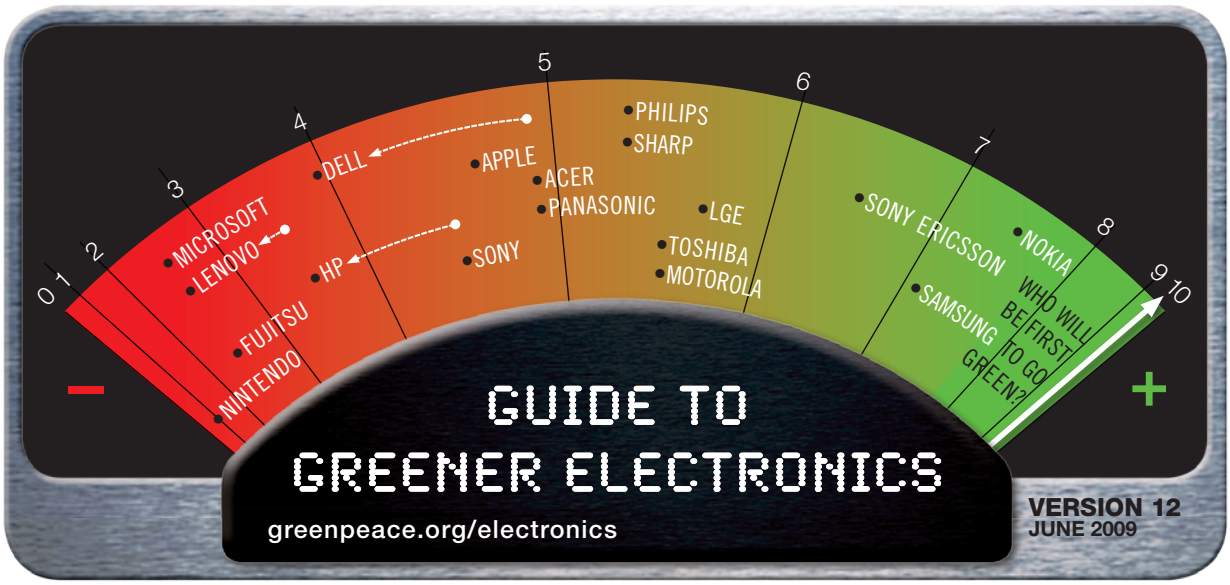


Criteria on Toxic Chemicals

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.

Fujitsu is evaluated for the first time this in this version of the Guide, having acquired the Siemens share in Fujitsu Siemens Computers (FSC). The new company is operating under the brand Fujitsu from April 1, 2009.

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

In version 11 of the Guide, PC manufacturers HP, Dell and Lenovo were served a penalty point for backtracking on their commitment to eliminate vinyl plastic (PVC) and brominated flame retardants (BFRs) from their products from the end of 2009. All three continue to be penalised in this version.

NOKIA Ranking = 7.5/10

Nokia stays in 1st place with the same score of 7.5 that it scored in v.11. Nokia scores maximum points for its comprehensive voluntary take-back programme, which spans 84 countries providing almost 5000 collection points for end-of-life mobile phones. It now also scores top marks for the information it provides to customers on what to do with their discarded products. However, its recycling rate of 3-5% is very poor and more information is needed on how Nokia calculates these figures. It also needs to start using recycled plastics beyond just packaging.

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 all brominated and chlorinated compounds and antimony trioxide from the start of 2010.

Nokia's score on energy remains the same. It scores full marks for committing to reduce absolute CO_2 emissions by a minimum of 10% in 2009 and 18% in 2010, from a baseline year of 2006. It provides a third party verification certificate for its disclosed CO_2 emissions. Its 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. Top marks (doubled) are given for product energy efficiency as all but one of 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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
GOOD (3+)	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**
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. **More information. New version (2009) of Nokia's substance list.**	Nokia has eliminated remaining uses of PVC. See PVC elimination case study. **More information.** Nokia aims to have all new products across its global product range launched from 2010 free of restricted flame retardants, including all brominated and chlorinated compounds, not just those in PVC and flame retardants, as well as Antimony trioxide. **More information.**	Nokia has banned the use of beryllium and its compounds in all new products developed from 1/1/09. The intentional addition of phthalates is also banned in new products. **More information.** All products from 2010 will be free of antimony trioxide. However, there is no target to phase out other antimony compounds. **More information.**	New models are PVC-free since the end of 2005. As from January 2007, the first products without components containing BFRs have been introduced. Starting from 2010 Nokia aims to have all new products launched free of brominated and chlorinated compounds and antimony trioxide. **More information. Eco-declarations provided for all Nokia products.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY GOOD (2+)	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**BAD (0)**
Nokia supports and lobbies for IPR. To regain top marks, Nokia will need to explore options for operationalising IPR. It also needs to continue to lobby for IPR, inter alia to ensure the revised WEEE legislation sets clearer requirements (enforcement criteria) for the implementation of IPR by enforcing: differentiated financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but individual financing such as return share) for WEEE and preventing the indefinite use of the Visible Fee. **More information.**	Take-back is offered in 85 countries, including in Africa and Latin America, with almost 5000 Nokia collection points globally. **More information here** and **here and here.** Nokia has announced on their Argentine website that they will soon roll out a take-back programme in Argentina.	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. New take-back services have been launched in the Middle East (Qatar, UAE, Oman) and in Africa (Algeria, Egypt, Libya). **More information.**	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. **More information here** and **here.** **Nokia's consumer survey to identify the fate of end-of-life mobile phones,** also **here.**	Nokia is still actively researching the use of recycled plastics, which are currently used only in packaging. It's about time Nokia started using recycled plastics in its mobile phones, as its competitors are doing. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
BAD (0)	**PARTIALLY GOOD (2+)**	**GOOD (3+)**	**GOOD (3+)**	**GOOD (3+)**
Nokia has signed the Bali Communiqué. For full marks, Nokia needs to support industrialised countries cutting emissions by at least 30% by 2020 and call for global GHG emissions to peak by 2015. **More information.**	Nokia reports on energy consumption as well as direct and indirect CO_2 emissions. **More information.** Nokia has published a **verification statement.**	Nokia is committed to reducing CO_2 emissions by a minimum of 10% in 2009 and 18% in 2010, from a baseline year of 2006. **More information.** Nokia is to set energy efficiency and CO_2 emission reduction targets for key global suppliers by 2009. **More information.** To stay on 3 points, Nokia needs to provide projections on GHG reductions to the year 2012, to show commitment to continued improvement.	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. But, it is unclear where there is additionality in all of Nokia's purchasing of renewables and which sources of renewable energy Nokia considers 'renewable'. To keep these points, Nokia needs to address concerns about additionality and provide more information about the RECs it is buying. **More information here** and **here.**	All Nokia's new models of chargers meet or exceed the EPA's Energy Star requirements. All except one of the currently available chargers exceed the requirements in no load mode by between 30 and 90%. **More information.**

SAMSUNG Ranking = 7.1/10

Samsung holds its position in 2nd place and increases its score from 6.9 to 7.1, by committing to reduce its absolute emissions of greenhouse gases, despite growth in the company's sales. Samsung scores relatively well on all the 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. It has also committed to eliminate phthalates and beryllium and compounds by the end of 2012 from all its products, not just from PCs, TVs and mobile phones.

Samsung scores well on e-waste; it reports recycling rates of 137% 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 2025 and use a majority of post-consumer plastic.

Samsung boosts its score on energy, by supporting the levels of cuts required globally and by industrialised countries to keep dangerous climate change in check and for providing a certificate of verification of its GHG emissions in Korea. Samsung scores top marks (doubled) on the energy efficiency of its battery chargers, all of which meet and 94% of which exceed the latest 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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
GOOD (3+)	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**
Samsung scores top marks on its support for and understanding of the Precautionary Principle. **More information.**	Samsung scores full marks on this criterion, by also identifying future chemicals to be targeted for elimination. **More information.** **SEC Standard (revision 11).** **Eco-Partner Certification Program.**	Full marks for providing a timeline of end of 2010 for phasing out PVC. **More information.** Timeline for phasing out BFRs in all new models is January 2010. **More information.**	Samsung has set a timeline for the phase out of phthalates and beryllium and compounds from new models of all products of 31st December 2012. Antimony trioxide is to be phased out from new models of PCs, TVs and mobile phones only, by 31st December 2012, but with 2 exemptions. For full marks, Samsung needs a similar restriction on all uses of antimony in all new product. **More information**.	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 April 2009; Samsung introduced the first halogen- and PVC-free 2.5-inch mobile HDDs in the industry, which also feature reduced power use. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY GOOD (2+)	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**GOOD (3+)**
Samsung supports and lobbies for IPR. **More information.** Samsung is contributing to the current review of the WEEE Directive and advocating a stronger role for IPR in the EU. **More information.** To gain top marks, Samsung will need to explore options for operationalising IPR and to continue to lobby for IPR, inter alia to ensure the revised WEEE legislation sets clearer requirements (enforcement criteria) for the implementation of IPR - ensuring a shift to differentiated/ individualised financing for own-brand real end-of-life costs (eg. no longer collective financing such as market share but instead more real and individualised financing such as return share) for new WEEE.	Samsung now provides voluntary take-back for its consumer electronics (except home appliances) in the US. In other countries voluntary take-back is provided for mobile phones and printer cartridges, a small part of Samsung's product portfolio. To stay on 2 points Samsung needs to extend its voluntary take-back for all products to non-OECD countries. **Voluntary initiatives.** **Global mobile phone recycling.**	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. **More information here, here** and **here.** **Mobile phone take-back.**	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. **More information.**	Samsung's current use of recycled plastics across all products is some 15.9% post-industrial plastic and only 0.2% post-consumer plastic. Samsung has set a target of 25% recycled plastic content out of total plastics used by 2025 and will maximise the use of post consumer recycled plastics over post industrial plastics. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
GOOD (3+)	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**GOOD (3+)**
Samsung Electronics supports global mandatory cuts of Greenhouse Gas emissions of at least 50% by 2050 (from 1990 levels) and cuts by industrialised countries of at least 30% as a group by 2020. Samsung scores maximum points for also calling for global greenhouse gas emissions to peak by 2015. **More information.**	Samsung reports on total GHG emissions from its operations in Korea (the majority of its operations) of 8,21million tonnes/year. There is no reporting of product supply chain emissions. The Korea GHG Certification Office has verified the measurements. **More information.**	Samsung aims to reduce absolute emissions of GHGs from its global manufacturing sites by 2% by 2011, from a baseline year of 2008, despite a growth in company sales. **More information.**	Samsung reports that in the US, Samsung Austin Semiconductor purchases 6% of its electricity from renewable sources. In Europe, several subsidiaries use renewable energy, comprising approximately 15% of their annual electricity consumption. However, no figures for use of renewable energy as a percentage of the total fuel mix are given. Samsung also states that it is seeking to increase its use of renewable energy by investing in fuel and solar cells; however no target or timeline is given. **More information.**	Since November 2008 100% of Samsung models of mobile phone External Power Supplies (EPS) globally have met the latest Energy Star requirements, and 94% of these exceed the Energy Star requirements by 50% or more in no-load mode. All EPS (chargers) already comply with California's Amended Appliance Efficiency Regulations effective from July 1st, 2008. 100% of all flat TV models globally have met the latest Energy Star requirements and 43% exceed them for standby mode by 50% or more. 87% of PCs meet the latest Energy Star standard; 8% exceed the standby requirements by 50% or more and 8% exceed sleep mode requirements by 50% or more. **More information.**

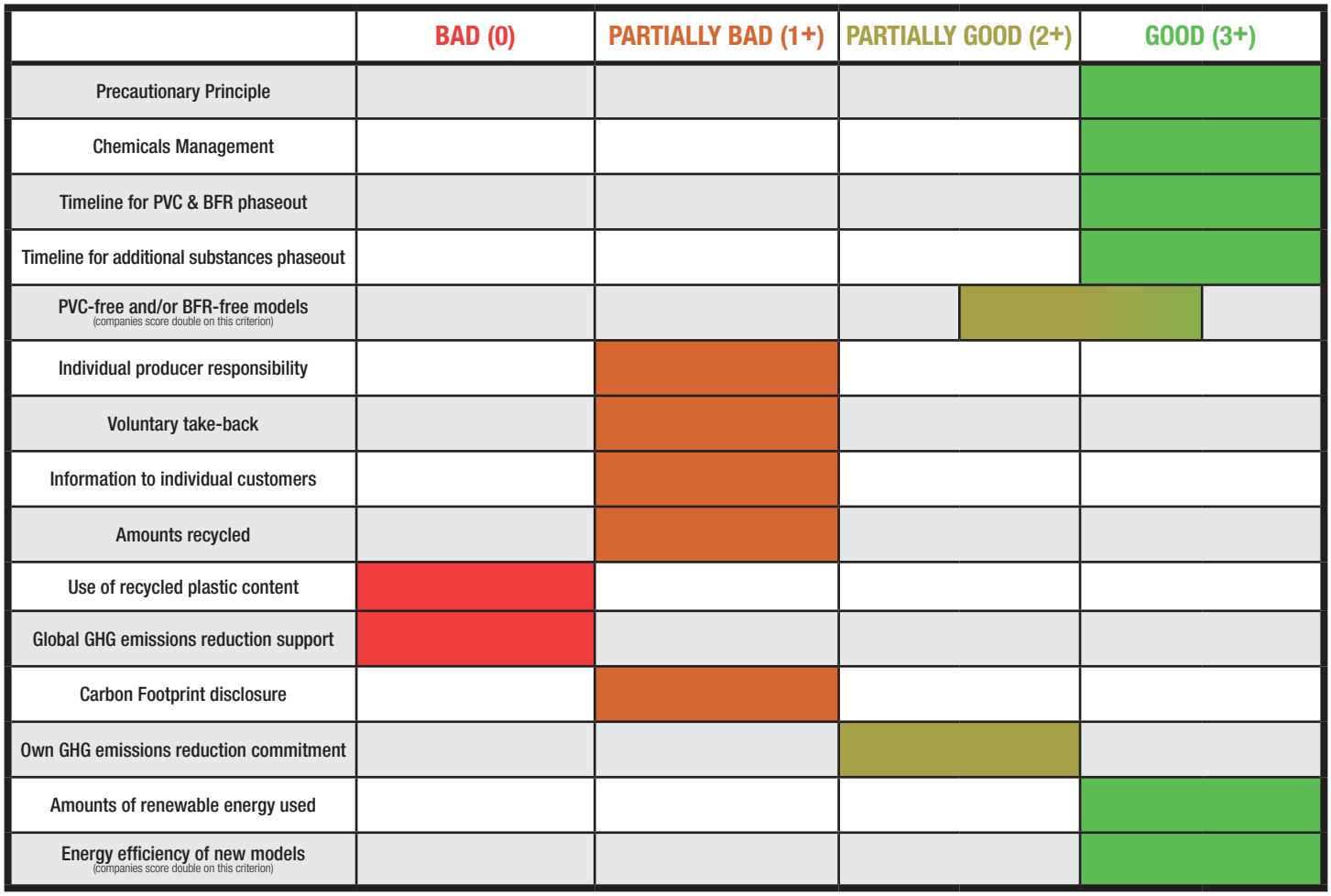
SONY ERICSSON Ranking = 6.5/10

Sony Ericsson stays in 3rd place with an increased score of 6.5, up from 5.7, with improvements on its performance on energy issues. It scores well on the toxic chemicals and energy criteria, but poorly on all e-waste issues. For more points on e-waste, it needs to increase its lobbying for IPR, continue to extend its take-back and recycling programmes, provide information on its take-back programme for more of its customers and use recycled plastic across all its products – not just a few models.

