% of relevant sales. **More information.** **A press release** in February 2008 reports that HP recycled 250 million pounds of products in 2007, 50% more than in 2007.

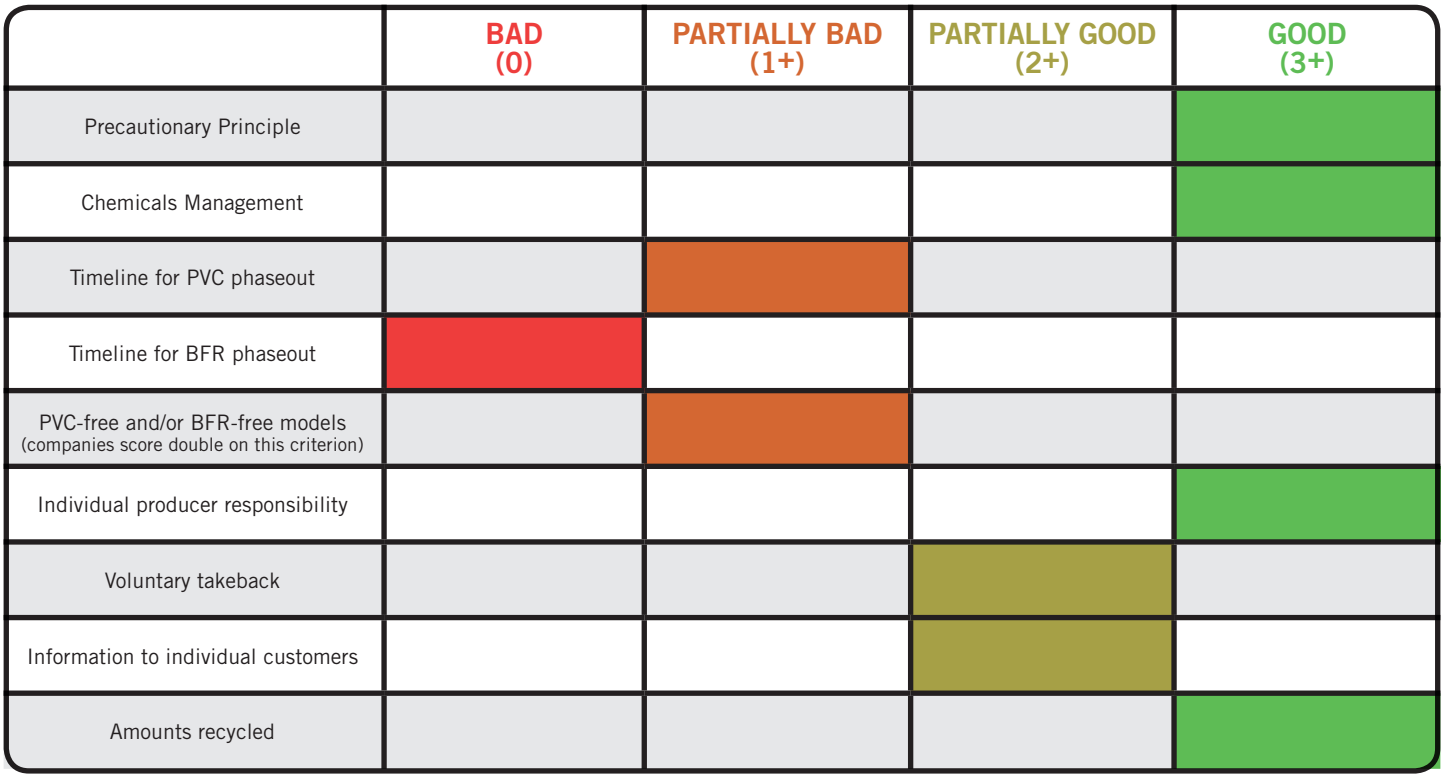
MOTOROLA Ranking = 6.3/10

Motorola rises from 14th position to 12th. The penalty point that it incurred at the last ranking for corporate misbehaviour on its take-back and recycling practice has now been lifted. Testing of Motorola's take-back programme by Greenpeace revealed improvements in Motorola's take-back service in the Philippines, Thailand, and India. No take-back service is available in Russia.

Although the company offers its customers an increasing number of models of mobile phones whose circuit boards are free from brominated flame retardants (BFRs), its 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. Motorola has now made a commitment to restrict (but not necessarily phase out) polyvinyl chloride (PVC) plastic from its mobile products by June 2008. It still has to provide information on PVC-free models and to commit to timelines for eliminating all BFRs and PVC from its entire product portfolio.

