



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.

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In versions 11 and 12 of the Guide, PC manufacturers HP, Dell and Lenovo were served a penalty point for backtracking on their commitment to eliminate vinyl plastic (PVC) and brominated flame retardants (BFRs) from their products from the end of 2009. The penalty point on HP has been lifted in this edition. LGE is served a penalty point, also for backtracking on its timeline to eliminate PVC and BFRs in all its products by end of 2010. Dell and Lenovo 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.12. Nokia scores maximum points for its comprehensive voluntary take-back programme, which spans 84 countries providing almost 5,000 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 to 5 percent 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 CO2 emissions by a minimum of 10 percent in 2009 and 18 percent in 2010, from a baseline year of 2006. It provides a third party verification certificate for its disclosed CO2 emissions. Its score is boosted by sourcing 25 percent of its total energy needs from renewable sources in 2007 and by having a target to increase use of renewable energy to 50 percent 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 between 30 and 90 percent. However, Nokia fails to score any points on its support for global cuts in greenhouse gas emissions; Nokia needs to call for emissions of greenhouse gases to peak by 2015 and for industrialised countries as a group to accept mandatory cuts of at least 30 percent by 2020, especially during the run-up to the climate negotiations in Copenhagen.

NOKIA Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 with the exemption of use as gold dopant. The intentional addition of 10 types of phthalates are 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 10 Middle Eastern countries and 11 African countries. 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 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. The need for companies to act on this global issue is pressing. More information.	Nokia reports on 2008 energy consumption, as well as direct (231,000 tonnes of CO ₂ emissions) and indirect CO ₂ emissions. More details are needed on what comprises these indirect emissions. More information here and here. 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. Nokia is to ensure that its key suppliers set energy efficiency and CO ₂ emission reduction targets. More information. Details of the various measures and targets that Nokia is taking are given. More information.	Nokia's target for renewable electricity is to cover 25% of its total needs during 2007 – 2009, increasing to 50% in 2010. See p.49 here. The 2007 target has been achieved. Nokia provides details of the various renewable energy certificates that it purchases. Through its renewable energy purchases and energy efficiency measures it aims to reduce CO ₂ emissions by a minimum of 10% in 2009 and 18% in 2010, compared to 2006. To keep these points, Nokia needs to address concerns about additionality and provide more information about the EU 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 = 6.9/10

Samsung holds its position in 2nd place with a slightly reduced score of 6.9, down from 7.1, as a result of failing to extend its take-back programme to non-OECD countries. 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 number one supplier globally. The company has launched partially BFR-free models of mobile phones 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 percent for TVs (based on past sales 10 years ago - the average life span - since when, Samsung's TV sales have increased tenfold), 12 percent for PCs (based on a 7-year lifespan) and 9 percent for mobile phones (based on a 2-year lifespan). However, to score top marks Samsung needs to put a reality check on the EU figures of e-waste recycled. It also scores top marks on its use of recycled plastic, which is 16.1 percent, though only 0.2 percent is post-consumer plastic, with a goal to increase to 25 percent by 2025 and use a majority of post-consumer plastic.

On energy, Samsung has committed to reduce its absolute emissions of greenhouse gases, despite growth in the company's sales; it also supports the levels of cuts required globally and by industrialised countries to keep dangerous climate change in check and for provides a certificate of verification of its greenhouse gas emissions in Korea. Samsung scores top marks (doubled) on the energy efficiency of its battery chargers, all of which meet and 94 percent of which exceed the latest Energy Star standard. The only criterion where Samsung fails to score any points is renewable energy, where it needs to set a target with a timeline to increase the 0.2 percent renewable energy it uses globally.

SAMSUNG Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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. There is an exemption on the use of beryllium in connectors and certain electronic components. Antimony trioxide is to be phased out from new models of PCs, TVs and mobile phones only, by 31st December 2012, but with 2 exemptions. For full marks, Samsung needs a similar restriction on all uses of antimony in all new product. 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 BAD (1+)	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 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. For more 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 8,281million tonnes/year. There is no reporting of product supply chain emissions. The Korea GHG Certification Office has verified the measurements and an English language certificate is provided. However, the original Korean certificate would be more authentic. 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. Samsung reports that it uses approximately 0.2% of renewable energy in global manufacturing sites currently. Samsung also states that it is seeking to increase its use of renewable energy by investing in fuel and solar cells; to score points Samsung needs to set a target with a timeline for increasing its use of RE. 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. 100% of all flat TV models globally have met the latest Energy Star requirements and 43% exceed them for standby mode by 50% or more. 100% of notebook PCs meet the latest ES standard and 12% exceed the requirement for estimated annual energy consumption by 50% or more. More information.

SONY ERICSSON Ranking = 6.5/10

Sony Ericsson stays in 3rd place with the same score of 6.5. It is one of the best performers on the toxic chemicals criteria of all the ranked brands and also does well on energy.

It is weakest on waste and recycling issues, scoring nothing on use of recycled plastic; there was also an absence of reporting recycling rates of mobile phones as a percentage of past sales. It gains points on its information to consumers about its take-back programme, but loses points for no longer reporting the quantities of e-waste recycled as a percentage of past sales. For more points on e-waste, it needs to continue to increase its lobbying for Individual Producer Responsibility, extend its take-back and recycling programmes, 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. All Sony Ericsson products are already PVC-free and BFR free, with the exception of a few components that are still being phased out. Sony Ericsson has already met the challenge of the new criterion on chemicals by banning antimony, beryllium and phthalates from new models launched since January 2008.

On energy, Sony Ericsson commits to reducing absolute greenhouse gas emissions from its internal activities by 20 percent by 2015 (2008 baseline) and reports that 40 percent of its electricity use globally comes from renewable sources. However, it is disappointing that Sony Ericsson has not made a stronger statement in support of the necessary cuts in global greenhouse gas emissions at this critical time for the Copenhagen negotiations. All of its products meet and exceed the Energy Star standard. It reports CO₂ emissions from its own manufacturing and product transportation, but fails to have these emissions verified by a third party.