It was 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's scores on energy criteria have improved. It now commits to reducing absolute greenhouse gas emissions from its internal activities by 20% by 2015 (2008 baseline) and reports that 40% of its electricity use globally comes from renewable sources. All of its products meet and exceed the Energy Star standard. It reports CO_2 emissions from its own manufacturing and product transportation, but fails to have these emissions third party verified.

SONY ERICSSON Overall Score



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)
GOOD (3+)	**GOOD (3+)**	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY GOOD (2.5+)**
Sony Ericsson scores top marks for defining the Precautionary Principle and its commitment to it. **More information.**	Sony Ericsson is ahead of many companies by already eliminating substances from its new products that others have only identified for future action. **More information. SE's pdf List of Banned & Restricted Substances.**	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. **More information. Banned & Restricted Substances.**	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 provide a timeline by which it will overcome the exemptions on antimony and beryllium and provide updates on progress towards complete elimination of these substances. **More information.**	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 900ppm is still 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. **More information. Environmental product declarations for phones** and **mobile broadband devices.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**BAD (0)**
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. **More information.** For full marks, SE needs to clarify that this means supporting differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing, such as market share but instead more real and individualised financing such as return share) for WEEE, and provide details of operationalisation of IPR.	Sony Ericsson has initiated its new 'environmental warranty' programme that includes take-back and recycling in Taiwan, China, Thailand, Singapore, Malaysia, Philippines, Australia USA and Canada, with a total of 500 collection points; Sony Ericsson intends to complete this rollout by 2009 in all the countries in which it operates. The status of SE's take-back programmes in India and Mexico is unclear. **More information here** and **here. Product (Environmental) Declaration. (eg. J110).**	Sony Ericsson intends to provide information to customers in all the countries in which it operates by 2009. **More information.** Currently, **full information** is accessible to customers in 15 European countries, the USA, Canada, Australia, China, Malaysia, Philippines, Singapore, Thailand and Taiwan. Declarations direct customers to local Service Centres. However, product take-back for recycling isn't mentioned in the information about Service Centres. **More information. (eg. J110).**	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. **More information.**	Sony Ericsson's new 'GreenHeart' pioneer phones use a minimum of 50% recycled plastics. The MH300 Green Heart ™ headset includes 100% recycled plastics in most plastic parts. To score points, SE needs to use recycled plastics across all its products and report the amount of recycled plastic sourced as a % of all plastics used. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
BAD (0)	**PARTIALLY BAD (1+)**	**PARTIALLY GOOD (2+)**	**GOOD (3+)**	**GOOD (3+)**
Sony Ericsson signed up in support of the Bali Communiqué, which calls for binding cuts of 50% by 2050. It identifies that industrialised countries need to make the greatest effort; however, no targets are specified. To score points SE needs to support calls for global GHG emissions to peak by 2015 and for industrialised countries to cut emissions by at least 30% by 2020. **More information here** and **here.**	Sony Ericsson reports its total GHG emissions reduced from 64,426,057 kg CO_2 equivalents in 2007 to 57,390,998 kg in 2008; a large part of this reduction is due to a drop in business travel. For more points Sony Ericsson needs to report its figures in more detail and provide evidence of external verification. **More information.**	Sony Ericsson has new, absolute targets to reduce its total GHG emissions. By 2015 it aims to: - reduce emissions from the full life cycle of its products by 15%; - reduce emissions from its internal activities by 20%. Both targets are based on 2008 levels. **More information here** and **here.**	From 2008 all Sony Ericsson sites in Sweden purchase renewable energy (wind, solar and hydro), making up about 40% of the total electricity used at all Sony Ericsson sites. To keep these points, SE needs to address concerns about the additionality of its renewable energy purchases by providing more information about its RECs. **More information.**	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." **More information.**

LG ELECTRONICS Ranking = 5.7/10

LG Electronics moves up to 4th place from 6th with a slightly improved score of 5.7. It lost points in the last edition of the scorecard for backtracking on its commitment to have all its products free of PVC and BFRs by the end of 2010. Now only mobile phones (no longer mobile products) will be free of these toxic substances from 2010; the timeline for eliminating them in TVs and monitors has been delayed until 2012. BFRs are still to be eliminated in other product lines like washing machines, but no timeline is given. PVC will be totally banned from use in household appliance models by 2014. LGE has launched new models of mobile phones with halogen-free housings, packaging and main printed wiring board. European LCD TVs are produced with halogen free housing, wiring and integrated circuit drive. It provides a timeline of 2012 for eliminating phthalates and antimony – but only in new models of mobile phones (no longer all mobile products) and TVs.

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

LGE supports the need for global GHG emissions to peak by 2015 and commits to cutting absolute GHG emissions by 5% below the 2008 level by 2012 and by 10% by 2020. On the energy efficiency of its products; LGE reports that 100% of its chargers meet and 74.6% exceed the latest Energy Star standard (v.2.0) by 50%; all PCs meet and 71% exceed sleep and standby modes by 30%; all TVs meet the latest ES standard (v.3.0) and 50% LCD TVs and 41% PDP TVs exceed the standby requirements.

LG ELECTRONICS Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models (companies score double on this criterion)				
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 (companies score double on this criterion)				

LG ELECTRONICS Detailed Scoring

Chemicals

Precautionary Principle	Chemicals Management	Timeline for PVC & BFR phaseout	Timeline for additional substances phaseout	PVC-free and/or BFR-free models (double points)
GOOD (3+)	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
LGE provides a strong definition of the precautionary principle reflecting the need to take action to eliminate harmful chemicals even though their effects may not be scientifically proven. **More information.**	LGE's product specs in the Manual for Preparation of Environmental Regulations earn them top marks. **More information here** and **pdf here.** **LGE's substance list** includes future substances to be reduced, including beryllium and antimony.	LGE has backtracked on its commitment to eliminate PVC and BFRs in all its products by 2010. Now only mobile phones will be free of these toxic substances from 2010; PVC and BFRs will also be banned from TVs and monitors developed by 2012. BFRs are still to be eliminated in other product lines like washing machines, but no timeline is given. PVC will be totally banned from use in household appliance models by 2014. **More information.**	The use of phthalates and antimony will be prohibited in new mobile phones only developed from 2012. The use of beryllium oxide has already been phased out, although other beryllium compounds are not referred to. Phthalates, antimony, and beryllium will be prohibited for all TVs and monitors developed by 2012; phthalates will be banned in all household appliance models developed by 2014. For maximum points LGE needs to phase out phthalates, antimony and compounds and ALL beryllium compounds and alloys in ALL products by 2012. The only phase-out plan within the reasonable timeline of 2012 is for phthalates and antimony in mobile phones (not all mobile products) and TVs. **More information.**	Mobile phones now have halogen-free housing, packaging and main printed wiring board. **More information here** and **here.** European LCD TVs are produced with halogen free housing, wiring and drive IC. **More information.** Notebooks are produced with PVC & BFR free housing. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**
LGE supports individual producer responsibility, although it recognises that for IPR to be operationalised, technically and economically feasible identification solutions are needed. To stay on one point, LGE needs to support and not just "respect" IPR. For more points, LGE should clarify its support for differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE and provide evidence of lobbying for IPR. LGE also needs to make efforts to operationalise IPR. **More information.**	LGE provides take-back of its discarded mobile phones in some 50 countries with 392 drop off points globally. About half of these countries represent voluntary take-back. However, large gaps still exist in Africa, Middle East and Latin America. **More information.** LGE has a nationwide recycling program in the US for LG, Zenith and GoldStar brands of TVs, computer monitors and other consumer electronics products. **More information.** To stay on 2 points, LGE needs to provide voluntary takeback of more product types and in more non-OECD countries. **More information.**	**Information** to customers on what to do with discarded mobile phones. **Information on other discarded products here. Information on take back of consumer electronics other than mobile phones in the US here.**	LGE reports its recycling rates for 2008 (as a percentage of past sales) as: 159% for TVs, 59% for computers and 7.1% for mobile phones. LGE has also compiled figures for e-waste recycling in Europe, Asia and North America. **More information.** To get full marks, LGE needs to provide EU figures from own brand sampling of return rate, undertaken in at least one Northern EU country, one Southern EU country and one new Member State – and provide indications of how it intends to expand this sampling in the future.	LGE reports its use of (post-industrial) recycled plastic across all LGE products as 11%, with plans to increase this to 25% by 2025. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**GOOD (3+)**
LGE supports that global GHG emissions are to peak by 2015 and the need for global mandatory cuts of GHG emissions proposed by the UN and others, specifically to "reduce CO_2 emissions by at least 50 percent below 1990 levels by 2050 in order to relieve global warming". However, no reference is made to the need for greater cuts by industrialised countries. **More information.**	LGE reports GHG emissions of 780,008 tonnes in 2007, which have been verified by DNV. The figures include scope 1, 2 and 3 but details of what comprises the scope 3 emissions aren't given. An inventory of overseas subsidiaries is planned to be established by the end of 2009. **More information.** LGE provides a **verification certificate**; however, to be legible it needs to be magnified.	LGE aims to reduce GHG emissions by 5% (75,000 tons) below the 2008 level by 2012 and by 10% by 2020. **More information.** More details of LGE's plan for reducing energy costs are in its 2006-7 sustainability report (p. 49 – 52). **More information.**	Solar panels at one of LGEs facilities are capable of producing 0.00072% of the electricity used by all LGE factories in 2007. But there are no specific targets for increasing use of renewable energy. **More information.** Details of the generation capacity of some of LG Group's renewable energy systems are given however, the percentage of energy use that these figures relate to isn't given. **More information.** LGE is investing in crystalline solar cells. **More information.**	All LGE mobile phone chargers launched since January 1, 2005 meet the latest Energy Star standard and 74.6% exceed the requirements of the ES standard by 50%. All LGE's PCs launched since July 2007 meet ES4 and 71% exceed the sleep mode by 30% and 59% exceed the standby mode standard by 30%. All TVs qualify for the ES 3.0 standard, 50% of LCD TVs and 41% of PDP TV exceed the standby limit. More than 88% of monitors meet the ES standard and more than 80% exceed its requirements. **More information.**

TOSHIBA Ranking = 5.5/10

Toshiba moves up the ranking from 7th to 5th place with a slight improvement to its score of 5.5, up from 5.3. The company gains a point on its commitment to cutting GHGs, as it has now clarified that it aims to stop increasing emissions by FY2012 and plans to control the absolute reduction at a level of 1.96 million tons by FY2012, to have emissions peak at 70% less than the FY1990 level, and decrease them by a further 10% by 2025. It also gains a point (doubled) on the energy efficiency of its products. All new LCD TVs released since November 2008 are Energy Star compliant and 21 models exceed the specifications by 30% or more and 93% of new PC platforms developed since July 07 can be configured to meet Energy Star 4. Toshiba provides clarification on what it understands by 'Energy Star configuration'.

Toshiba loses points on its use of renewable energy as clarification reveals that just 0.1% of the renewable energy purchased is additional to that provided by the grid. It scores points for supporting global cuts in GHG emissions and greater cuts for industrialised countries and for disclosing third party verified greenhouse gas emissions from its own operations.