Motorola now provides voluntary take-back/recycling services in 57 countries, accounting for more than 90 % of global mobile phone sales. Top marks to Motorola for reporting its recycling rate of 3.32%, as a percentage of sales 12-24 months before – the average lifespan of a mobile phone.

MOTOROLA Overall Score



MOTOROLA Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Motorola has a definition of the precautionary principle which identifies precautionary measures to be taken. **More information.**
Chemicals Management				Motorola provides a list of banned and reportable substances in its Global Common Specification No. 12G02897W18 (updated August 2007) **More information.** **As a pdf.**
Timeline for PVC phaseout		By June 2008, Motorola is to restrict use of PVC in newly designed mobile devices parts and products – only restrict, not eliminate and only in mobile phones, not Motorola's whole product portfolio. **More information.**		
Timeline for BFR phaseout	No commitment to eliminating all uses of BFRs. **More infomation.**			
PVC-free and/or BFR-free models (companies score double on this criterion)		Motorola list 55 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. **More information.**		

MOTOROLA Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				Motorola makes a clear statement in support Individual Producer Responsibility. **More information.**
Provides voluntary takeback where no EPR laws exist			Motorola offers recycling services in 57 countries, representing over 90% of global mobile phone unit sales, in line with their goal for 2007. However, African countries are missing, as are markets like Russia. In v.6 of the Guide Motorola was served a penalty point after testing of Motorola's take-back programmes by Greenpeace in the Philippines and Thailand revealed that Motorola staff are not informed about the take-back service or provide misleading information. The penalty point has now been lifted following re-testing by Greenpeace of the takeback service. **More information.** Motorola's goal for 2007 is to provide take-back in 90% of countries where they have sales **(see their 2006 Corporate Responsibility Report, p.23).**	
Provides info for individual customers on takeback in all countries where products are sold			Information is provided to individual customers in the countries where Motorola offers voluntary programmes. **More information.** The number of take-back points within some countries has increased (eg. Thailand)	
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled				Motorola is reporting its recycling rate of 3.32%, as a percentage of sales, comparing them with sales 12-24 months prior – the average lifespan of a mobile phone. The end-of-life mobiles are collected via regulatory and voluntary programmes, including Motorola's own 'bring back' events. **More information.**

ACER Ranking = 5.7/10

Acer again drops one place to 13th position because its score has not altered since the last ranking and it has therefore been overtaken by other companies. It scores top marks on chemicals, but has yet to start selling products free of polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs).

Acer has improved communication of its waste policy and practice, but still needs to do more on providing voluntary take-back and recycling of its end-of-life products. Acer has yet to report on recycling rates as a percentage of past sales.

ACER Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

ACER Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Acer scores a 'yes' on its statement on the precautionary principle that recognises the need for preventive action, even if scientific evidence is not conclusive. **Precautionary principle.**
Chemicals Management				Top marks for describing the mechanisms for identifying **future substances of concern.** **Supply chain management HSF Plan.**
Timeline for PVC phaseout				Acer pledges to prohibit PVC from use in new products by 2009, in their **Hazardous Substances Free (HSF) plan.** **HSF implementation report.**
Timeline for BFR phaseout				Acer pledges to prohibit BFR from use in new products by 2009, in their **Hazardous Substances Free (HSF) plan.** **HSF implementation report.**
PVC-free and/or BFR-free models (companies score double on this criterion)	No PVC-free or BFR-free models on the market. **More information.**			