SONY ERICSSON Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 supports the Precautionary Principle as defined by the Rio Declaration and is implementing 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.	Since 2007 all SE products have been PVC free and in 2009 all charger cables except one legacy charger, became completely free of PVC. All models placed on the market after 1 January 2008 are BFR free in circuit boards, casings and cables, older models may still contain BFRs in circuit boards and substrates. More information. Banned & Restricted Substances. See also p. 7-8 Sustainability Report.	All new SE products are now beryllium free and phthalate free. More information. Antimony is also banned with a few exemptions for products placed on the market before 1 January 2008. More information. There are two minor remaining applications where antimony is used; alternatives have been developed for moisture protection and antimony is being phased out, but the use of antimony in varistors has been exempted from the phase out plan until replacement materials have been identified. See p.8 Sustainability Report.	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, with the exception of a few components whose phase out is on-going, which is why SE fails to score full marks. 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 GOOD (2+)	BAD (0)	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. Also p.14 of 2008 Sustainability Report. SE also states that it supports legislation and participates in the process of putting legislation in place. 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) 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. SE has added India, New Zealand and Israel to its take-back programme. SE states that take-back in other countries is coming soon. More information here and here.	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 25 European countries, the USA, Canada, Australia, China, Malaysia, Philippines, Singapore, Thailand, Taiwan, India, New Zealand and Israel. Customers in other countries are informed that SE take-back is coming soon. More information.	Sony Ericsson no longer provides estimates of the amount of mobile phones recycled as a percentage of current (not past) sales. SE previously reported recycling rates of 2 - 13% based on sales volume and 1 - 5% based on the number of subscribers. SE's goal is to collect 1 million phones annually via its own take-back system by the end of 2011. 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. Also p.13 2008 Sustainability Report.

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. The lack of a recent statement on this pressing global issue is surprising, given that this is a company with its HQ in Europe. 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 provide evidence of external verification. More information. See p.11-13 & 18 of new Sustainability Report.	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. Also p.3 of 2008 Sustainability Report.	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, details of hydro and other RE sourced and clarify if this is in addition to RE sourced via the Swedish grid. 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. Also p.10 2008 Sustainability Report .

PHILIPS Ranking = 5.9/10

Philips climbs from 7th to 4th place with an increased score of 5.9 points (up from 5.3), improving its score on e-waste and energy criteria. Philips now supports Individual Producer Responsibility (IPR), is engaging in a European NGO and industry coalition in support of IPR and is committed to actively work towards developing IPR-based recycling systems and their supporting financial mechanisms. It gains points on energy, for reporting to the latest Energy Star standard. All TVs sold in the US and 90 percent of European models meet Energy Star v.3

Philips scores well on both toxic chemical and energy issues. On chemicals, Philips has committed to eliminating all phthalates and antimony by 31 December 2010. Beryllium and its compounds are already restricted; arsenic has been eliminated from 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 scores full marks for supporting the levels of cuts in greenhouse gases needed to abate dangerous climate change and for committing to absolute cuts in its operational carbon footprint of 25 percent by 2012 (using a baseline year of 2007). It also scores points for disclosing externally verified carbon dioxide equivalent emissions and for sourcing 15 percent of all electricity used in 2008 from renewables.

Philips is weakest on e-waste and recycling, scoring zero on use of recycled plastic and for no longer reporting on recycling rates based on past sales. It scores a point for its voluntary take-back and now needs to demonstrate its commitment to taking responsibility for its own e-waste by expanding its take-back programme.

PHILIPS Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 all 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 has been 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 GOOD (2+)	PARTIALLY BAD (1+)	PARTIALLY BAD (1+)	BAD (0)	BAD (0)
Philips supports the principle of Individual Producer Responsibility (IPR) at least as far as differentiation is concerned but not as far as provisions that avoid the costs falling on others. Philips has committed to sign the IPR coalition statement and has pledged to actively work towards developing IPR based recycling systems and their supporting financial mechanisms. More information. For full marks on IPR Philips needs 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. It also needs to reject Art 14.2. (continued use of the Visible Fee) of the EC proposal for a revised WEEE Directive.	It is Philips' intention to help establish global collection and recycling systems. More information. Philips has a voluntary take-back programme in India encompassing 8 cities with 27 service centres. More information. Pilot projects have 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. More information here and here. Much improved information for customers in India.	Philips reports that the total amount of WEEE recycled waste in EU countries was 69,818 tons. It loses a point as it no longer provides details of its recycling rate as a % of past sales. 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.	Philips introduced a vacuum cleaner which is made with 50% post industrial plastics and 25% bio based plastic; the use of post consumer plastics is not mentioned. 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+)	GOOD (3+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)
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 Annual 2008 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.18	Philips is committed to reducing its operational carbon footprint by 25% by 2012, using 2007 as a baseline. Philips has committed to strong reductions targets, but needs to back this up by showing annual emissions reductions, regardless of acquisitions. 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. Philips has asked its suppliers to introduce procedures to avoid double counting of renewable energy certificates. More information.	All TVs sold in the US and 90% of European models meet Energy Star v.3. In 2008 all Philips TV models exceeded the requirement for standby power consumption by at least 70%. More information. 10% of Philips current battery chargers models fulfil the Energy Star v.2 requirements. These models exceed the technical Energy Star requirements by 5-15%. More information.

TOSHIBA Ranking = 5.7/10

Toshiba stays in 5th place with a slight improvement to its score of 5.7, up from 5.5, for improved reporting on the recycling rates for TVs (21.2 percent in 2008) and PCs (12.8 percent) based on sales 10 and 7 years ago, respectively.

Toshiba is strongest on the chemicals criteria with 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, as well as EcoMark-certified products without PVC. Toshiba has committed to eliminate PVC and BFRs from all its products by end of FY 2009, in six months' time. Toshiba has also committed to introduce alternatives to phthalates, beryllium and antimony by 2012 in all its products.