Toshiba does well on chemicals by committing to introduce alternatives to phthalates, beryllium and antimony by 2012 in all its products. It has also launched three models of laptops with circuit boards free from brominated flame retardants (BFRs), two of which have PVC-free power cords for the Japanese market only, 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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
PARTIALLY GOOD (2+)	**GOOD (3+)**	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**
Support for the precautionary principle (PP) on Toshiba's global corporate site now refers to taking action on toxic chemicals regardless of lack of full scientific certainty and scores 2 points. **More information.** **For PC Division see commitment 4.**	Toshiba has **Green Procurement Guidelines** for suppliers and ranks suppliers. **See pdf file.** Toshiba's **PC and Network Company**. **Guidelines for Green Procurement v.6.**	Toshiba has committed to phasing out PVC and BFRs from all its products, with a timeline of FY 2009 – not only from their notebook PCs and mobiles. **More information.**	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. **More information.** **For commitment to phase out these substances in notebook PCs.**	Toshiba has no models of PC completely free of PVC and BFRs. It makes 3 models of notebook PCs (Portégé A600/dynabook NX, R500 and R600/dynabook SS RX2) with circuit board laminates free of halogens and antimony and the latter 2 models have PVC-free power cords for the Japanese market only. **More information here** and **here.** **Information on mobile phones** including PVC free USB cables and halogen free printed circuit boards. Case studies of products that are free of PVC, BFRs or other hazardous substances **here.**

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
BAD (0)	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Toshiba believes that IPR provides incentives for Design for Recycling. To score points Toshiba needs to explicitly support IPR with no 'flexibility' caveat. For full marks, it needs to clarify that this means supporting differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE, in addition to lobbying for IPR and exploring how IPR can be operationalised. **More information**.	Voluntary take-back of PCs is provided in Canada, South Korea, Australia, New Zealand, China, Singapore, Thailand and much of SE Asia. A takeback service in India was launched in May 2009 and there are similar plans in Burma, Pakistan and Cambodia. Toshiba claims its recycling programs cover 80% of total (PC) sales volume, but don't include other Toshiba products like TVs, that are so problematic at end-of-life. **More information here** and **here.** Toshiba is part of recycling joint venture MRM, together with Sharp and Panasonic, which has announced US nationwide recycling for consumer electronics, including TVs, from Nov 1 2008, with take-back offered throughout the United States. **More information.**	Comprehensive information to customers on the take-back of used PCs. Toshiba now provides information on voluntary take-back of notebook PCs to customers in Thailand, Indonesia, Malaysia, Vietnam, Philippines and India. **More information.** Information on take-back of consumer electronics including TVs in the US **here.**	Toshiba scores one point because the statistics it provides do not report separate recycling rates for PCs and TVs based on past sales. 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. **More information.** Toshiba needs to clarify how it calculates EU recycling rates.	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 needs to provide a timeline for increasing use of recycled plastic. **More information.** **Example of recycled plastic parts used in PC case** and **in a Multi Function Peripheral.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
PARTIALLY GOOD (2+)	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**PARTIALLY GOOD (2+)**
Toshiba supports global mandatory cuts in GHG emissions by over 50% and by 60-80% for developed nations by 2050 and at least 30% by 2020 as compared to 1990 levels. For full marks, Toshiba needs to support the call for global emissions to peak by 2015. **More information.**	Toshiba reports on emissions from R&D, through procurement, manufacturing, use &recycling, **see P.49 of CSR report 2008.** GHG emissions are calculated in accordance with ISO14064. **More information.** Details of third party verification of data are provided **here.**	Toshiba aims to stop increasing emissions by FY2012. It plans to control the absolute reduction at a level of 1.96 million tons by FY2012, to have emissions peak at 70% less than the FY1990 level, and decrease them by a further 10% by 2025. **More information.** **Also see p.33 CSR report 2008.** Toshiba has a target of reducing CO_2 emissions by 47% by 2012, but this is a relative 'rate to net production output'. Reduction of non-CO_2 GHG emissions is 38% by 2012 for total emissions. The baseline year is 2000. See p.48 CSR report 2008.	Toshiba gives some examples of renewable energy at Toshiba facilities and estimates that the percentage of renewable energy used by Toshiba Groups in total (additional to that supplied by the grid) is approximately 0.1%. To score points, Toshiba needs to invest in renewable energy and set a target and timeline for increased use of RE globally. **More information.**	Toshiba reports that all new LCD TVs released since November 2008 are Energy Star compliant and 21 models exceed the specifications by 30% or more. **More information.** Toshiba reports that 93% of new PC platforms developed since July 07 can be configured to meet Energy Star 4 and provides clarification on what it understands by 'Energy Star configuration'. **More information.**

MOTOROLA Ranking = 5.5/10

Motorola moves up to 6th position from 8th place, with an increased score of 5.5 points, which it gains by reporting that 15% of the energy it purchases is from renewable sources, with a goal is to increase this to 20% by 2010 and 30% by 2020. Motorola scores points on all the energy criteria, bar support for strict global and industrialised country cuts in greenhouse gas emissions. It scores maximum points on the energy efficiency of its products, reporting that from 1 November 2008, all newly designed Motorola mobile phone chargers meet and exceed by 67% the new Energy Star v.2.0 requirements for standby/no-load modes. Motorola also discloses greenhouse gas emissions, although it fails to publish its third party verification certificate of CO_2 equivalent emissions, and commits to cuts of 6% in its absolute greenhouse gas emissions by 2010, compared with 2000.

Motorola scores relatively well on the chemicals criteria and has a goal to eliminate PVC and BFRs in all products introduced after 2010, despite the fact that Sony Ericsson has already achieved this goal and Nokia is almost there. It has launched 59 models of mobile phone with BFR free circuit boards, but only two models are free of PVC.

On waste issues, Motorola scores well for its take-back and recycling service in 72 countries, representing over 90% of global mobile phone unit sales and for providing good information to its individual customers. 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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
GOOD (3+)	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Motorola has a definition of the precautionary principle that identifies the preventive measures to be taken to eliminate the use of hazardous substances even when scientific evidence is limited or conflicting. **More information.**	Motorola provides a list of banned and reportable substances in its Global Common Specification No. 12G02897W18 (updated 15 May 2008) **More information.** **As a pdf.**	Motorola has set a goal to eliminate PVC and BFRs in all new designs introduced after 2010, with such products available in 2010. **More information.**	Motorola has set a goal to eliminate phthalates in all new designs introduced after 2010, with such products available in 2010. **More information.** Antimony and compounds and Beryllium and compounds are listed as reportable in Motorola's list of banned and reportable substances. **More information.**	Motorola lists 7 current models (in addition to 52 previously available models) of mobile phone whose circuit boards are free of BFRs. Two 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.** Product Eco Facts for the MOTO W233 Renew are **here.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**BAD (0)**
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 clarify that its support of IPR means it supports differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE. **More information.**	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. **More information.**	Information is provided to individual customers in the countries where Motorola offers voluntary programmes. However, information for customers in countries such as Singapore could be improved. For some countries, e.g. Nigeria, South Africa, Motorola provides only one to three drop off locations, with no tel or email information. Motorola also takes back network equipment if requested by customers. **More information.** Motorola's take-back programme for modems and routers. **More information.**	Motorola's global take-back rate for 2008 was an estimated 2.5% of mobile phones sold in 2006 (compared to 3% in 2007); it did not achieve its goal to increase the collection of e-waste by 5%. Although Motorola provides the source of data for calculation, there is no explanation of how EU figures were calculated. To increase its score 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. **More information.**	Motorola is increasing the proportion of recycled materials used in its products, although no quantities are given. **More information.** 25% of the housing of the MOTO W233 Renew is made using plastics comprised of recycled water bottles. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
BAD (0)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY GOOD (2+)**	**GOOD (3+)**
Motorola supports global mandatory greenhouse gas emission reductions by at least 50 percent below 1990 levels by 2050. **More information.**	Motorola calculates that in 2008, its carbon footprint (scope 1 and 2 emissions from the Greenhouse Gas Protocol) totalled 535,377 tonnes CO_2 equivalent, compared to 671,791 tonnes in 2005. Motorola's emissions are reported annually, audited and verified by the Financial Industry Regulatory Authority, through the Chicago Climate Exchange, although Motorola scores no points for this as there is no copy of this verification. In addition, there is no data about product supply chain emissions. **More information.**	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. **More information.**	Currently about 15 percent of Motorola's electricity is purchased from renewable sources. Its goal is to increase its purchase of electricity is from renewable sources to 20% by 2010 and 30% by 2020. Currently, 20% of its U.S. electricity is from renewable sources; renewable energy certificates are purchased from NativeEnergy. To stay on 2 points, Motorola needs to address concerns about the additionality of its renewable energy by providing a breakdown of the various sources of RE and showing that RE that is part of the general power supply is not included. **More information.** Motorola gives examples of fuel cell base stations powered by RE in Denmark and wind and solar powered base stations in Namibia. **More information.**	From 1 November 2008, 100% of newly designed Motorola mobile phone chargers meet the new ES2 requirements and exceed by 67% the requirements for standby/no-load modes. All of Motorola's newly designed chargers meet the new EU CoC target of 0.25 watts for standby power. **More information.**

PHILIPS Ranking = 5.3/10

Philips falls from 4th to 7th place with a slightly reduced score of 5.3 points. Philips now supports IPR and is committed to actively work towards developing IPR based recycling systems and their supporting financial mechanisms; it doesn't score more points on this criterion yet, because it now has to put this commitment into practice. Philips also scores a point for its voluntary take-back pilots and for reporting on the recycling rate of the e-waste it collects in Europe and now needs to demonstrate its commitment to taking responsibility for its own e-waste by expanding its take-back programme and improving the information that its provides to its customers.

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 has now put on the market TVs with PVC/BFR-free housings (EU market only so far), PBV/BFR-free Senseo and oral healthcare products and a PVC-free remote control, but these are insufficient to score one point (doubled).

Philips drops a point (doubled) on energy, because it is unclear if it is reporting to the latest Energy Star standards for TVs and external power supplies. Philips scores full marks for supporting the levels of cuts in greenhouse gases needed to abate dangerous climate change and committing to absolute cuts in its operational carbon footprint of 25% by 2012 (using a baseline year of 2007). It also scores points for disclosing externally verified carbon dioxide equivalent emissions and for sourcing 15% of all electricity used in 2008 from renewables.

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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
GOOD (3+)	**GOOD (3+)**	**GOOD (3+)**	**GOOD (3+)**	**BAD (0)**
Philips' definition of the Precautionary Principle identifies the need to take preventative measures without full scientific certainty. **More information.**	Philips scores top marks for providing Product and Process Specs, criteria for identifying 'future substances' for elimination and examples, namely 'reported' substances. **More information.** **Restricted substances in Products list.** **Restricted substances in Processes list.** **Criteria for identifying 'future' substances for phase out.** **List of "relevant" substances.**	Philips had a goal to have certain models of consumer products free of PVC and BFRs by the end of 2008 and aims to phase out PVC and all BFRs in new models by the end of 2010. Philips has eliminated BFRs and PVC in TV housings for the EU market, in Senseo and oral healthcare products. **More information.**	All phthalates and antimony will be eliminated by December 31 2010. Arsenic is to be eliminated from TV glass and other displays from 2008. **More information.** Beryllium and its compounds are already restricted with a threshold of 1000 ppm, but include exemptions. **More information.** Philips needs to provide a timeline for overcoming the exemptions on beryllium.	Philips has put on the market TVs with PVC/BFR-free housings (EU market only so far), PBV/BFR-free Senseo and oral healthcare products and a PVC-free remote control. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY BAD (1+)**	**BAD (0)**	**PARTIALLY BAD (1+)**	**BAD (0)**
Philips supports the principle of Individual Producer Responsibility (IPR) and has pledged to actively work towards developing IPR based recycling systems and their supporting financial mechanisms. **More information.** Coherent with their support of IPR Philips has clarified that they do not support the use of the Visible Fee for new WEEE. For full marks on IPR Philips needs to sign the EU IPR coalition statement and reject Art 14.2. (continued use of the Visible Fee) of the EC proposal for a revised WEEE Directive. Like other brands that support IPR Philips must support, and promote for the WEEE revision, a system that would shift to differentiated/ individualised financing for own-brand real end-of-life costs, e.g. no longer using collective financing such as market share but instead individualised financing reflecting real costs such as a return share system.	It is Philips' intention to help establish global collection and recycling systems. **More information.** Philips has set up a pilot project in India encompassing 8 cities with 27 service centres. **More information.** Pilot projects have also started in Brazil and Argentina, otherwise, there is no voluntary take-back offered by Philips, although in the US Philips lists local recyclers for customers to contact. **More information.** To stay on 1 point, Philips needs to institutionalise the pilot projects and expand its take-back programme to other countries.	Philips provides general advice to customers on recycling, contacts for recyclers in most of the EU (excluding some New Member States), and a search tool to locate recyclers courtesy of the Consumer Electronics Association in the US. Philips fails to score any points because the EU links are mainly to recyclers of lighting equipment only. **More information.** **Much improved information for customers in India.**	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. **More information.**	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)
GOOD (3+)	**PARTIALLY GOOD (2+)**	**GOOD (3+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**
Philips believes that global emissions should peak in 2015 and decline thereafter to achieve a 50-80% cut in 2050. It supports mandatory cuts in domestic emissions in industrialised countries of at least 30% by 2020. **More information.**	Philips discloses its CO_2 equivalent emissions to be approximately 2.147 million tons in 2008 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. **More information.** **Data definitions and scope – p.181, Operational carbon footprint – p.183-184, KPMG verification – p.189**	Philips is committed to reducing its operational carbon footprint by 25% by 2012, using 2007 as a baseline. Philips needs to demonstrate its progress towards this target. **More information.**	In 2008, Philips doubled its purchase of green electricity from 7% in 2007 to 15% in 2008. 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. For maximum points Philips needs to increase its purchasing of renewable energy and address concerns about the additionality of its RECs. **More information.**	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. In 2008 all TV models exceed the ES requirements for standby power consumption by at least 70%. **More information.** 10% of Philips current battery chargers models fulfil the Energy Star requirements. These models exceed the technical Energy Star requirements by 5-15%. **More information.** Philips loses a point as it is unclear if it is reporting to the latest Energy Star standard, v.3 for TVs and v.2 for EPS.