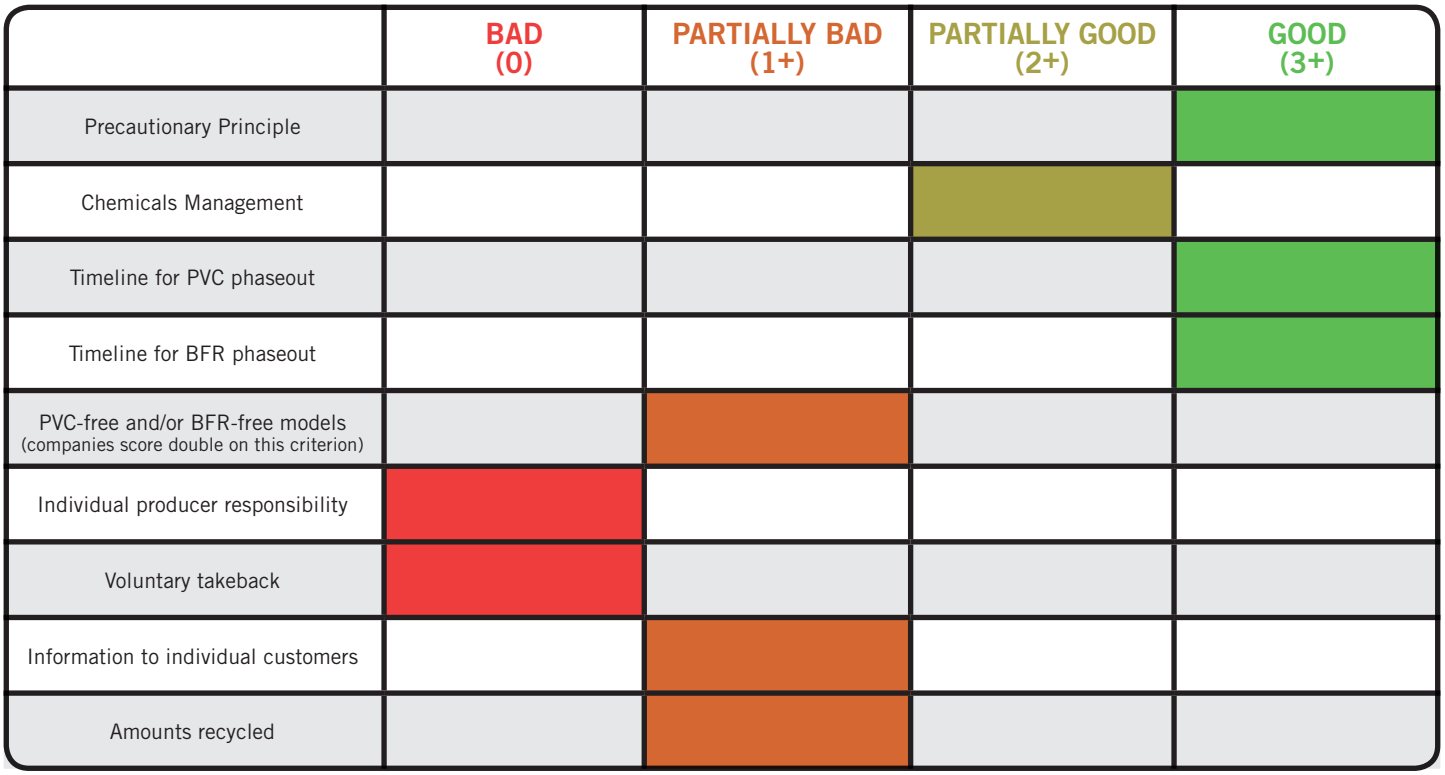
EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility				Acer scores top marks for supporting IPR. **More information.**
Provides voluntary takeback where no EPR laws exist		Acer provides takeback services where required to do so by national EPR laws. Exceptions are US where Acer provides contacts to SVTC and India, where Acer now takes back and recycles for free. **More information.**		
Provides info for individual customers on takeback in all countries where products are sold		Recycling information provided for EU, Japanese, Taiwanese, Indian and US customers only. **More information here, here, here** and **here for India. Terms and conditions.**		
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled	No information on the amounts of e-waste collected and recycled.			

SHARP Ranking = 5/10

A newcomer to the Guide at the last ranking, Sharp rises to number 14 from 15, by improving the information that it provides to customers on its take-back services. The company scores well on most of the chemicals criteria, already providing examples of models most of whose components are free of polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs). For example, all Sharp mobiles (sold in Japan) and many models of LCD TVs are free of PVC, except accessories.

Sharp scores top marks for setting a timeline of end of 2010 by which it intends to eliminate PVC and all BFRs from its entire product portfolio. To improve its score, Sharp needs to sharpen up its policies and practices on e-waste.

SHARP Overall Score



SHARP Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Sharp scores top marks for its commitment and understanding of the Precautionary Principle. **More information. Basic Environmental Philosophy** (point 2.2).
Chemicals Management			To achieve top marks Sharp needs to define the criteria for identifying substances for future elimination. **Manual for Survey of Chemical Substances and Green Procurement Guidelines. Manual for Survey of Chemical Substances Contained in Parts and Materials. Green Procurement Guidelines.**	
Timeline for PVC phaseout				Sharp commits to eliminate PVC from all products by the end of 2010, provided it can find suitable alternatives. **More information.**
Timeline for BFR phaseout				Sharp commits to eliminate BFRs from all products by the end of 2010, provided it can find suitable alternatives. **More information.**
PVC-free and/or BFR-free models (companies score double on this criterion)		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. **More information.**		