On energy, Toshiba scores most of its points on the energy efficiency of its products. Toshiba reports that all PCs developed in 2009 (up to the end of July 2009) comply with the new Energy Star 5, except non-OS models. All new LCD TVs released since November 2008 are Energy Star compliant and 34 models exceed the specifications by 30 percent or more. It is rewarded for supporting global cuts in greenhouse gas emissions with greater cuts for industrialised countries and for disclosing third-party verified greenhouse gas emissions from its own operations. The company commits to cut greenhouse gases, as it has now clarified that it aims to stop increasing emissions by (financial year) 2012. Toshiba loses points on its use of renewable energy as clarification reveals that just 0.1 percent of the renewable energy purchased is additional to that provided by the grid

The company scores poorly on e-waste due to its lack of support for Individual Producer Responsibility and low use of recycled plastic. However, Toshiba reports a recycling rate of 12 percent for a group of five types of products that includes TVs, PCs and 3 types of home appliances; this rate is based on current (not past) sales and is only for Japan.

TOSHIBA Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 on Toshiba's global corporate site 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 – not only from their notebook PCs and mobiles - with a timeline of FY 2009. More information. Toshiba outlines its plan for introducing BFR and PVC alternatives in TVs; the 2009 autumn models will have cabinets free of BFRs and PCB units free of PVC and BFRs. But what about Toshiba's other products? 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. See halogen-free hard disk drives 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 GOOD (2+)	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 new 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 take-back 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. To stay on 2 points Toshiba needs to expand its TV take-back programme to non-OECD countries. More information here and here. Toshiba is part of recycling joint venture MRM, which offers take-back of consumer electronics, including TVs, from Nov 1 2008, throughout the United States. More information.	Comprehensive and improved 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. Select: Services & Support Information on take-back of consumer electronics including TVs in the US here.	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%. Toshiba gains a point as it now provides separate global recycling rates for TVs (21.2% in 2008) and PCs (12.8% based on sales 10 and 7 years ago, respectively). Toshiba needs to clarify how it calculates EU recycling rates. More information.	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, which will be after FY 2012. More information. Voluntary plan timeline. 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. It also needs to urge the new Japanese Government to revise its target. More information.	Toshiba reports on emissions from R&D, through procurement, manufacturing, use & recycling, see p. 45 of CSR report 2009. GHG emissions are calculated in accordance with ISO14064. More information. Details of third party verification of data for the Environment report 2008 are provided here. See p. 64.	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. 47 CSR report 2009.	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 34 models exceed the specifications by 30% or more. The 34 models exceeding ES 3.0 are not expressed as a % of all TV models. More information. Toshiba reports that all PCs developed in 2009 (up to the end of July 2009) comply with the new Energy Star 5, except no-OS models. More information.

MOTOROLA Ranking = 5.3/10

Motorola remains in 6th place, with a slightly reduced score of 5.3 points, which it loses for only committing to eliminate PVC and brominated flame retardants (BFRs) in mobile devices and not all its products. 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. Motorola has seven current models (in addition to 52 previously available models) of mobile phone whose circuit boards are free of BFRs, but only two models are free of PVC.

The company also does relatively well on the energy criteria, scoring 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 percent the new Energy Star v.2.0 requirements for standby/no-load modes. Motorola scores points on all the energy criteria, bar support for strict global and industrialised country cuts in greenhouse gas emissions. It is rewarded for reporting that 15 percent of the energy it purchases is from renewable sources, with a goal is to increase this to 20 percent by 2010 and 30 percent by 2020; for disclosing greenhouse gas emissions, (although it fails to publish its third party verification certificate of CO₂ equivalent emissions); and for committing to cuts of 6 percent in its absolute greenhouse gas emissions by 2010, compared with 2000.

Motorola is weakest on waste issues, with weak support for the principle of Individual Producer Responsibility for e-waste and no reporting on use of recycled plastic. Motorola scores well for its take-back and recycling service in 72 countries, representing over 90 percent of global mobile phone unit sales and for providing good information to its individual customers. It reports a global take-back rate of 3 percent of total handsets sold in 2005 but it needs to explain how its EU figures are calculated.

MOTOROLA Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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+)	PARTIALLY GOOD (2+)	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 of mobile products only introduced after 2010, with such products available in 2010. More information.	Motorola has set a goal to eliminate phthalates in all new designs of mobile phones only, 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 new 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 telephone 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. Motorola needs commitments to short term targets: to call for global GHG emissions to peak by 2015 and for industrialised countries as a group to accept mandatory cuts of at least 30% by 2020. More information.	Motorola calculates that in 2008, its carbon footprint (scope 1 and 2 emissions from the Greenhouse Gas Protocol) totalled 531,661 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 certificate. 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. More information.	Currently about 15 percent of Motorola's electricity is purchased from renewable sources, with a goal to increase this 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. Motorola includes 5 percent of renewable energy available by default in the power grid in 2009 in its figure of 15%; about 10 percent of its global electricity comes from voluntary purchases, including Green-e certified renewable energy certificates (RECs) purchased from wind power in the U.S. and hydro power purchased directly from the generator in Germany. More information. Information on fuel cell base stations, wind and solar powered base stations.	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.

SHARP Ranking = 5.1/10

Sharp stays in 7th place but with a reduced score of 5.1 points. Sharp gains a point for its support for the precautionary principle but loses a point for the lack of clarity on whether the commitment to eliminate phthalates, relates to all phthalates, or three. Otherwise, Sharp scores well for its policy and practice on toxic chemical issues, although 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 financial year 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 energy, Sharp loses points on the criterion examining energy efficiency of products. Although it reports that all of its TVs meet the latest Energy Star standard and at least half exceed it in standby mode, it fails to report on the percentage of PCs and external power supplies of mobile phones meeting and exceeding ES. Sharp gains a point as absolute emissions of greenhouse gases were 103Kt (6 percent) lower in 2008 than 2007. 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 percent by 2020. Sharp discloses third-party verified greenhouse gas emissions from its own operations and reports that 9 percent of the electricity it used worldwide in financial year 2006 came from renewable energy sources; however, as most of this is provided as part of the Japanese grid, it scores no points.