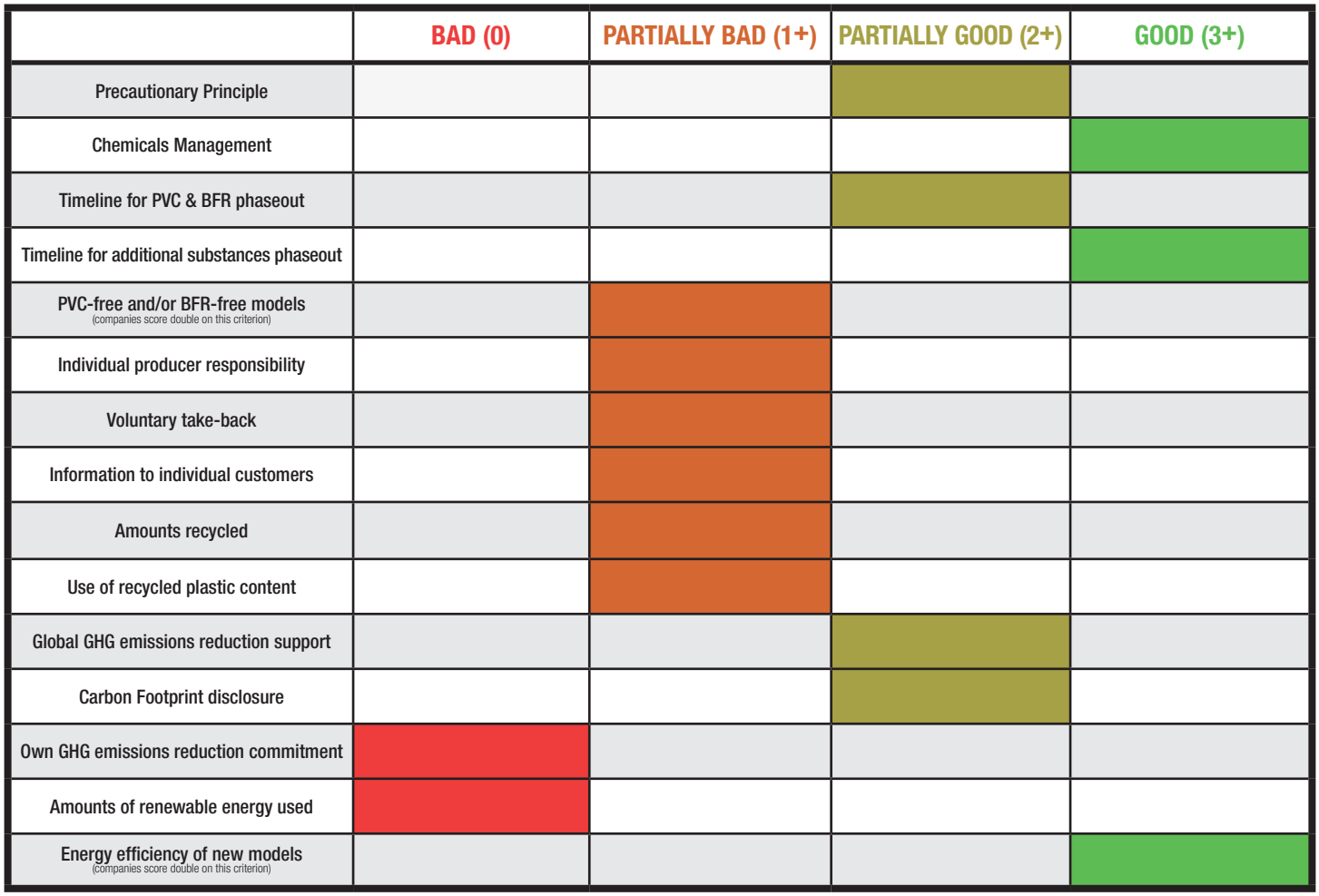
SHARP Ranking = 5.3/10

Sharp continues to move up the ranking from 9th place to joint 7th, with an increased score of 5.3 points, which it gains for energy efficiency of its products, reporting that all of its TVs meet the latest Energy Star standard and at least half exceed it in standby mode. In addition, all MFPs (multi-functional products) qualify under ES1.1, with nearly 70% at least 30% more energy efficient than the baseline. On other energy issues Sharp only 'contributes' to rather than explicitly 'supports' a mandatory global initiative that requires industrialised countries to reach their peak greenhouse gas emissions by 2015 and cut their greenhouse gas emissions at least 30% by 2020. Sharp discloses third party verified GHG emissions from its own operations and reports that 9% of the electricity it used worldwide in fiscal 2006 came from renewable energy sources; however, as most of this is provided as part of the Japanese grid, it scores no points.

Sharp scores well for its policy and practice on toxic chemical issues, although its definition of the precautionary principle is incomplete and it specifies the end of fiscal 2010, rather than calendar year 2010, for its phase out of PVC and BFRs. It provides a timeline of fiscal 2010 for eliminating phthalates and antimony. Sharp has launched many models of LCD TVs and solar modules that are free of PVC (except accessories) and now has 14 models of LED lightings that are BFR free.

On e-waste criteria, Sharp has a voluntary take-back programme for TVs and consumer electronics in the US, which is nationwide; 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 supports Individual Producer Responsibility but needs to clarify its support for IPR, as well as show evidence of lobbying for IPR.

SHARP Overall Score



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)
PARTIALLY GOOD (2+)	**GOOD (3+)**	**PARTIALLY GOOD (2+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**
For full marks, Sharp needs to better define its understanding of the precautionary principle as it relates to Sharp's chemical policy. There is no reference to scientific uncertainty, which cannot be used as an excuse for lack of action on chemical substitution. **More information. Basic Environmental Philosophy** (point 2.2).	Sharp scores top marks for its **Manual for Survey of Chemical Substances and Green Procurement Guidelines.** Sharp has identified a **list of substances** for future restriction or elimination and criteria for their consideration. **Manual for Survey of Chemical Substances Contained in Parts and Materials. Green Procurement Guidelines.**	Sharp commits to eliminate PVC and BFRs from all products by the end of fiscal 2010 i.e. end of March 2011, provided it can find suitable alternatives. To regain top marks, the phase-out date needs to be moved forward by one quarter to the end of calendar year 2010. **More information.**	Sharp commits to eliminate phthalates and antimony from all products by the end of fiscal 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. **More information.**	Sharp provides a list of many models of LCD TVs, solar modules and mobile phones that are free of PVC, except accessories. Many models of LCD TVs, DVD projectors, audio and video products and mobile phones have casings free of BFRs. Sharp now has 14 models of LED lightings that are free from BFRs. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Sharp states that it promotes environmentally conscious product design according to the principle of Individual Producer Responsibility. Sharp needs to clarify that it supports IPR and that this means it supports differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE; it also needs to show evidence of lobbying for IPR. It 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. **More information.**	Sharp offers nationwide recycling in the US, including TVs and Consumer Electronics, which covers all US States. **More information here** and **here.** 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.	Links to local Sharp contacts for customers in EU, US, Canada, Japan and Australia are provided but Sharp needs to expand take-back services so that it can serve more of its customers. **More information. US MRM recycling network.**	Sharp provides figures for recycling of TVs, copiers, PCs & washing machines (by wt) for 2005 (40.1%), 2006 (41.9%) and 2008 (48.9%) but only for Japan and reports a composite recycling rate for 4 product types, not just TVs. **More information here** and **here.** Sharp reports Japanese recycling rate based on sales 10 years ago. **More information.** The amounts of used electrical products collected in Maine, Minnesota, and at 100 recycling events, are also provided. The amounts collected in Germany, UK and Czech Republic are given as a percentage of current sales, but the way it calculates its return share in the EU's collective systems is not clear. **More information.**	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. **More information here** and **here.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
PARTIALLY GOOD (2+)	**PARTIALLY GOOD (2+)**	**BAD (0)**	**BAD (0)**	**GOOD (3+)**
Sharp contributes to a mandatory global initiative that requires industrialised countries to reach their peak greenhouse gas emissions by 2015 and cut their greenhouse gas emissions at least 30% by 2020, and that calls for worldwide emissions to be reduced at least 50% from 1990 levels by 2050. For full marks, Sharp needs to state explicit support for global (not just industrialised country) emissions to peak by 2015 and support for cuts by industrialised countries of at least 30% by 2020. **More information.**	Sharp reports on GHG emissions from its own operations in absolute terms and per production unit. **More information. Verification details. Calculation standards for Envi Performance Indices.** Sharp provides data giving a breakdown of CO_2 emissions for products during their life cycle. **More information.**	Sharp has a target to reduce relative CO_2 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. **See CSR report 2008** (p.24 - 25, p.35) As a result of various measures taken by Sharp, CO_2 emissions from its existing factories will peak by the end of fiscal 2008. **More information.**	Sharp estimates that approximately 9% of the electricity it used worldwide in fiscal 2006 came from renewable energy sources. However, Sharp has clarified to Greenpeace that most of this 9% is provided as part of the Japanese grid, so it scores no points. **More information.** 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, there is no commitment or timeline to increase the use of renewable energy. **More information.**	100% of Sharp TVs meet the latest ES requirements with 64% at least 50% more efficient in standby mode. In addition, 100% of MFPs qualify under ES1.1, with nearly 70% at least 30% more energy efficient than the baseline. A wide range of other Sharp products are also ES qualified. **More information here** and **here.**

ACER Ranking = 4.9/10

Acer moves up the ranking from 11th to 9th place, with an increased score of 4.9 points, gained for putting on the market 16 models of monitor with many parts that are almost free of PVC vinyl plastic and brominated flame retardants (BFRs), except for the power cord. At the last ranking, the company was not penalised for backtracking on its commitment to eliminate PVC and BFRs in all products by the end of 2009 as internal communication with Acer revealed that it believes that it can still meet this commitment. Acer now needs to transition its PCs to using no BFRs or PVC.

Acer 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.

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. Acer needs to clarify its support for Individual Producer Responsibility and do more lobbying for Individual Producer Responsibility; extend its voluntary take-back and recycling programme beyond India and start sourcing recycled plastic.

Acer does a little better on the energy criteria, 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 has updated its reporting on the energy efficiency of its products; since 20 July 2007, 71.3% of Acer notebook PCs, 38.5% of Acer desktop PCs and 100% of Acer LCD monitors meet the latest Energy Star standard. Acer needs to set a target for absolute cuts in greenhouse gas emissions and start sourcing renewable energy.

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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
GOOD (3+)	**GOOD (3+)**	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**
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. **More information here** and **here.**	Top marks for describing the mechanisms for identifying **future substances of concern. Supply chain management.**	Acer pledges to prohibit PVC and BFRs from use in new products by 2009, in their **Hazardous Substances Free (HSF) plan.** Progress in implementing HSF plan **here**, **here** and **here**. **Technology assessment results.**	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. **More information.**	Since October 2008, Acer has presented 16 models of LCD monitor with improved environmental performance and whose BFR/PVC-free parts include product casing, printed circuit board laminates, connectors and internal cables, but not the power cord. Acer now needs to transition its PCs to using no BFRs or PVC. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**BAD (0)**
Acer supports and actively strives for IPR. To score more points, Acer needs to clarify that support for IPR means requirement for differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE. Acer also needs to provide examples of where it is doing advocacy and details of operationalisation of IPR. **More information.**	Acer provides take-back services where required to do so by national EPR laws. The only exception seems to be India where Acer now takes back and recycles for free. It is unclear if Acer provides take-back in some US states and Canadian provinces, as the links provided are to NGOs and EPA's Plug in to e-cycling. To stay on one point, Acer needs to extend the coverage of its take-back services. **More information.**	Recycling information provided for EU, Japanese, Taiwanese and Indian customers only. Information for US customers needs to be more relevant. In the EU, some of the links provided navigate to trade associations (e.g. France, Czech Republic) and not to recyclers. **More information. Europe. Taiwan. Japan. India.**	Acer now reports a recycling rate of 29.8% in 2007 based on sales 6 years ago, for desktops and notebooks sold and recycled in Taiwan. However, the data is only for Taiwan and relies on many assumptions. **More information.**	Currently no Acer products contain recycled plastics, however Acer is following technological advancements in applications of secondary plastics. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
PARTIALLY GOOD (2+)	**PARTIALLY BAD (1+)**	**BAD (0)**	**BAD (0)**	**PARTIALLY GOOD (2+)**
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 industrialised countries (compared to 1990 levels). For full marks Acer needs to support calls for global GHG emissions to peak by 2015. **More information.**	Acer reports on its GHG emissions from its global operations that in total emitted 46,592 CO_2 equivalent tonnes in 2007. Scope 1 and 2 emissions are reported, as well as business travel in Scope 3. Acer plans to extend this reporting to its supply chain, through the Supply Chain Leadership Collaboration (SCLC) of the Carbon Disclosure Project (CDP). To score more points, Acer needs to provide external verification of its calculations. **More information.**	Acer expects to finalise its short-term, mid-term and long term GHG reduction targets in 2009 This is delayed as previously Acer expected to finalize its mid- and long-term GHG reduction targets in winter 2008. **More information.**	A global survey was 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. Acer needs to update its website with the results of this survey and set targets for its use of renewable energy. **More information.**	Since Energy Star published its updated standards on July 20, 2007, 71.3% of Acer notebook PCs, 38.5% of Acer desktop PCs and 100% of Acer LCD monitors meet the latest standard. Acer has recently updated these figures. Computers need to leave the factory with the highest settings for energy efficiency. **More information.**

PANASONIC Ranking = 4.9/10

Panasonic moves up from 12th to 10th place with an increased score of 4.9 points, up from 4.3. It now scores top marks for reporting to the latest Energy Star energy efficiency standards for external power supplies and TVs. All new models of TVs meet the latest ES requirement, with 100% exceeding the standby mode requirement by 70% or more.