SHARP Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility	Sharp refers to Producer Responsibility but only in the context of complying with EU WEEE Directive. **More information here and here.**			
Provides voluntary takeback where no EPR laws exist	Sharp stays on zero as the voluntary takeback efforts to date are insufficient to score one point. Sharp is part of US EPA's Plug in to eCycling, offers voluntary take-back of toner cartridges in Canada, EU, Japan, Thailand and Australia and participates in voluntary take-back of mobiles (Mobile Muster) in Australia. **More information.** In Canada, Sharp also recycles old electronic equipment for a small fee, through a recycling partner, Accu-Shred. **More information.**			
Provides info for individual customers on takeback in all countries where products are sold		Links to local Sharp contacts are now provided for customers in EU, US and Canada, but not for those in Japan or Australia. **More information.**		
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled		Besides providing figures for recycling of TVs, copiers, PCs & washing machines in Japan for 2006 and 2007: **More information here** and **here.** Sharp also reports on amounts of used electrical products collected in Maine, Minnesota and as part of the EPA Plug-in to eCycling program, and the amounts recycled in Europe and Germany in 2007. **More information.**		

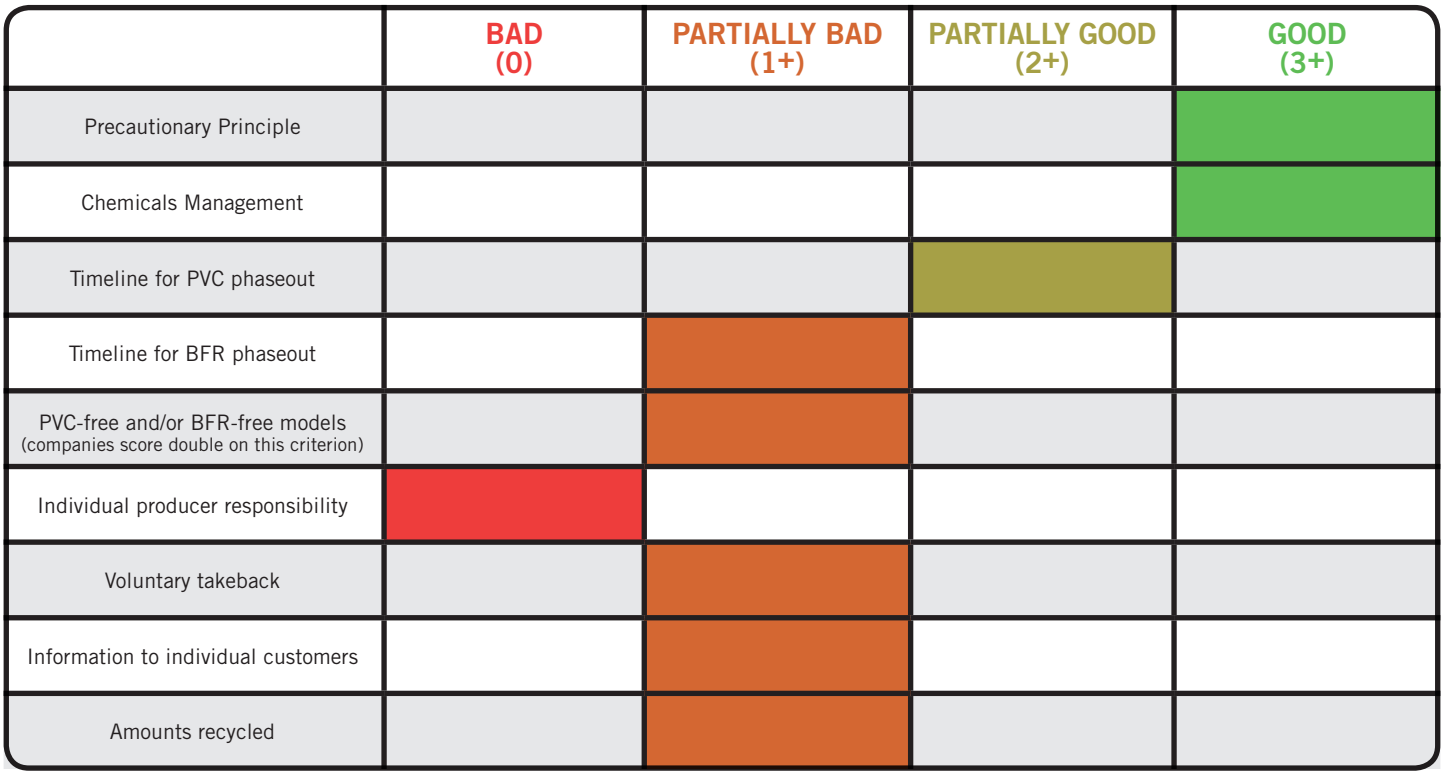
PANASONIC Ranking = 4.7/10

Panasonic drops from 13th position to joint 15th, having lost a point on its reporting of its recycling rate, which is not presented as a percentage of past sales; its score on the other criteria has not changed since the last ranking.