Sharp is weakest on the e-waste criteria, scoring points for its voluntary take-back programme for TVs and consumer electronics in the US, which is nationwide; providing information to consumers in a few countries on what to do with their discarded Sharp branded products and reporting on the use of small amounts of recycled plastic. Sharp supports Individual Producer Responsibility (IPR) but needs to clarify this support, as well as show evidence of lobbying for it.

SHARP Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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)
GOOD (3+)	GOOD (3+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	PARTIALLY BAD (1+)
Sharp scores top marks for its support for and understanding of the Precautionary Principle. 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. However, Sharp's 'Confirmation of Use Form' refers only to phthalates in contact with humans and it's Manual for Survey of Chemical Substances Contained in Parts and Materials only to three types of phthalates. More information. 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 2007 (48.9%) based on sales 10 years ago, but only for Japan and reports a composite recycling rate for 4 product types, not just TVs. More information here and here. 2008 data. 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. Examples of products using recycled plastic.

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+)
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. 2008 data shows GHG emissions have decreased since 2007. Verification details. Calculation standards for Envi Performance Indices. Sharp deserves credit for providing 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. More information. As a result of various measures taken by Sharp, CO ₂ emissions from its existing factories will peak by the end of fiscal 2008. Sharp gains a point as absolute emissions were 103Kt (6%) lower in 2008 than 2007. More information.	Sharp estimates that approximately 9% of the electricity it used worldwide in fiscal 2006 came from renewable energy sources. 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 70% at least 50% more efficient in standby mode. In addition, 100% of MFPs qualify under ES1.1, with 14% of them at least 30% more efficient than the changed ES requirements. A wide range of other Sharp products are also ES qualified, but Sharp does not report on the percentage of PCs and external power supplies of mobile phones meeting and exceeding ES. More information here and here.

SONY Ranking = 5.1/10

Sony leaps from 12th place to 8th with an improved score of 5.1. It gains points on the precautionary principle criterion and for improving its expression of support for Individual Producer Responsibility.

On energy, Sony scores points on the energy efficiency of its products by reporting that all new models of TVs released in the US (but only US) meet the latest ES requirements, and 45 percent of new models of VAIO PCs launched between July 2007 and 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 greenhouse gas 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 percent 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 is rewarded for its use of approximately 20,000 tons recycled plastics annually across several products.

SONY Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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)
GOOD (3+)	GOOD (3+)	PARTIALLY BAD (1+)	BAD (0)	PARTIALLY GOOD (2+)
Sony now references the precautionary principle and clarifies that this means taking action to substitute a chemical even where the scientific evidence is not fully proven. 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.	BFRs are not used in the casings of any models of the VAIO PC, as of May 2008, in the printed wiring boards (PWBs) of any of B5-sized and smaller notebook PCs, or in 93% of A4 sized PCs. The type G-VAIO is free of PVC in casing and internal wiring. Other Sony products that are partially free of PVC and BFRs, including three models of video recorders, many models of Walkman, Camcorder, Digital Camera and Digital Photo Frames; the casings and internal wiring are PVC free but not external cabling, and casings and main printed wiring boards are BFR free, 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 GOOD (2+)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	PARTIALLY BAD (1+)	PARTIALLY BAD (1+)
Sony supports the principle of Individual Producer Responsibility. For full marks, Sony will also 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. 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 20,000 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, by FY 2010. More information. Green Management 2010 recycled plastic target. 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 2.072 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, 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 using emission data from 2000 as baseline. 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. 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. As of March 2009, Sony's US renewable energy purchases make up around 21% of its monthly electricity purchases. More information. The use of renewable energy has led to a reduction in global CO ₂ emissions of approximately 92,000 tons in FY2008. In Europe, facilities with over 100 employees use 100% renewable energy. However there is no information on the total percentage of RE used or a commitment and timeline to increase its use globally. More information.	75% of Vaio PCs released between April and August 2009 meet the latest ES requirements. The newly released AC adapter meets ES 2 standards. All new models of TVs released in the US comply with the latest ES standards, and 78% exceed it by 15% or more. However, Sony needs to report on Energy Star compliance for TVs released outside the US. More information.

APPLE Ranking = 4.9/10

Apple climbs up the ranking from 11th place to 9th, with a score of 4.9. Apple does best on the toxic chemicals criteria, where it scores most of its points. It scores substantially less on waste and energy.

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. 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 percent as a percentage of sales seven years ago; however, it needs to provide details on how this is calculated. Apple has set a new goal of achieving a 50 percent recycling rate by 2010.

On the energy criteria, it is disappointing that Apple has yet to make a statement on the need for mandatory reduction of greenhouse gas emissions at this crucial stage in the climate change negotiations. 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

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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+)	GOOD (3+)
<p>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.</p>	<p>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.</p>	<p>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.</p>	<p>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.</p>	<p>All Apple products are now free of BFRs and PVC with the exception of power cords which are undergoing certification. Apple scores full marks on this criterion as there is no intentional use of these substances. Greenpeace applauds Apple's new advertising campaign highlighting the green credentials of its MacBook. The MacBook, MacBook Pro and MacBook Air. Environmental reports. The Mac Mini and iMac, iPod and iPhone.</p>

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)
<p>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.</p>	<p>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).</p>	<p>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.</p>	<p>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.</p>	<p>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.</p>

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+)
<p>It is disappointing that Apple has yet to make a statement on the need for mandatory reduction of GHG emissions at this crucial stage in the climate change negotiations.</p>	<p>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.</p>	<p>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.</p>	<p>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 CO₂ equivalent emissions, and the purchasing of renewable energy in Austin, Texas. Apple needs to update its information on the manufacturing site in Ireland. More information.</p>	<p>Apple states that every Mac it ships is Energy Star 4.0 compliant, or better, 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. Apple needs to update the web information to report to the latest Energy Star 5.0 standard. More information. See Product Environment Reports for details on Energy Star 5.0 compliance.</p>

PANASONIC Ranking = 4.9/10

Panasonic remains in 10th place with the same score. It performs best on the energy criteria and is weakest on those relating to e-waste and recycling.