This improves Panasonic's score on the energy criteria where it also scores points for supporting cuts of greenhouse gases of up to 30% by 2020 and peaking by 2020 (not the required 2015); disclosing greenhouse gas emissions from its own operations and committing to absolute reduction in emissions, albeit unverified by a third party.

Panasonic's score on use of toxic chemicals is boosted by many models of PVC-free products on the market, 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. 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 whole 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 it has launched a recent voluntary take-back programme for TVs and consumer electronics in the USA which is now 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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
PARTIALLY BAD (1+)	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**PARTIALLY GOOD (2+)**
For full marks, Panasonic needs to define its understanding of the precautionary principle as it relates to Panasonic's chemical policy. Panasonic's definition of this principle is confusing with no reference to the outright elimination of potentially hazardous substances and proactive searching for safer substitutes. **More information here** and **here.**	Pansonic's web pages on chemicals management contain a lot of detailed information. **Summary explanation on management of chemical substances here**. **More information here** and **here.** **Chemical Substances Management Rank Guidelines Ver.6** (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. **More information here** and **here.**	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. **More information.** Beryllium is a Managed Substance whose use (above 1000 ppm) needs to be monitored. However, no time line for total elimination. **More information.**	**There are many more examples of PVC-free models** 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. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Panasonic supports Extended Producer Responsibility in its **global policy** 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. **Panasonic ppt on IPR.** To avoid being heavily penalised for undermining the development of IPR in the EU Panasonic needs to provide clear public support for IPR on its website and clarification that this means supporting a move away from collective market share financing and not extending the use of Visible Fee for new WEEE.	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. This take-back service is now available in all 50 States at 310 drop-off points. **More information.** **Information on the different regions including China**. To stay on 2 points Panasonic needs to expand its voluntary take-back of more product groups beyond the US.	Information to customers is available in European countries with EPR laws and for electronics, batteries and toner cartridges in US. No information is available to consumers about the recycling programmes in China and Japan. However, the web-pages are difficult to navigate and hence the information is not easy to access. **More information here, here** and **here. See here for US.**	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. **More information.** For Europe information on recycling rates (2007 & 2008) based on current sales is provided for 17 countries. Panasonic has undertaken sample tests for the return share of TVs in five European countries; UK (5.8%), Germany (1.9%), Austria (2.0%), Spain (3.0%), Italy (1.7%) and Czech Republic (4.0%). These tests are being continued in a few more countries, and the results will be published accordingly. For more points Panasonic needs to calculate the quantities recycled in relation to past sales for other regions – the US and Korea as a minimum - and establish a target to increase the quantities recycled. **More information.**	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. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
PARTIALLY GOOD (2+)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**GOOD (3+)**
Panasonic refers to cuts advocated by IPCC (50% by 2050 compared to present level) and the stricter goals that the year 1990 should be adopted as the baseline year and that industrialised countries reduce emissions by up to 30% by 2020. Panasonic supports the view that global GHG emissions must peak out around ten years from now considering seriousness and urgency of climate change issues and states that drastic cuts are needed. For more points, Panasonic needs to support the call for GHG emissions to peak by 2015 and for industrialised countries to reduce emissions by AT LEAST 30%. **More information.**	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. **More information.** **Emissions from transportation for 2008 are reported**: 1.05 million tons CO_2 globally and 190,000 tonnes in Japan. Data on GHG emissions in Japan (p9), globally (p 30) and verification (p 65) are also presented in **Panasonic's Environmental Data Book 2008.** However, the Natural Step does not verify GHG emissions data so Panasonic loses a point. **More information.**	Panasonic is committed to reducing the absolute amount of CO_2 emissions by 300,000 tons between fiscal year (FY) 2008 to FY2010 compared to FY 2007 level. This represents a 7% cut in emissions between 2008 and 2010. In addition it also promised to lower CO_2 emissions to the level of FY 2001 by the end of FY 2011. **More information.** Targets are also presented in **Panasonic's Environmental Data Book 2008** (page 7). **pdf here.**	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. **More information.**	Panasonic gets full marks for reporting that 100% of new models of TVs meet the latest ES requirement, with 100% exceeding the standby mode requirement by 70% or more. 100% of External Power Supplies for mobile phones for the Japanese market (Panasonic only sells mobile phones in Japan) meet the previous Energy Star requirement and exceed it in no load mode by approx. 85%. 100% of new PCs launched in 2007 meet the latest Energy Star requirement and 46% exceed the requirements in OFF mode by 30%, and by 37% in Idle mode. **More information.**

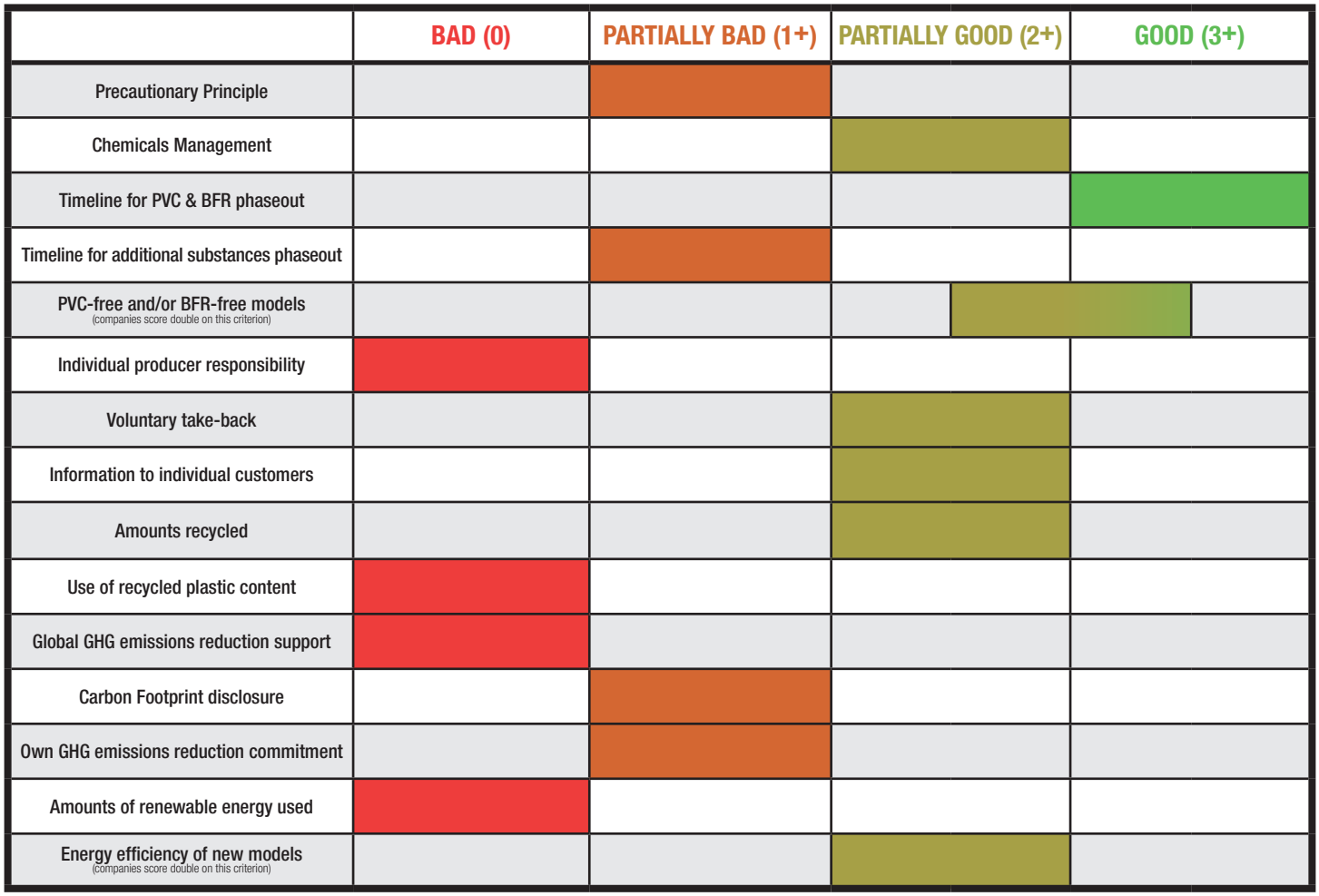
APPLE Ranking = 4.7/10

Apple's score remains at 4.7 points but it drops one position in this edition of the ranking to 11th place. All Apple products are now free of PVC and BFRs with the exception of PVC-free power cords which are in the process of being certified. But Apple fails to score top marks on this criterion because it uses unreasonably high threshold limits for BFRs and PVC in products that are allegedly PVC-/BFR-free. The company needs to be commended for running a bold advertising campaign highlighting the green credentials of its MacBooks. Apple still needs to commit to phasing out additional substances with timelines, improve its policy on chemicals and its reporting on chemicals management.

On the e-waste criteria, Apple has improved coverage of its take-back programme with take-back and recycling services now extended to the Asia-Pacific region, including India, China, Hong Kong, Malaysia, Singapore, New Zealand, Korea and Australia. It reports 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. Apple has set a new goal of achieving a 50% recycling rate by 2010.

On the energy criteria, Apple scores a point for reporting that its greenhouse gas emissions were reduced by 3 percent year over year from 2006 to 2007. The company also discloses the carbon footprint of every model of product – although not exactly what is being evaluated in the criterion. Apple's score on the energy efficiency of its products would improve if it provided data on what proportion of its products exceed the latest Energy Star standards and by how much. Apple has yet to report the proportion of renewable energy in the electricity it uses.

APPLE Overall Score



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)
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**PARTIALLY GOOD (2.5+)**
Although Apple makes no reference to the precautionary principle, its progress in eliminating hazardous substances seems to be guided by three important elements of this principle: preventive action, voluntary elimination and proactive search for safer substitutes. For more points Apple needs to use the term Precautionary Principle and take action on eliminating potentially hazardous substances even if the scientific jury is still out as to their degree of harm. **More information.**	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. **More information.**	Apple planned to completely eliminate the use of PVC and brominated flame retardants in its products by the end of 2008. Currently nearly all Apple desktops and notebooks ship with PVC-free and DEHP-free internal cables and Apple is in the final stages of certifying PVC-free AC power cables that are also free of phthalates. Apple plans to eliminate all forms of chlorine and bromine, not just those in PVC and flame retardants. **More information here** and **here.**	Apple states that it has made its small remaining applications of beryllium a future target for phase-out. Apple is banning DEHP and other phthalates from all new product designs (although the other types of phthalates are not specified). Arsenic is now on Apple's list of substances that it is in the process of substituting. However, no timeline for completing phase-out of the above substances is given. Antimony is not mentioned. **More information.**	All Apple products are now free of BFRs and PVC with the exception of power cords which are undergoing certification. Apple scores 2.5 points on this criterion – not full marks as Apple's threshold of 900ppm for defining BFR/PVC-free is too high and needs to be lowered if it is to score full points on this criterion. Greenpeace applauds Apple's new advertising campaign highlighting the green credentials of its MacBook. The **MacBook, MacBook Pro** and **MacBook Air. Environmental reports and specs here, here** and **here.** The **Mac Mini** and **iMac, iPod** and **iPhone.**

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
BAD (0)	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**BAD (0)**
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 – for example clarifying that this means differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE, and refer to the eco-design benefits of IPR. **More information.**	Apple now operates or participates in recycling programs in countries where more than 95 percent of its products are sold. Apple has recently added India, China, Hong Kong, Malaysia, Singapore, New Zealand, Korea and Australia to its voluntary take-back programmes that accept all Apple branded e-waste. **More information.** **Free recycling for iPods & mobile phones** of all brands (US only). **New free recycling** of old monitors and PCs of any brand from Apple stores & online sales (US only). **Apple product batteries take-back** (US only)	Information is provided to individual customers on how to recycle e-waste in the US, Canada, Europe, Japan and Asia Pacific; however, no information is available to customers in 'New Europe'. **More information here** and **here.** **US & Canada.** **Europe.** **Japan.** **Asia Pacific.**	Apple recycled 30.5 million pounds of electronic waste and reports a recycling rate of over 38% in 2008, as a percentage of sales 7 years ago. This has surpassed its 2009 and 2010 goals and Apple has now set a new goal of achieving a 50% recycling rate by 2010. **More information.** Apple's recycling programmes across Europe accounted for 37% of the global recycling weight in 2008; for full marks, Apple needs to provide the methodology used to calculate this data, by supplying EU figures from own brand sampling of return rate.	Apple recognizes the need for environmentally responsible production, including the use of recycled and bio-based materials and the elimination of environmentally harmful substances. **More information.** No information on overall amount of recycled plastic used but some examples of applications e.g. in cover for iPhone. e.g. Agent 18 Ecoshield for iPhone 3G is made of recycled post-consumer plastic bottles. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
BAD (0)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**PARTIALLY GOOD (2+)**
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. **More information here** and **here.** Apple has estimated the life cycle GHG emissions, including a breakdown of their source, for individual models of products in Product Environmental Reports. However, there is no data on GHG emissions from its full operations. To score more points, Apple needs to present the information in the required format and not 'per employee' which is less transparent. **More information here** and **here.**	Apple seeks to minimise GHG emissions by setting stringent design-related goals for material and energy efficiency per model of product. However, there are no details of these goals. **More information.** Apple scores one point as its emissions were reduced by 3 percent year over year from 2006 to 2007. **More information.**	Apple does not provide data on renewable energy sourced globally as a proportion of total electricity use. The only references to renewables concern Apple's manufacturing site in Cork, Ireland which will convert to 100% local renewable sources in 2008, avoiding 4 million pounds of CO_2 equivalent emissions, and the purchasing of renewable energy in Austin, Texas. **More information.**	Apple states that every Mac it ships is Energy Star 4.0 compliant as a standard feature. **More information.** 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. For full marks, Apple needs to make its information more accessible. **More information.** **See Product Environment Reports** for details on Energy Star compliance.