Panasonic provides a large and growing list of products on the market that are free of PVC, which include DVD players and recorders, home cinemas, and video players. It also has two models of lighting equipment free of brominated flame retardants (BFRs) and is manufacturing halogen-free printed wiring boards for certain applications and markets. Panasonic has committed to eliminating all uses of PVC in its products – starting with internal wiring - and has set a timeline of 2011 for getting PVC out of its notebooks. The company has yet to commit to the elimination of BFRs in all products, although a timeline of 2011 has been set for getting BFRs out of notebooks and mobiles – these represent a small fraction of Panasonic's large product range.

Panasonic scores poorly for its lack of support for Individual Producer Responsibility and its limited voluntary take-back programmes.

PANASONIC Overall Score



PANASONIC Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Panasonic endorses the Precautionary Principle as defined in the 1992 Rio Declaration. **More information.**
Chemicals Management				Pansonic's web pages on chemicals management contain a lot of detailed of information. Managed substances include: antimony, beryllium, bismuth and phthalate esters. **More information. Chemical Substances Management rank guidelines Ver. 4 for products. Green Procurement Standards. Chemical Substances Management Rank Guidelines for Factories.**
Timeline for PVC phaseout			Panasonic has committed to eliminating PVC in internal wiring of all products for the Japanese market by end of March 2009 and globally by end of March 2011. No timelines yet for substitution of PVC external cables, except for notebooks which should be globally PVC-free (including AC power cords) by 2011. **More information.**	
Timeline for BFR phaseout		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. **More information.**		
PVC-free and/or BFR-free models (companies score double on this criterion)		As of March 2007, Panasonic has many examples of PVC-free products, including 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, & are manufacturing halogen-free printed wiring boards for certain applications and markets. **The PVC free models are listed here.**		

PANASONIC Detailed Scoring

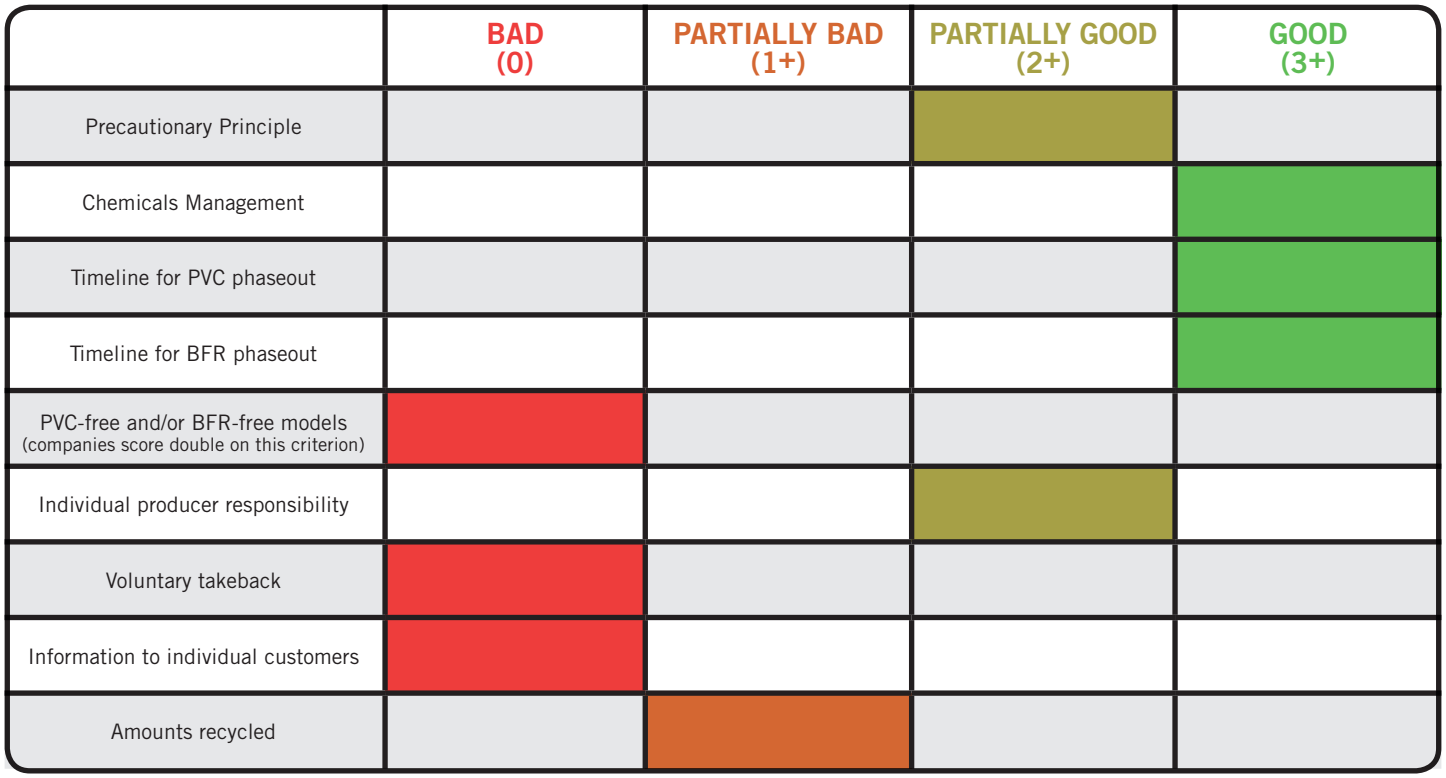
EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility	Although Panasonic has clarified its support for recycling, the company fails to embrace Individual Producer Responsibility. **More information.**			
Provides voluntary takeback where no EPR laws exist		Voluntary takeback programmes are not worldwide and do not cover all Panasonic's product groups, mainly mobiles and toner cartridges. Panasonic's recycling services for PCs now offered in countries where 95% of sales of new PCs. **More information.** **Information on the different regions.** **B2B takeback systems in the US**. **Info on MRM recycling,** Panasonic's joint venture with Sharp & Toshiba in the US.		
Provides info for individual customers on takeback in all countries where products are sold		Information to customers is available in European countries with EPR laws and for electronics, batteries and toner cartridges in US, as well as mobile phones and cartridges in Australia. Information on takeback and recycling programmes in Korea (many product groups) and Japan (PCs and household appliances). **More information here** and **here.** **US trade-in programme.** **Recyling events in US.** **Battery recycling.**		
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled		Panasonic provides data on home appliances and PCs recycled in Japan (2007) and recycling quantities for the US (PCs, batteries and other) and Korea; information for Europe is in its infancy. But Panasonic does not report the amounts recycled as a percentage of past or even current sales. **More information here** and **here.** **US recycling volumes.** **Notebooks in the US.** Data on fiscal year 2007 for Japan and the US: **link 1, link 2, link 3, link 4, link 5.**		