On energy, Panasonic 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 percent exceeding the standby mode requirement by 70 percent or more. It also scores points for supporting cuts of greenhouse gases of up to 30 percent by 2020 and peaking by 2020 (not the required 2015); committing to absolute reduction in emissions and disclosing greenhouse gas emissions from its own operations which are verified 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. However, it loses a point for the slow progress in extending its take-back services to other products and other countries, especially non-OECD.

PANASONIC Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 further define its understanding of the precautionary principle as it relates to Panasonic's chemical policy. There is still no reference to the need for elimination of substances of high concern despite scientific uncertainty, or to the need for proactive searching for safer substitutes. More information.	Panasonic's web pages on chemicals management contain a lot of detailed information. Summary explanation on management of chemical substances here. More information. 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. In Japan (FY2009) Panasonic replaced 40 tons of PVC internal wiring and 344 tons of PVC power and connection cords with alternative materials. More information.	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, healthcare products 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 BAD (1+)	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. However Panasonic only commits to carry out whichever type of manufacturer's responsibility is the most appropriate for each market. This is opportunistic support of IPR, only when it suits the company. Panasonic ppt on IPR. To avoid being heavily penalised for undermining the development of IPR in the EU, Panasonic needs to provide unconditional public support for IPR in all its markets on its website and clarification that this means supporting a move away from collective market share financing.	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's US take-back programme is nationwide, includes TVs and 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. Panasonic plans a product recycling programme in India before March 2010. More information.	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 information on how to recycle is not easily accessible to customers. More information here and here. See here for US.	Panasonic provides data on home appliances and PCs recycled in Japan in fiscal 2009 (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 seven European countries They will be continued in a few more countries, and the results will be published accordingly. Updated recycling quantities for the US and Korea are also provided. 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 2009 it used 5,498 tons of recycled resin (compared to 3,000 tons in fiscal 2008) in washing machines and refrigerators; the ratio of recycled resin usage in these two product lines was 18.7%. Of the 5,498 tons, 2,367 was post-consumer recycled resin and 3,131 tons was post-industrial. No target for increasing use of recycled plastics. Panasonic needs to provide a target and timeline for increasing use of recycled plastic. More information. Details about recycling technology.

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)	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. 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 3.67 million Global Warming Potential tons in FY2009 (compared to 4.27 million GWP in FY2008). There is no data from its product supply chain. Emissions from transportation for 2009 are reported. Emissions data are also presented in Panasonic's Environmental Data Book 2009. Panasonic regains a point for providing verification.	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. Panasonic has achieved this target one year early, so it should now aim for more ambitious cuts by 2012. More information. In FY 2010 Panasonic aims to reduce 480,000 tons of CO ₂ emissions compared with 2007 levels. In addition it also promised to lower CO ₂ emissions to the level of FY 2001 by the end of FY 2011. More information.	Panasonic reports that the renewable energy consumed in Japan in fiscal 2009 was 53,000 kWh, which is less than the 64,000 kWh in FY2008, but provides no reasons for this drop. 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 currently sold PCs meet the latest Energy Star requirement and one representative series exceeds a Typical Energy Consumption standard by 33%. More information.

LG ELECTRONICS Ranking = 5.7/10 - 1 = 4.7/10

LG Electronics plummets down the ranking from 4th place to 11th, with its score dropping from 5.7 to 4.7 points. This is due to the penalty point imposed 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, some of whose components are PVC and BFR-free. 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 gains a point on its support for IPR because it has recently engaged with a European coalition of NGOs and industry in support of this principle, especially during the revision of the EU WEEE Directive. But, LGE loses a point for lack of progress in extending its take-back programmes beyond mobile phones and geographically beyond the US programme (that includes LG, Zenith and GoldStar brands of TVs), launched over a year ago. It also reports its use of (post-industrial) recycled plastic across all LGE products as 11 percent, with plans to increase this to 25 percent 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 percent and consumer equipment (that includes TVs) is 13.7 percent. 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 greenhouse gas emissions to peak by 2015 and commits to cutting absolute GHG emissions by 5 percent below the 2008 level by 2012 and by 10 percent by 2020. On the energy efficiency of its products; LGE reports that 100 percent of its chargers meet and 74.6 percent exceed the latest Energy Star standard (v.2.0) by 50 percent; all PCs meet and 71 percent exceed sleep and standby modes by 30 percent; all TVs meet the latest ES standard (v.3.0) and 50 percent LCD TVs and 41 percent 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 <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 (not all mobile products) 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. More information.	Mobile phones now have halogen-free housing, packaging and main printed wiring board. Three LGE models of Optical Disk Drives and 3 models of HLDS data storage systems supplied to other companies are halogen free. 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 GOOD (2+)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)
LGE supports individual producer responsibility, and has recently signed the IPR statement, although it recognises that for IPR to be operationalised, technically and economically feasible identification solutions are needed. For more points, LGE should 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. 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. For more 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 better transparency on what comprises the scope 2 and 3 emissions is needed. An inventory of overseas subsidiaries is planned to be established by the end of 2009. 2008 data (716,658 tons GHGs) are provided in LGE's Sustainability Report 2008 (pp42/43). Link from the above page. More information. LGE provides a verification certificate.	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 2008 sustainability report (p.42–45). LGE's GHG emissions decreased 8.1% from the previous year; LGE should provide information on how these reductions have been achieved. Link from the above page. More information.	LGE states that 1.6% of total electricity purchased in Korea in 2008 is renewable energy; however, this is based on renewable energy supplied through the national grid. Solar panels at one of LGE's 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 some of LG Group's renewable energy systems are given. See also Sustainability Report, p.44, link from the above page. LGE is investing in crystalline solar cells. More information.	100% of LG notebook PCs launched after July 2009 meet the new ES standard, with 66% exceeding it 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.