SONY Ranking = 4.5/10

Sony drops from 5th to 12th place with a reduced score of 4.5, down from 5.5. It loses points on: the precautionary principle criterion; for setting a timeline beyond 2010 (FY2010 means March 2011) for eliminating PVC and Brominated Flame Retardants (BFRs) in mobile products only; for failing to support Individual Producer Responsibility; for failing to extend its voluntary e-waste take-back and recycling programme beyond North America and for weak support for the levels of cuts in greenhouse gas emissions needed to curb dangerous climate change.

On energy, Sony scores points on the energy efficiency of its products by reporting that all new models of TVs released in 2008 meet the latest ES requirements, and 45% of new models of "VAIO" PCs launched July 2007 to November 2008 meet the ES requirements for PCs. It discloses externally-verified greenhouse gas emissions for over 200 sites and has committed to absolute cuts in GHG emissions. However it needs to set a target and timeline for increasing its use of renewable energy globally.

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 recorder and many models of the VAIO PC, "WALKMAN", camcorder and digital camera. It still needs to set a timeline for eliminating all phthalates, beryllium copper and antimony and its compounds.

On waste issues, Sony scores relatively poorly for its voluntary take-back and recycling of the e-waste generated by its branded products, as there is little voluntary take-back and recycling in non-OECD countries. It reports a recycling rate of 54% based on past sales of TVs and PCs, but this information is only for Japan and separate data need to be reported for TVs and PCs.

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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
PARTIALLY BAD (1+)	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**PARTIALLY GOOD (2+)**
Sony makes no reference to the precautionary principle even though its progress in eliminating hazardous substances seems to be guided by three important elements of this principle: preventive action, voluntary elimination and active search for safer substitutes. Sony loses a point as it needs to use the term Precautionary Principle and state that it will take action on eliminating potentially hazardous substances even if the scientific jury is still out as to their degree of harm. **More information.**	Sony provides information in SS-00259 (8th edition, March 2009) Management Regulations and Green Partner programme to ensure implementation of the Regulations. **More information here** and **here.**	Sony provides a timeline of end of Fiscal Year 2010 which means April 2011 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. Sony loses a point as it needs to bring forward its timeline by one quarter to end of CY 2010. **More information.**	Sony is working to eliminate specific phthalates used as a plasticiser in PVC, although a timeline for all products isn't specified. **More information.** 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. **More information.**	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 but PVC is still used in external cabling. They are free of BFRs in casings and main printed wiring boards, but not all wiring boards. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY BAD (1+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Sony loses points on this criterion because it) 'respects' rather than supports the principle of Extended Producer Responsibility – rather than individual producer responsibility. For more points Sony will also need to clarify that this means supporting differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE, explore options for operationalising IPR and continue to lobby for IPR. **More information.** Sony is a member of the European Recycling Platform established to implement IPR. **More information.**	Sony has now established a nationwide recycling program in the US, together with WM Recycle America. For more points, Sony needs to expand its take-back programme in non-OECD countries. **More information.** 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. **More information.** **Sony offers battery take-back and recycling in Brazil, Australia and New Zealand.**	Sony provides information to individual customers in the EU, US (including on batteries) and Japan, but not in Canada. **More information.** **Also see Sony Take Back Recycling Program website for the US.**	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 and there is no differentiation for TVs and PCs. **More information.** 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. **More information here** and **here.** **Recycling in Europe and ERP**	Sony currently uses approximately 2,000 tons recycled plastics annually in various products. Approximately 82% of this is post consumer plastic, with 18% post industrial plastic. Sony has set its reused/recycled materials ratio targets at 12% or higher, but it has yet to provide a timeline for this target. **More information.** **Sony describes the development of its resource conservation system.**

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)
BAD (0)	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY GOOD (2+)**
Sony fails to score points because the Tokyo Declaration it co-signed calls for emissions to peak in 10 to 15 years, rather than by 2015, uses a baseline year of 2000 (not 1990) and fails to differentiate between the higher cuts in GHG emissions required by industrialised countries. **More information.**	Sony discloses third party verified GHG emissions totalling approximately 22.52 million tons in fiscal 2007, of which 3.32 million tons are Sony's own emissions. The increase of some 7% in GHG emissions from 2006 was due primarily to an increase of approximately 8% in CO_2 generated during product use. **More information here and here.** **Methods and approach. Verification is detailed.**	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. **More information here and here.** A reduction of 6.6% in GHGs was achieved by FY 2007 (baseline 2000). **More information.**	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. As of March 2009, Sony's US renewable energy purchases make up around 21% of its monthly electricity purchases. **More information.** The total percentage of RE used and a commitment and timeline to increase its use globally is needed.	All new models of TVs released in 2008 meet the latest ES requirements, and 45% of new models of "VAIO" PCs launched during July 20th 2007 to November 2008 meet the ES requirements for PCs. Ten out of eleven BRAVIA TVs released in Japan earn a 5 star energy rating under Japanese standards. **More information.**

DELL Ranking = 4.9/10 - 1 = 3.9/10

Dell stays in 13th position, with a slightly improved score of 3.9 points, up from 3.7 points in v.11. Dell's score has plummeted due to the penalty point imposed for backtracking on its commitment to eliminate PVC and BFRs in all its products by the end of 2009. Dell no longer has a timeline for eliminating these nasty substances which means there is no commitment to phase them out entirely.

On the energy criteria, Dell gains a point for announcing that 26% of its global electricity use now comes from renewable energy sources, up from 20% in 2008. It has committed to reduce global absolute emissions of greenhouse gases from its worldwide facilities by 40% by 2015, from a baseline year of 2007. It loses points on the energy efficiency of its products; although Dell reports that 50% of laptop models and 63% of desktops introduced since July 20, 2007 meet or exceed Energy Star requirements, it 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. The company also scores points for disclosing third party verified GHG emissions from global operations.

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. Dell recently launched the G-Series Monitors, its first completely PVC and BFR free products on the market, although PVC- and BFR-free cables are currently available only in North America, Japan and Europe/Middle East and Africa.

On waste, Dell loses a point for failing to clarify its support for Individual Producer Responsibility and not collective financial responsibility. It gains a point for reporting use of 4 mln pounds (1800 tonnes) of post consumer recycled plastic in 2008. It reports a recycling rate of 12.4%, based on sales 7 years ago, but needs to also provides EU figures for e-waste recycling, based on own brand sampling of return rate.

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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
GOOD (3+)	**GOOD (3+)**	**BAD (0)**	**BAD (0)**	**PARTIALLY BAD (1+)**
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 here** and **here.**	Dell's chemicals management programme lists substances targeted for substitution and explains how it manages its supply chain to achieve its substitution goals. **Guidance Document on Restricted Materials 2008. More information.**	Dell loses points because there is no longer the timeline of 2009 for eliminating PVC and BFRs. No timeline means no commitment, hence the zero score. **More information here, here** and **here**	Dell has identified Antimony, Phthalates and Beryllium as substances of concern, but they are not currently restricted. Instead they are listed in a table entitled: Future Material Declaration Requirements. See p. 10 Guidance Document on Restricted Materials. **More information.** Dell also plans to eliminate mercury by using LED laptop displays and will introduce arsenic free display glass in newly designed notebooks and display monitors by the end of 2009. **More information.**	In late February 2009, Dell launched the G-Series Monitors, its first completely PVC and BFR free products on the market (although PVC/BFR/CFR free cables are currently available only in North America, Japan and EMEA). Dell has launched some "Halogen-Reduced" products. The Studio Hybrid desktop and the Latitude E4200 laptop have a motherboard with multiple halogen free laminates and halogen free chassis. Dell also offers a wide variety of Flat Panel Displays with multiple halogen free boards and chassis. **More information here** and **here.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Dell has updated and expanded its **IPR Policy** which opposes the use of mandatory fees to finance e-waste collection. **As pdf.** **Dell's disposition policy** Dell claims strong support for IPR and legislation embracing IPR. However, Dell has dropped a point and risks dropping further as it needs to clarify its support for IPR and not collective financial responsibility. It needs to support differentiated/ individualised financing for its own-brand real end-of-life costs (eg. no longer collective financing such as market share but instead more real and individualised financing such as return share) for new WEEE. In the US it should be promoting the costs differentiation and return share financing models of Maine and Washington.	Dell is striving for a free global voluntary take-back service and has added Columbia, Middle East and Hong Kong. It now provides take-back services in 71 countries, having expanded its service in Mexico and Brazil. **More information here** and **here.** **p.73-76 2008 Corporate Responsibility Report.**	Information is provided to Dell's individual customers, but not yet worldwide. **More information.** **Dell's US programme.** Dell has also published **Recovery and Waste Disposition Guidelines for Suppliers.**	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 anywhere in the world. p.82 of **CR report, p.73 Michael Dell's challenge.** Dell loses a point as it 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. **More information.** Dell reports that 61 million kg of WEEE was recycled in 2008, up from 53.4 million kg in 2007. **More information.**	Dell shipped over 4 million pounds (1800 tonnes) of post consumer recycled plastic in 2008 and will increase this amount in 2009. Dell provides a few models of products with 25% or more recycled plastic content, but no information on the % of total plastics sourced and no target for increasing use. In 2008 Dell launched several monitors and one desktop (OptiPlex 960) which feature an external chassis with post-consumer recycled plastic content. **More information here** and **here.**

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)
BAD (0)	**PARTIALLY GOOD (2+)**	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**
Dell states that it supports reducing emissions of GHGs to levels guided by science, but does not specify these levels or differentiate the need for greater cuts by industrialised countries. **More information.** 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. **2008 CR Report, see p.57.**	Dell reports third party verified Scope 1 and 2 GHG emissions and also emissions from business travel (Scope 3) in **2008 CR Report** (p. 62 and 107). Dell is now requesting GHG accounting and reporting from its Tier I suppliers. **More information.**	Dell is committed to reduce global absolute emissions of GHGs from its worldwide facilities by 40% by 2015, from a baseline year of 2007. **More information.**	Dell has announced that 26% of its global electricity use now comes from renewable energy sources, up from 20% in 2008. To keep these points, Dell needs to address concerns about the additionality of its RE that is part of the general power supply is not included. **More information.** Dell's goal is to use energy that is 100% generated by clean and renewable sources, although there is no timeline. **More information.**	50% of laptop models and 63% 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. **More information.**

HP Ranking = 4.5/10 - 1 = 3.5/10

HP moves up the ranking from penultimate (16th) to 14th place, weighed down by a penalty point imposed for backtracking on its commitment to eliminate PVC and brominated flame retardants (BFRs) in computing products by end of 2009. In a call with Greenpeace in February 2009, the company admitted that it would be unable to meet its commitment. There is now a new timeline of 2011 but it is unclear if this is the start or end of 2011. In addition, HP has no products on the market free of these toxic substances.

HP gains points on energy, because it now reports that more than 90% of HP notebooks and 41% of desktop PCs meet the latest Energy Star standards, 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 also scores points for its goal to reduce greenhouse gas emissions of operations to 16 percent below 2005 levels by 2010, and for reporting its use of renewable energy as 2% of global energy consumption with a goal to double global purchases of renewable power from under 4% in 2008 to 8% by 2012.

On e-waste HP scores points for its support and lobby for Individual Producer Responsibility, it's recently launched free 'Consumer Buyback' recycling programme in the US for HP and Compaq-branded product waste and the information that it provides to customers on what to do with their discarded products. But its voluntary take-back programme continues to be weak, being mainly oriented towards its business rather than individual customers. The company reports a reuse and recycling rate in 2008 of 17.5%, up from 15% in 2007, although more information is needed on how this is calculated. HP also needs to prove that energy recovery (namely, waste incineration) is not part of its 17.5% recycling performance and if so, exclude it from future calculations.