MICROSOFT Ranking = 4.7/10

Another newcomer to the Guide at the last ranking, Microsoft rises to joint 15th position, up from number 16. The company has improved its score across many of the chemicals criteria; it now has a definition of the Precautionary Principle (although it is difficult to access) and scores full marks for its chemicals management and for setting a new timeline of 2010 to eliminate polyvinyl chloride (PVC) plastic and all brominated flame retardants (BFRs).

Microsoft now accepts individual responsibility for its e-waste (although there is room for improvement in its definition) and is reporting on the amounts of e-waste recycled as a percentage of past sales, albeit only for Europe. Microsoft fails to provide voluntary take-back for its customers' end-of-life products or sufficient information to customers to score any points.

MICROSOFT Overall Score



MICROSOFT Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle			Microsoft now has a definition of the Precautionary Principle, as defined in the UN Rio declaration. However, for top marks, the policy principle needs to be made more prominent on the website. It is currently hidden away on the last (p.14) of Microsoft's H00594 Restricted Substances Specification. **More information here** and **here**.	
Chemicals Management				Microsoft lists its Chemical Specifications and has added a procedure for identifying future substances for elimination (see Section D, page 14 of H00594 Restricted Substances Specification). Suspect substances for potential future elimination include those on California Proposition 65 List and the Canada Environmental Protection Act Domestic Substance List. However the California Proposition 65 List includes 100s of substances, most of which are not even used by the electronics industry. **Restricted Substances Specifications. Restricted Substance Specification for Hardware Products and Packaging (H00594). Restricted Substance Control System (H00642). California Proposition 65 List.**
Timeline for PVC phaseout				Microsoft is committed to eliminating PVC from all of its hardware products by or before 2010. **More information here** and **here.**
Timeline for BFR phaseout				Microsoft is committed to eliminating brominated fire retardants from all of its hardware products by or before 2010. **More information here** and **here.**
PVC-free and/or BFR-free models (companies score double on this criterion)	No products free of PVC and BFRs.			