DELL Ranking = 5.7/10 - 1 = 4.7/10

Dell moves up into 12th (from 13th) position, with a slightly improved score of 4.7 points, up from 3.9 points in v.12. 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 substances, which means there is no commitment to phase them out entirely. On other chemicals criteria, 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.

Dell is strongest on the energy criteria, scoring full marks for committing to reduce global absolute emissions of greenhouse gases from its worldwide facilities by 40 percent by 2015, from a baseline year of 2007 and announcing that 26 percent of its global electricity use now comes from renewable energy sources, up from 20 percent in 2008. Dell is also awarded points for disclosing third party verified greenhouse gas emissions from global operations and on the energy efficiency of its products. 59 percent of laptop models and 63 percent of desktop models are Energy Star 5.0-compliant. Almost all of Dell's desktops, workstations and laptops consume less than 5 watts in a low-power mode, exceeding current Energy Star efficiency requirements. It is encouraging that Dell is making continuous steps to improve the efficiency of its models; however Greenpeace has never received a satisfactory answer to the question, following previous revelations; what percentage of their products leave the factory non-ES compliant, and of these what percentage are specified by the client?

Dell scores most poorly on waste. It no longer provides data on recycling rates based on past sales and fails to clarify its support for Individual Producer Responsibility and not collective financial responsibility. It is rewarded for providing a relatively comprehensive take-back programme, for information to its customers on what to do with their discarded electronics and for reporting use of 1.1 million pounds (500 tonnes) of post consumer recycled plastic in 2008.

DELL Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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. 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 updated its Materials Restricted for Use Specification (6T198) with a restriction of 3 phthalates (DEHP, BBP, DBP) with the goal to eliminate their use in all new products by 1st July 2011. Other Phthalates, Antimony and Beryllium are identified 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. Dell also plans to eliminate mercury and introduce arsenic free display glass. 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). Its most recent offering in the G-series includes G2210t BFR and PVC-free flat panel display. More information. 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. 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 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 72 countries, having expanded its service in Mexico and Brazil. More information. See p.8 here. p.73-80 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. The "Dell recycling" link can be accessed from each regional homepage , but if your country is not listed, there is nowhere else to go for information.	Dell reports a 2006 recycling rate of 12.4%, based on sales 7 years ago. More information. However, Dell is using a new system for reporting recycling and take-back information and no longer reports its recycling rate as a percentage of past sales. Total figures are given quarterly. Dell's data 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 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 shipped over 1.1 million pounds (500 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)
PARTIALLY GOOD (2+)	PARTIALLY GOOD (2+)	GOOD (3+)	GOOD (3+)	PARTIALLY GOOD (2+)
Dell supports the call for global reductions of 50-85% by 2050 from 2000 levels. Greenpeace believes that there is strong evidence to support going for the upper range now. Dell calls for the United States to take a leadership role by developing a national GHG emissions reduction programme. It also states that the solution requires action from both developed and developing countries. More information.	Dell reports third party verified Scope 1 and 2 GHG emissions and also emissions from business travel (Scope 3) for FY 2008 in 2008 CR Report (p. 62 and 107). 2009 data is not third party verified. See 2009 CSR Report (p.8). Dell is now requesting GHG accounting and reporting from its Tier I suppliers. More information here and here. The latest FY2009 figures for scope 1,2 & 3 are summarised and compared to previous years.	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 here and here.	Dell has announced that 26% of its global electricity use now comes from renewable energy sources, up from 20% in 2008. Although Dell addresses the additionality of its own supply, it needs to provide more information on its offsets. More information here and here. Dell's goal is to use energy that is 100% generated by clean and renewable sources, although there is no timeline. More information. Dell provides a breakdown of its certified renewable energy credits and verified emission reductions. More information.	59% of laptop models and 63% of desktop models are Energy Star 5.0-compliant. Almost all of Dell's desktops, workstations and laptops consume less than 5 watts in a low-power mode – this exceeds current energy efficiency requirements set by the EPA. To stay on 2 points, Dell needs provide percentages of computers that have left the factory non-compliant and release the information on its global website (not a blog). 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.

ACER Ranking = 4.5/10

Acer drops down the ranking from 9th to 13th place, with a reduced score of 4.5 points, losing points as a lower percentage of its PCs meet the new, stricter Energy Star 5.0 standards for energy efficiency. At present, 55 percent of Acer notebook computers and 29 percent of desktop PCs meet the new Energy Star v.5 standard; previously, 71.3 percent of Acer notebook PCs, 38.5 percent of desktop PCs met the old ES v.4. Acer also lost a point for not making more progress in extending its voluntary e-waste take-back programme beyond India.

Acer scores most points for its efforts on toxic chemicals, 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. In the last two versions of the ranking, the company has not been 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. The company is also rewarded for its 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 29.8 percent 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 emissions of 50 percent by 2050 and 30 percent by 2020 from industrialised countries (compared to 1990 levels) and calling for global GHG emissions to peak by 2015. 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 <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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. HSF (Hazardous Substance Free) Planning.	Acer pledges to prohibit PVC and BFRs from use in new products by 2009, in its Hazardous Substance Free (HSF) plan. Progress in implementing HSF plan has been updated 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 still needs to transition its PCs and projectors 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+)	BAD (0)	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 score more points, 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)
GOOD (3+)	PARTIALLY BAD (1+)	BAD (0)	BAD (0)	PARTIALLY BAD (1+)
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). Acer gets full marks for supporting calls for global GHG emissions to peak by 2015. More information.	Acer reports on its GHG emissions from its global operations that in total were 47,644 CO ₂ equivalent tonnes in 2007 and 45,959 CO ₂ -e tonnes in 2008. 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 finalise 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.	55% of notebook computers and 29% of desktop PCs meet the new Energy Star v.5 standard. 100% of Acer monitors meet the latest ES standard. Acer has recently updated these figures. Computers need to leave the factory with the highest settings for energy efficiency. More information.