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 (companies score double on this criterion)	■			
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 (companies score double on this criterion)			■	

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)
GOOD (3+)	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**BAD (0)**	**BAD (0)**
HP's definition of Precautionary Principle reflects the need to eliminate potentially harmful chemicals even without full scientific certainty of harm. **More information.**	HP scores top marks on its chemical management. **More information.** **General Specification for the Environment.**	HP will complete its phase out of BFRs and PVC in newly introduced PC products in 2011 but it is unclear if this is the start or end of 2011. **More information.** In February 2009, HP informed Greenpeace that it would be unable to meet its original commitment to eliminate PVC and BFRs in computing products by end of 2009.	HP has set a timeline of 2012 to remove three types of phthalates (DEHP, DBP and BBP) from all HP products, but this does not pertain to all phthalates. Antimony, beryllium and beryllium compounds, and remaining phthalates have been identified for future possible restriction but no timeline for their elimination is given. **More information.**	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 cables. Substitution of BFRs and PVC in these key applications is needed before substantial progress is recognised. **More information.** **Information about other products here** and **here.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY GOOD (2+)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
HP supports and lobbies for IPR. **HP supports the concept of e-waste legislation.** **In Europe**, Hewlett Packard is a founding member of the European Recycling Platform that supports IPR. To regain top marks, HP will need to document its operationalising of IPR and continue to lobby for IPR, inter alia by ensuring that the revised WEEE legislation sets clearer requirements (enforcement criteria) for the implementation of IPR ie. differentiated/ individualised financing for own-brand real end-of-life costs (eg. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE	In 2008 HP expanded its consumer take-back programmes in several countries including China, Costa Rica and India. **More information**. It has now extended the consumer take-back service to New Zealand, Australia, Hong Kong and South Africa, although there are major gaps in Africa and South America.. **More information.** HP's new consumer **take-back programme in India** has 17 collection points in 9 cities. HP has a free 'Consumer Buyback' recycling programme in the US for HP and Compaq-branded product waste. **More information here** and **here**. Otherwise, HP's voluntary take-back programme is mainly for business customers. **Trade in and product reuse.**	HP provides information to consumers in the US on voluntary take-back. **More information.** HP provides information to individual customers in South Africa, India, New Zealand, but not in Latin America or the rest of Asia and Africa. The **information provided** is good and accessible. **New Zealand.** **Info on a range of options (asset recovery, donation).**	HP reports a reuse and recycling rate in 2008 of 17.5% of relevant sales, and no longer includes consumables in the calculation. **More information.** To score more points, HP needs to prove energy recovery (aka incineration) is not part of the 17.5% recycling performance and if so, exclude it from future calculations. **More information.** More information is also needed on how the 17.5% 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 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. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
BAD (0)	**GOOD (3+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**PARTIALLY GOOD (2+)**
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. **More information.** HP signed a communiqué from the Corporate Leaders Group on Climate Change at Poznan in December 2008 which called for the new Copenhagen treaty to be based on targets for emission reductions to 2050, with immediate and deep cuts in developed countries, while developing countries should adopt economy wide targets by 2020. **More information.**	HP reports GHG emissions from its operations, estimates its supplier GHG emissions and reports on product transport. HP estimates the supply chain GHG emissions of 80% of their first tier suppliers. **More information.** GHG emissions from operations in 2008 have decreased by 4% since 2007. **More information.** **External verification details.** HP recently delivered on its goal to report emissions from 80% of first-tier suppliers. **More information.**	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. **More information** (select Climate and Energy). HP aims to reduce GHG emissions from HP-owned and HP-leased facilities worldwide to 16 percent below 2005 levels by 2010. This is worth just 2 points. HP was mistakenly scored 3 points in the previous version of the Green Guide. **More information.**	HP purchased approximately 102 million kWh of renewable energy worldwide in 2008, which represented 4 percent of HP's electricity use in 2008, in addition to the renewable energy available by default in the power grid. In 2008 HP set a goal to increase its purchases of electricity from renewable sources to 8 percent of total electricity usage by 2012. **More information here** and **here** (select Climate and Energy).	More than 90% of HP notebooks and 41% of desktop PCs meet the latest Energy Star standards. **More information.**

MICROSOFT Ranking = 2.5/10

Microsoft stays in 15th position but its score drops from 2.7 to 2.5 points, as it loses a point for failing to provide explicit support for Individual Producer Responsibility. On other e-waste criteria, Microsoft fails to score any points.

Most of Microsoft's points are earned 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. However, it needs to put products on the market that are free from BFRs in printed circuit boards before it can score points for this criterion.

On energy, the company gets points for reporting its total carbon dioxide equivalent emissions from its own operations, and for sourcing 24.4% of all the electricity used in 2007 from renewable sources, although it needs to provide more information on the Renewable Energy Certificates (RECs) that it is buying and commit to increase its use of renewable energy with a timeline.

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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
GOOD (3+)	**GOOD (3+)**	**GOOD (3+)**	**PARTIALLY BAD (1+)**	**BAD (0)**
Microsoft has a definition of the Precautionary Principle, as defined in the UN Rio declaration. **More information.** Select Precautionary Principle Word file. (may require software)	Microsoft lists its Chemical Specifications and a procedure for identifying future substances for elimination. **More information.** See Section D, page 13 of H00594 **Restricted Substances Specification**. 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. **More information. Select 'business practices' & 'Sustainability Fact Sheet'** (may require software).	Microsoft provides a timeline of the end of 2010 for eliminating phthalates. See Section D, page 13 of H00594 **Restricted Substances Specification.** 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.	Microsoft offers electronic products that are both phthalate and/or BFR free with the exception of the printed circuit board, and gives and example of the Xbox 360 Wireless Microphone product provided with the game 'Lips', which is BFR, PVC and phthalate free, with the exception of BFR in the printed circuit board. To score points printed circuit boards need to be free from BFRs. **Accessed from here. Select 'business practices' & 'Sustainability Fact Sheet'** (may require software).

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
BAD (0)	**BAD (0)**	**BAD (0)**	**BAD (0)**	**BAD (0)**
Although Microsoft now states that it "supports the mandatory collection and recycling of consumer electronics funded by individual producers…", for any marks, Microsoft needs to support the principle of Individual Producer Responsibility more explicitly. For example, this means supporting differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE, and lobbying for its operationalisation. **More information. Select 'business practices' & 'Sustainability Fact Sheet'.**	Microsoft refurbishes computers and other devices to keep them in use and out of the waste stream as long as possible – so that they can be recycled properly at the end of life. However, it provides no voluntary take-back and recycling services for products that reach the end of their life. **More information.** Microsoft's Authorised Refurbisher (MAR) Programme. **More information here** and **here**.	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. To access this information, in Environment homepage, select: News & Resources; Select: Case Studies; Select: Recycle your Electronics Waste. **More information. A link listing Microsoft's recycling partners in the EU** requires software to download.	In 2008, Microsoft funded the collection and recycling of more than 5.82 million kgs of e-waste, representing some 15% of the worldwide sales volume. It is calculated by dividing the weight of worldwide hardware products for which recycling is contracted by Microsoft by the weight of worldwide hardware product sales. However, it is unclear if the 15% is calculated on current or past sales and what Microsoft means by 'weight contracted' - is this the weight of products actually recycled or just the weight that potentially could be recycled in those installations contracted? **More information.**	Microsoft is using recycled plastics in product packaging films but no details are given about its use in hardware products. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
BAD (0)	**PARTIALLY BAD (1+)**	**BAD (0)**	**PARTIALLY GOOD (2+)**	**BAD (0)**
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. **More information. Microsoft's Climate Change Policy Statement.**	Microsoft reports its total CO_2 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. **More information. Link to Carbon Disclosure Project,** see question 2 (b) (i) to question 2 (d), (note log in is required to view). **More information.**	Microsoft has set a goal to reduce its carbon emissions per unit of revenue at least 30% below 2008 levels by 2012. However, there is no commitment for absolute cuts of GHG emissions. **More information. See Microsoft on the Topic: Climate Change** (may require software)	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. But, it is unclear where there is additionality in its purchasing of renewables and which sources of renewable energy it considers 'renewable'. To keep these points, Microsoft needs to address these concerns and commit to increase its use of renewable energy with a timeline. **More information.** Examples of its use of renewable energy are also given **`Sustainability Fact Sheet'** (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. **More information. `Sustainability Fact Sheet'** (may require software).

LENOVO Ranking = 3.5/10 - 1 = 2.5/10

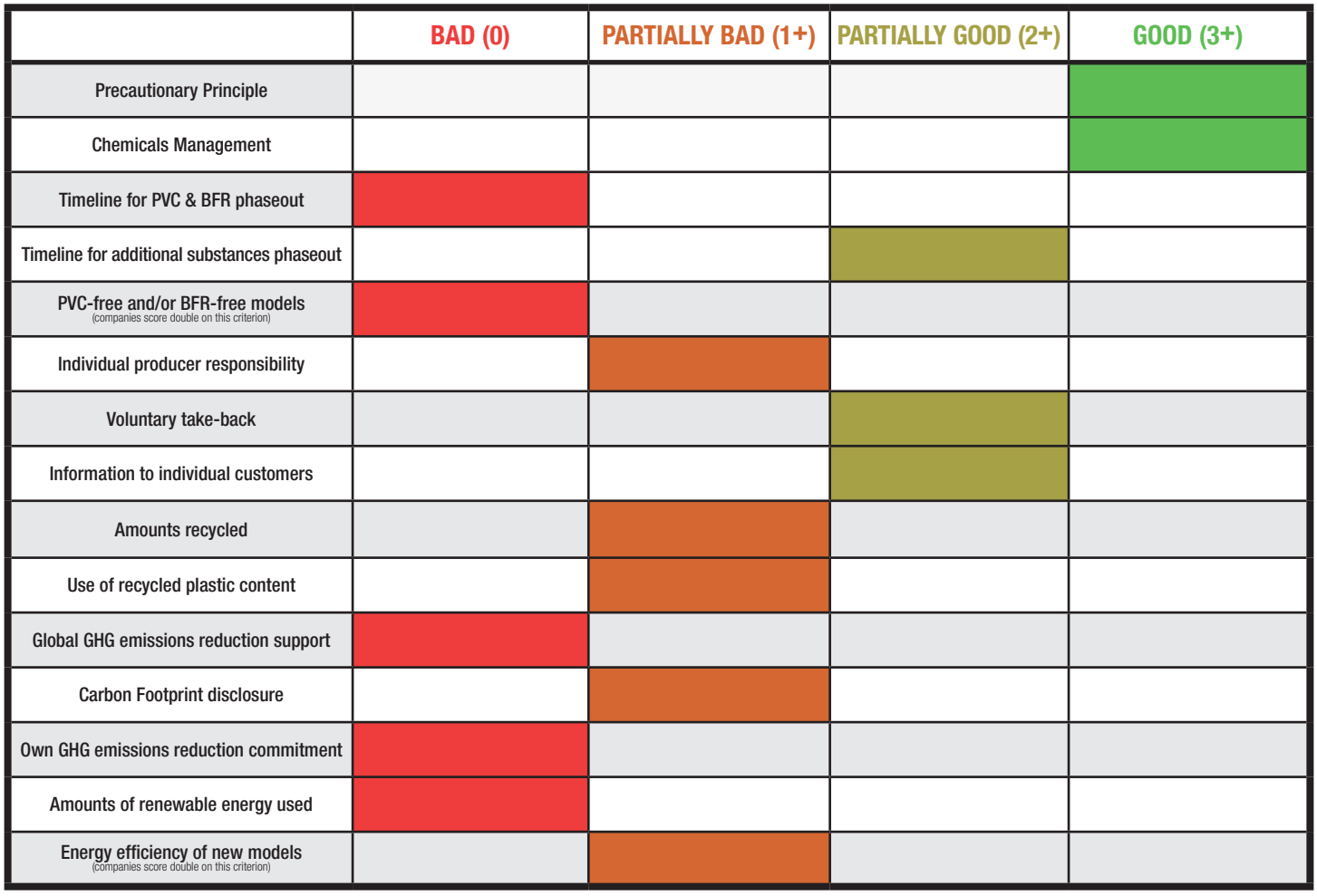
Lenovo drops from 14th to 16th position with its score down from 3.1 to 2.5 points, encumbered by a penalty point imposed for backtracking on its commitment to eliminate PVC and brominated flame retardants (BFRs) in all its products by the end of 2009. Lenovo's new timeline for meeting this commitment of end of 2010 is to be dropped and there is no new timeline.

On the toxic chemical criteria, although Lenovo has put on the market a monitor largely free of brominated flame retardants and PVC vinyl plastic, this one model (in two sizes) 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 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, 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. Lenovo scores points for its relatively comprehensive voluntary take-back programme, for the information to individual customers in all the countries where take-back is provided and its use of recycled plastic.

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



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)
GOOD (3+)	**GOOD (3+)**	**BAD (0)**	**PARTIALLY GOOD (2+)**	**BAD (0)**
Lenovo scores top marks on its definition of the Precautionary Principle in its Sustainability Report 07/08, p47. **More information here** and **pdf here.**	Lenovo's Engineering Specification 41A7731 reflects its commitments on eliminating PVC, BFRs, and beryllium, antimony and their compounds. **More information here** and **here**	Lenovo has backtracked on its end of 2009 commitment on eliminating PVC and BFRs and now states that the use of these substances in all products is to be phased out only by the end of 2010. All business units to have at least one product announcement in 2009 supporting the PVC/BFR phase out goal. **See p. 45 and 47 Sustainability Report.** However, in internal communication on 18th May, Lenovo informed Greenpeace that it is to remove the target date of 2010. Without a timeline, there is no commitment to eliminate PVC and BFRs, so Lenovo scores zero on this criterion.	Antimony and beryllium and their compounds have a phase-out target date of 2012. 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. **More information. pdf file (p.17).**	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, currently available for the US and Japanese markets only. Information about this model is not yet available on Lenovo's Environmental Data Sheets page. **More information.** To score on this criterion, Lenovo needs to bring out more models of monitors and PCs free of BFRs and PVC. **Information on ThinkVision L2440x wide monitor here** and **here.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**PARTIALLY GOOD (2+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Lenovo supports IPR legislation that allows manufacturers to recover their own brand products. However, for more points, Lenovo needs to clarify this means supporting differentiated/ individualised financing for own-brand real end-of-life costs (e.g. no longer collective financing such as market share but instead more real and individualised financing such as return share) for WEEE, provide examples of where it is doing advocacy and details of operationalisation of IPR. **See Sustainability Report p. 49.**	Take-back is offered in 51 countries (of which 26 countries have voluntary take-back) 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. all those in Latin America. **More information here** and **here.** Product take-back has been extended in **India** and in **China.** Lenovo now has a free take-back programme in the US. **More information.**	Lenovo provides take-back information to both business and individual customers in countries where the company sells its products directly. Lenovo regains a point for providing information to individual customers in all the countries where take-back is provided. **More information. Information about Lenovo's free take-back programme in the US.**	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. **See Sustainability Report p. 52 – 54.**	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. **See Sustainability Report p 46-47.**