MICROSOFT Detailed Scoring

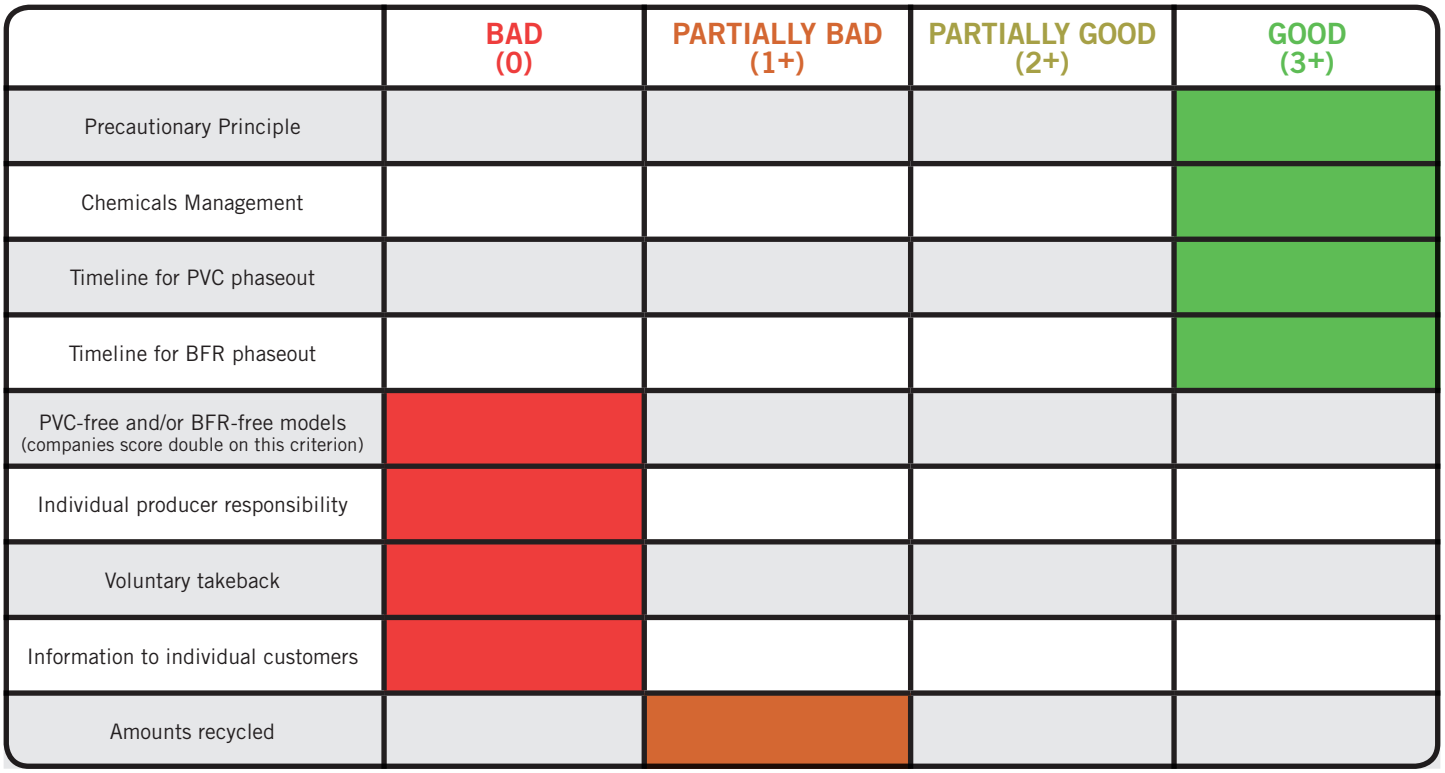
EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility			Although Microsoft now states that it "supports the mandatory collection and recycling of consumer electronics funded by individual producers…", for full marks support for the principle of Individual Producer Responsibility needs to be more explicit. **More information here** and **here.**	
Provides voluntary takeback where no EPR laws exist	Microsoft now provides a link to **CEA's recycling website** for its US customers. **CEA's recycling pages. Microsoft's Authorised Refurbisher (MAR) Programme** extends the lifespan of otherwise obsolete PCs. **More information.**			
Provides info for individual customers on takeback in all countries where products are sold	Microsoft provides a link to CEA's recycling site @ **mygreenelectronics.org** which gives information about recycling in the US, although Microsoft/Xbox is not one of the companies/ products listed. A link listing **Microsoft's recycling partners** in the EU is too large to download. Links to individual EU country sites are not very helpful, as they connect to main government websites and not even the respective Environmental Ministries responsible for WEEE Directive enforcement or to the Producer Responsibility Organisations in each EU Member State. E.g. For UK links to UK govt website – not even DEFRA E.g. for Poland, link to main PL govt website – not even MOS, the Env Ministry.			
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled		In 2006, Microsoft funded the direct recovery and recycling of over 1.3 million kgs of consumer electrical and electronic goods from European households, which represents some 37% of their year 2000 hardware sales volume in Europe. This metric available only for Europe. However, in Europe Microsoft pays for recycling historical waste by current market share and not for the actual amount recycled. So, there is no relationship between what Microsoft pays for recycling and the amount actually recycled. **More information.**		

PHILIPS Ranking = 4.3/10

Philips, another newcomer to the Guide at the last edition, remains at 17th position out of 18. This is despite the fact that its score has improved on many of the chemicals criteria; it now scores full marks for its chemicals management, for committing to the precautionary principle and for a new commitment to eliminate brominated flame retardants and PVC from its product range by 2010.