HP Ranking = 4.5/10

HP stays in 14th place with an increased score of 4.5 (up from 3.5), despite the lifting of the penalty point imposed for backtracking on its commitment to eliminate PVC and brominated flame retardants (BFRs) in computing products by end of 2009. In September 2009, HP released a moderately priced notebook for business customers with a cost neutral option of a PVC and BFR free configuration, except for the power supply and power cable. A condition for lifting the penalty point was putting a PC on the market free of PVC and BFRs. HP could improve its score on chemicals by committing to eliminate additional harmful substances and putting more products (including printers) on the market free of PVC and BFRs.

HP scores points on energy, because it discloses externally verified greenhouse gas emissions from its own operations and estimates the supply chain greenhouse gas emissions of 80 percent 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 2008 use of renewable energy as 4 percent of global energy consumption with a goal to double global purchases of renewable power to 8 percent 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. However, its voluntary take-back programme, although improving, continues to be weak and is still mainly oriented towards its business rather than individual customers. The company reports a reuse and recycling rate in 2008 of 17.5 percent, up from 15 percent 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 percent 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 <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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)	PARTIALLY BAD (1+)
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 identified three types of phthalates (DEHP, DBP and BBP) to be eliminated from all HP products, but this does not pertain to all phthalates and there is no precise date on the 2009-2015 substitution timeline. 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 here and here.	HP scores one point for its newly released ProBook 5310m Notebook PC which offers a BFR/ PVC-free configuration, except for power supply and power cable. More information. HP is introducing PVC and BFR alternatives as they come onto the market in sufficient volumes. More information. From product design page link to HP Eco Solutions for product information. Some products are free of PVC except for cables. 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 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	HP provides consumer take-back programmes in China, Costa Rica, India, Australia, Hong Kong, New Zealand, Canada and South Africa, although there are major gaps in Africa and South America. More information here and here. HP's consumer take-back programme in India has 15 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. 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.	In 2008 HP used 4,800 tons of recycled resin in printer cartridges, more than twice the amount used in 2007. The HP Deskjet D2545 is made from 83% recycled plastic material and uses HP 60 cartridges, made from 50 – 75% recycled plastic; HP's goal is to triple the amount of recycled materials used in its inkjet printers by 2010 (relative to 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)
BAD (0)	GOOD (3+)	PARTIALLY GOOD (2+)	PARTIALLY BAD (1+)	PARTIALLY BAD (1+)
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 here and here. 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 aims to reduce GHG emissions from HP-owned and HP-leased facilities worldwide to 16 percent below 2005 levels by 2010. More information here and here. 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 Goals, Select (right hand side): Climate and Energy.	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 Goals, Climate and Energy).	Approximately 15 HP product families have configurations that will meet the new, more stringent ENERGY STAR® standards, which become effective July 1, 2009. HP does not report this statistic as a percentage of all PCs. More information.

MICROSOFT Ranking = 2.7/10

Microsoft stays in 15th position but with an increased score of 2.7 points, up from 2.5 points, as it has now engaged in an EU coalition supporting 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 percent 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 <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 an 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
PARTIALLY BAD (1+)	BAD (0)	BAD (0)	BAD (0)	BAD (0)
Microsoft states that it "supports the mandatory collection and recycling of consumer electronics funded by individual producers... ", and has recently signed the IPR statement. For more points Microsoft should 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. 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. More information. It now provides an option for customers to mail end-of-life products to a US address. 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 or Key Resources; Select: Recycle your Electronics Waste. More information. An address is provided for US customers but no contact numbers. 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 - select 2008, see question 2 (b) (i) to question 2 (d), (note log in is required to view).	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).

FUJITSU Ranking = 2.7/10

Fujitsu moves up the ranking by one place from penultimate (17th) position with a score of 2.4 to 16th place with 2.7 points, above Nintendo and Lenovo. Fujitsu scores equally poorly across the three issues.

On chemicals, Fujitsu is rewarded for having a chemicals management system in place and for committing to eliminate some phthalates in PCs by 2013. It scores double points for the Fujitsu Technology Solutions (formerly Fujitsu Siemens Computers) PCs with reduced PVC and BFRs, sold in the EMEA region, including Europe. Fujitsu plans to totally abolish the use of PVC and the Brominated Flame Retardant (BFR) HBCDD in PCs by the end of 2013, but scores no points on this criterion as it does not commit to phase out all BFRs.

On energy, Fujitsu scores points for supporting global cuts and the need for emissions to peak by 2020 (not 2015); reporting verified greenhouse gas emissions from its own operations and for reporting on the energy efficiency of its notebook and desktop PCs, albeit inadequately. Fujitsu has no commitment to reduce absolute greenhouse gas emissions and reports on renewable energy use only in Europe, which is at least 15 percent of purchased electricity in 2007.