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)
BAD (0)	**PARTIALLY BAD (1+)**	**BAD (0)**	**BAD (0)**	**PARTIALLY BAD (1+)**
Lenovo does not refer to support for global mandatory reductions in GHG emissions. **More information. See Sustainability Report p 48 – 49.**	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. **See Sustainability Report p 55 – 59.**	Lenovo has pledged to increase carbon efficiency by 10% by 2012 based on 2007 emissions. However, these reductions are not absolute. **More information. See Sustainability Report p 55.**	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. **See Sustainability Report p 59.**	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. **See Sustainability Report, p 49.**

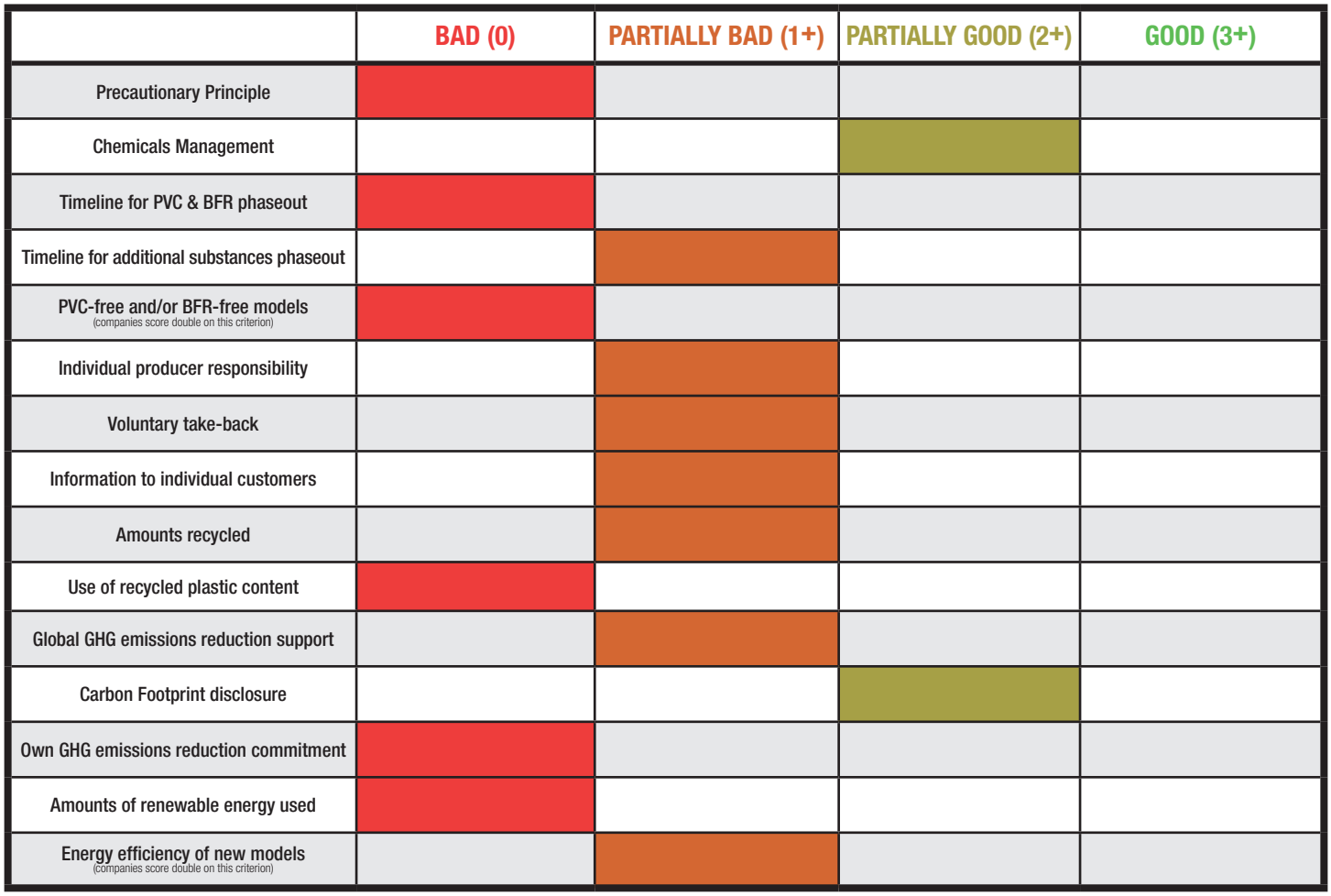
FUJITSU Ranking = 2.4/10

Fujitsu debuts the scorecard in penultimate (17th) position with a score of 2.4, above Nintendo and just below Lenovo on 2.5. Fujitsu scores most points on energy for: supporting global cuts and need for emissions to peak by 2020 (not 2015); reporting verified greenhouse gas emissions from its own operations and for reporting of the energy efficiency of its notebook and desktop PCs, albeit inadequate. Fujitsu has no commitment to reduce absolute greenhouse gas emissions and reports on renewable energy use only in Europe, which is at least 15% of purchased electricity in 2007.

Fujitsu scores more poorly on e-waste than on energy, but gains points for its voluntary programmes for the take-back and recycling of its discarded products and provides information to some customers on what to do with obsolete electronics. It also scores a point for weak support for Individual Producer Responsibility and reporting recycling rates in a few EU countries. However there is plenty of room for improvement on its provision of information to customers as well as its support for Individual Producer Responsibility.

Fujitsu is weakest on chemicals, scoring points for having a chemical management system in place and for committing to eliminate some phthalates in PCs by 2013. Fujitsu now plans to totally abolish the use of PVC and the Brominated Flame Retardant (BFR) HBCDD in PCs – and only PCs - by the end of 2013, but scores no points on this criterion as it does not commit to phase out all BFRs. It has no products that are free from these substances. It could also score better on its chemicals policy and management by defining a precautionary approach and identifying future substances for elimination.

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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

FUJITSU 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)
BAD (0)	**PARTIALLY GOOD (2+)**	**BAD (0)**	**PARTIALLY BAD (1+)**	**BAD (0)**
Fujitsu refers to the Precautionary Principle but only in reference to managing the risks of controlled substances so that they can be eliminated once required by law. **More information.**	Fujitsu has Green Procurement Direction document (version 4.1) which lists banned hazardous substances & their limits and specified substances for control. The information provided is reasonable, however, the banned substances are mostly limited to existing legislation and there is no mechanism for identifying future hazardous substances of concern *independent* of legislation. **More information here, here** and **here.**	Fujitsu plans to totally abolish the use of PVC in PCs – and only PCs - by the end of 2013. The BFR HBCDD will also be eliminated by the end of 2013, however, the use of other BFRs in parts other than casings is not referred to. This lack of a commitment on BFRs means that Fujitsu scores no points on this criterion. **More information.**	Fujitsu plans to eliminate phthalates as part of its commitment to phase out PVC in PCs, and names three specific phthalates (DEHP, DBP and BBP) to be eliminated by the end of 2013. The use of beryllium in PCs is to be eliminated by the end of 2012. **More information.**	Fujitsu gives examples of 'Super Green Products' in its 2008 sustainability report. One product has a mercury free LCD display; no products are free from PVC or BFRs. **More information here** and **here.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
PARTIALLY BAD (1+)	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**	**BAD (0)**
Fujitsu's recycling activities are guided by the principles of producer responsibility (EPR and IPR) for disposal and recycling as well as design and manufacture. But, there is no reference to IPR creating the feedback for eco-design or the recognition that IPR means own brand differentiation of end-of life-costs for new WEEE. For more points, Fujitsu needs to show that it is actively lobbying for IPR and demonstrate its operationalisation by e.g. sampling of return share in collective recycling systems. **More information.** **IPR statement by Fujitsu** TS under the global Fujitsu brand.	As of June 2007, Fujitsu has initiated IT product recycling services in the United States, Canada, Australia, the Philippines, Thailand and Singapore. **More information here** and **here.** **See press release**, for more details. Fujitsu has also launched a special initiative in South Africa. **More information.**	Information about treatment facilities links to updated contact details in a wide range of countries, but specific details about recycling are not given. **More information.** Details of the regions giving information on product recycling **More information.** **EU information.** Fujitsu has also provided the link to FSC's recycling site for **information on recycling in EMEA, Asia and the USA. Contact details.**	Fujitsu reports 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. Fujitsu 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. **More information.** In Japan, Fujitsu recycled 8,364 tons of IT products in fiscal 2007. **More information.** In Australia 17 tons of CRT and POS systems were recycled and in Korea 20 tons of electronic solid waste, mostly notebook PCs, were recycled. The recycling rate as a percentage of past sales is not given in any of the above. **More information.**	The use of recycled material, including recycled plastics, is included in Fujitsu's Green and Super Green Product Development approach. However, Fujitsu is not reporting on % of recycled plastic used. **More information.** Instead it reports only partial achievement of a target to increase by 3% use of all recycled and reused materials by 2007. **More information.**

Energy

Support for global mandatory reduction of GHG emissions	Company carbon footprint disclosure	Commitment to reduce own direct GHG emissions	Amount of renewable energy used	Energy efficiency of New Models (double points)
PARTIALLY BAD (1+)	**PARTIALLY GOOD (2+)**	**BAD (0)**	**BAD (0)**	**PARTIALLY BAD (1+)**
The Fujitsu Group sees 2020 as a milestone in progress towards the target of halving current greenhouse gas emissions by 2050, seeing it as essential that such emissions should peak by 2020, if the 2050 target is to be met. However, this peak off target is beyond the year 2015 identified by Greenpeace, and the need for greater cuts of at least 30% by 2020 by industrialised countries is not identified. **More information here** and **here.**	CO_2 emissions for the whole group were about 1.345 million tons. **More information.** Fujitsu reports on CO_2 and other GHG emissions from raw materials, manufacturing, distribution and usage for fiscal 2007. **More information.** **Verification of the data.**	Fujitsu has a goal to reduce emissions per unit of actual sales by 28% relative to fiscal 1990 levels by the group as a whole including overseas businesses, by the end of fiscal 2010. But this goal is per unit of sales and is not absolute. **More information.** Its goal for Japan is to limit energy consumption-related CO_2 emissions at business sites to below fiscal 1990 levels by the end of fiscal 2010 and targets other GHGs and sources of CO_2. But these absolute reduction targets use various baselines and geographies and there is no indication of the percentage of cuts across Fujitsu's whole business globally. **More information.**	Fujitsu reports that in Europe at least 15 % of purchased electricity in 2007 was generated by renewable energy sources. It is investigating alternative energy sources to further reduce GHG emissions In order to reach the European sustainability target of 20 % in 2020. However, Fujitsu needs to report on its use of renewable energy globally in order to score any points. **More information.** In Japan Fujitsu is purchasing wind power "green energy credits" for each of the "FMV Loox" laptops sold that are equivalent to the amount of electricity estimated to be used by the machine over a four year lifespan. **More information.**	A list of notebook and desktop PCs (released during the second half of 2008) that meet and exceed the latest ES requirements is given; the percentage of qualified models is between 18 and 67%. **More information.**

NINTENDO Ranking = 1/10

Nintendo remains in last place but with an increased score of 1 out of 10, up from 0.8 points in v.11, for putting on the market games consoles whose internal wiring is PVC-free. 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.

It continues to score zero on all e-waste criteria.

On energy, Nintendo loses a point due to a second year of increases in greenhouse gas emissions, despite a commitment to cut CO_2 emissions and other greenhouse gases by 2% over each previous year. Emissions in 2007 increased by 1.5% compared to 2006, following a rise of 6% in 2006. Nintendo retains a point on energy for disclosing carbon dioxide (CO_2) emissions from its own operations.

NINTENDO 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 (companies score double on this criterion)				
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 (companies score double on this criterion)				

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)
BAD (0)	**PARTIALLY BAD (1+)**	**BAD (0)**	**PARTIALLY BAD (1+)**	**PARTIALLY BAD (1+)**
Nintendo works to eliminate harmful substances from its products right from the initial stages of material selection, but does not refer to the Precautionary Principle **More information here** and **here.**	Nintendo publishes its 'Environmental Control Standards' including lists of substances that are banned, subject to early withdrawal, and under application control. **More information.**	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. **More information.**	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. **More information.**	Nintendo states that PVC was completely eliminated from plastic playing cards and the internal wiring of games consoles. **More information.**

E-Waste

Support for Individual Producer Responsibility	Provides voluntary take-back where no EPR laws exist	Provides info for individual customers on take-back in all countries where products are sold	Reports on amount of e-waste collected and recycled	Use of recycled plastic content in products - and timelines for increasing content
BAD (0)	**BAD (0)**	**BAD (0)**	**BAD (0)**	**BAD (0)**
Nintendo considers the promotion of recycling of used products and packaging to be one of its most important responsibilities and complies with the laws of each region. However, there is no reference to Individual Producer Responsibility. **More information.**	Nintendo of America (NOA) now links to the Environment Canada recycling information website in addition to 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.**	Nintendo.com (America) gives links to Environment Canada recycling information and the US EPA disposal and recycling pages, and provides a phone number. **More information.**	Nintendo claims a near 100% recycling rate for product returns and repairs in the US, however, information on its take-back programme for obsolete consumer products is not given, neither is there any information on its recycling rate in other parts of the world. **More information.**	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)
BAD (0)	**PARTIALLY BAD (1+)**	**BAD (0)**	**BAD (0)**	**BAD (0)**
No information	Nintendo reports on emissions of CO_2, both absolute and per sales unit, for all business offices, but these are not externally verified **More information.**	Nintendo aims to reduce CO_2 emissions and other greenhouse gases by 2% over each previous year. However, Nintendo drops to zero as emissions in 2007 increased by 1.5% compared to 2006, following a rise of 6% in 2006. Nintendo intends to step-up its efforts on reducing CO_2 emissions. **More information.**	No information	No information