Philips now has the beginnings of a position on Individual Producer Responsibility but fails to score any points for this: it is a member of the Electronic Manufacturers' Coalition for Responsible Recycling, which does not support Producer Responsibility but demands that consumers pay ARFs (Advanced Recycling Fees). The company now provides figures for the quantities of e-waste recycled in Europe but otherwise fails to score on all the other e-waste criteria, so there is plenty of scope for improvement in the future.

PHILIPS Overall Score



PHILIPS Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle				Philips' definition of the Precautionary Principle now identifies the need to take preventative measures without full scientific certainty. **More information. Environmental Policy. Sustainability Report.**
Chemicals Management				Philips scores top marks for providing Product and Process Specs, criteria for identifying 'future substances' for elimination and examples, namely 'reported' substances. **More information. Framework document. Restricted substances in Products list. Restricted substances in Processes list. Criteria for identifying 'future' substances for phase out. List of "reported" substances.**
Timeline for PVC phaseout				Philips aims to have PVC-free consumer products models on the market in 2009 and to phase out PVC by the end of 2010. **More information.**
Timeline for BFR phaseout				Philips has eliminated BFRs in TV housings for the EU market. The company aims to have BFR- free consumer products models on the market in 2009 and to phase out all BFRs by the end of 2010. **More information.**
PVC-free and/or BFR-free models (companies score double on this criterion)	Green Flagship products are listed but there are no examples of BFR free or PVC free products. **More information. See Sustainability Report 2006** (p84-85).			

PHILIPS Detailed Scoring

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility	Philips now supports the concept of IPR as a mechanism to improve product design, but only for **certain products**. However, Philips scores no points on this criterion because in the US, it is a member of the Electronic Manufacturers' Coalition for Responsible Recycling which does not support EPR, but is demanding that consumers pay ARFs (Advanced Recycling Fees) **More information.**			
Provides voluntary takeback where no EPR laws exist	No voluntary takeback offered by Philips, although in the US Philips lists local recyclers for customers to contact. **More information here** and **here**.			
Provides info for individual customers on takeback in all countries where products are sold	Philips provides general advice to customers on recycling, although information on EU compliance schemes has disappeared. **More information.**			
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled		Philips has published amounts (in tons) of WEEE recycled (for displays and other consumer electronics) in EU countries for 2005, 2006 and 2007, but does not present these figures as a percentage of past sales. **More information.**		

NINTENDO Ranking = 0.3/10

Nintendo, who joined the Guide at the last edition, remains in bottom place. The company now scores one point for chemicals management but stays on zero for all other criteria, allowing lots of room for future improvement.

NINTENDO Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC phaseout				
Timeline for BFR phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
Individual producer responsibility				
Voluntary takeback				
Information to individual customers				
Amounts recycled				

NINTENDO Detailed Scoring

Chemical Score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Precautionary Principle	No reference to the Precautionary Principle. **More information.**			
Chemicals Management		No Product Specification or List of Banned/Restricted Substances. Nintendo now state that they have established Green Procurement Standards for Suppliers, but these are not provided. No mechanism for identifying substances for future elimination or examples of these substances. **More information.**		
Timeline for PVC phaseout	Nintendo is in the process of phasing out PVC in its packaging, but has no policy for use of PVC in its products. **More information.**			
Timeline for BFR phaseout	No policy on use of BFRs **More information.**			
PVC-free and/or BFR-free models (companies score double on this criterion)	No information			

EPR/recycling score	BAD	PARTIALLY BAD	PARTIALLY GOOD	GOOD
Support for Individual Producer Responsibility	No reference to Individual Producer Responsibility or recycling of used Nintendo products. **More information.**			
Provides voluntary takeback where no EPR laws exist	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. **More information.**			
Provides info for individual customers on takeback in all countries where products are sold	Nintendo gives links to US EPA disposal and recycling pages, and provides a freephone number to call with opening times, but it's not clear whether this is for US West Coast only, Asian or for global customers. **More information.**			
Reports on amount of waste electrical and electronic equipment (WEEE) collected and recycled	No information			