Fujitsu is weakest on e-waste, but gains points for its voluntary programmes for the take-back and recycling of its discarded products. It provides information to some customers on what to do with their 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-SIEMENS Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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+)	PARTIALLY BAD (1+)
Fujitsu refers to the Precautionary Principle but only in reference to managing the risks of controlled substances rather than their hazards. More information.	Fujitsu's Green Procurement Direction document (version 4.1) lists banned hazardous substances and 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 <i>independent</i> of legislation. More information here, here and here. Guideline Regarding Non-Containment Management on Fujitsu Group Specified Chemical Substances (v.3) June 2009. See p. 10 of Fujitsu Group Green Procurement Direction . Search for 'Non-Containment' document.	Fujitsu plans to totally abolish the use of PVC in 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 to eliminate all BFRs means that Fujitsu scores no points on this criterion. In addition, this information is inaccessible from Fujitsu's main site – the link was provided by Fujitsu. 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 Technology Solutions (formerly Fujitsu Siemens Computers) still sells PCs with reduced PVC and BFRs, although this information is difficult to find. Since 1993, the company has made Green PCs, such as FUTRO thin clients, ESPRIMO professional PCs and CELSIUS workstations which use halogen-free flame retardant plastics and halogen-free Printed Circuit Boards for mainboard and power supply. More information. Select 'Green Label' (bottom of page). Select 'Environmental Care' (left hand side). Select "Design and Manufacture" (bottom right hand side). Green PCs. Green Label criteria.

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 here and here.	Details of the regions giving information on product recycling More information. EU information. Fujitsu has also provided the link to FTS recycling site for information on recycling in EMEA, Asia and the USA. Contact details. 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.	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. Recycling data for Japan and Australia is provided. However the recycling rate as a percentage of past sales is not given. More information. Scroll down to "For the Environment" ; Select "Promoting Product Recycling"	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.

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. 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. It is difficult to navigate from the FTS site to the 'manufacturing' page. 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 30 and 67%. In addition, this information is inaccessible from Fujitsu's main site – the link was provided by Fujitsu. More information.

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

Lenovo drops from 16th to 17th position with its score remaining on 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. No timeline means no commitment.

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 is rewarded for committing to the phase out of beryllium (including alloys and compounds) and antimony and its compounds by 2012, but phthalates are still only reportable substances.

Lenovo reports a recycling rate of 2.16 percent of the weight of products shipped in 2007 and 7.74 percent of the weight of products shipped in 2000. However, almost 80 percent 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 emissions from global operations in 2007, although these are not externally verified. It also scores points on energy efficiency, for having all global models of notebook, desktop and monitor introduced since the effective date of Energy Star 4 meeting the current Energy Star requirements, either in the basic models or as an option. However, Energy Star compliance is not supplied as standard for all models; for some models, customers can opt for non-Energy Star compliant PCs.

LENOVO Overall Score

	BAD (0)	PARTIALLY BAD (1+)	PARTIALLY GOOD (2+)	GOOD (3+)
Precautionary Principle				
Chemicals Management				
Timeline for PVC & BFR phaseout				
Timeline for additional substances phaseout				
PVC-free and/or BFR-free models <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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 having extended the timeline to end of 2010. See p. 45 and 47 Sustainability Report. However, Lenovo now states that "it is changing this target to remove the 2010 date and focus on collaborative efforts in the supply chain to move towards acceptable alternatives. 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).	In 2008, Lenovo began offering the ThinkVision L2440x wide monitor that is BFR and PVC free, with the exception of power cords in certain geographies; work is being done to phase in PVC-free power cords in all geographies. More information here and here Lenovo's Environmental Data Sheets page. More information. Although it is good to see one halogen free product, 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 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 provides 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.	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. Lenovo uses post consumer recycled content in over 25 different product lines, including all ThinkVision monitors and several desktop and workstation models. Since early 2008 Lenovo has used over 4 million pounds of post consumer plastic material. 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)	BAD (0)	PARTIALLY BAD (1+)
Lenovo does not refer to support for global mandatory reductions in GHG emissions. Lenovo needs to call for global GHG emissions to peak by 2015 and for industrialised countries as a group to accept mandatory cuts of at least 30% by 2020. It is disappointing that Lenovo has yet to make a statement on the need for mandatory reduction of GHG emissions at this crucial stage in the climate change negotiations. More information. See Sustainability Report p 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 56 – 58.	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 56.	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 60.	All Lenovo notebook, desktop and monitor global models introduced since July 2007 meet the Energy Star 4 requirements. 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. In June 2009, Lenovo announced that more than 25 of its Think-branded business and Idea-branded consumer PCs meet the new ENERGY STAR Version 5.0 standard; all Lenovo ThinkPad models with the exception of Celeron, non-Windows Operating Systems, and SL-series; select ThinkCentre M-series (M58, M58p) desktops, ThinkStation Workstations (D20, S20).

NINTENDO Ranking = 1.4/10

Nintendo remains in last place but with an increased score of 1.4 out of 10, up from 1 point in v.12, for the energy efficiency of its low power AC adaptor for the Nintendo DSi that meets the requirements on the external power supply in the Energy Star Program. On other energy criteria it loses a point due to a second year of increases in greenhouse gas emissions, despite a commitment to cut CO₂ emissions and other greenhouse gases by 2 percent over each previous year. Emissions in 2007 increased by 1.5 percent compared to 2006, following a rise of 6 percent in 2006. Nintendo retains a point on energy for disclosing carbon dioxide (CO₂) emissions from its own operations.

On chemicals, Nintendo scores a point 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.

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 <small>(companies score double on this criterion)</small>				
Individual producer responsibility				
Voluntary take-back				
Information to individual customers				
Amounts recycled				
Use of recycled plastic content				
Global GHG emissions reduction support				
Carbon Footprint disclosure				
Own GHG emissions reduction commitment				
Amounts of renewable energy used				
Energy efficiency of new models <small>(companies score double on this criterion)</small>				

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.	Six types of 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 of America 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)	PARTIALLY BAD (1+)
It is disappointing that Nintendo has yet to make a statement on the need for mandatory reduction of GHG emissions at this crucial stage in the climate change negotiations.	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 scores 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	Nintendo has developed a low power AC adaptor for the Nintendo DSi that meets the requirements on the external power supply in the Energy Star Program for energy-efficient products. Even though the game consoles are not subject to the Energy Star Program at this stage, the Nintendo DSi adaptor (100v-120v) meets the requirements equivalent to the current strictest level V requirements (standby power: 0.3W; average efficiency: 66.8% ; rated output power: 4.14 W). More information.