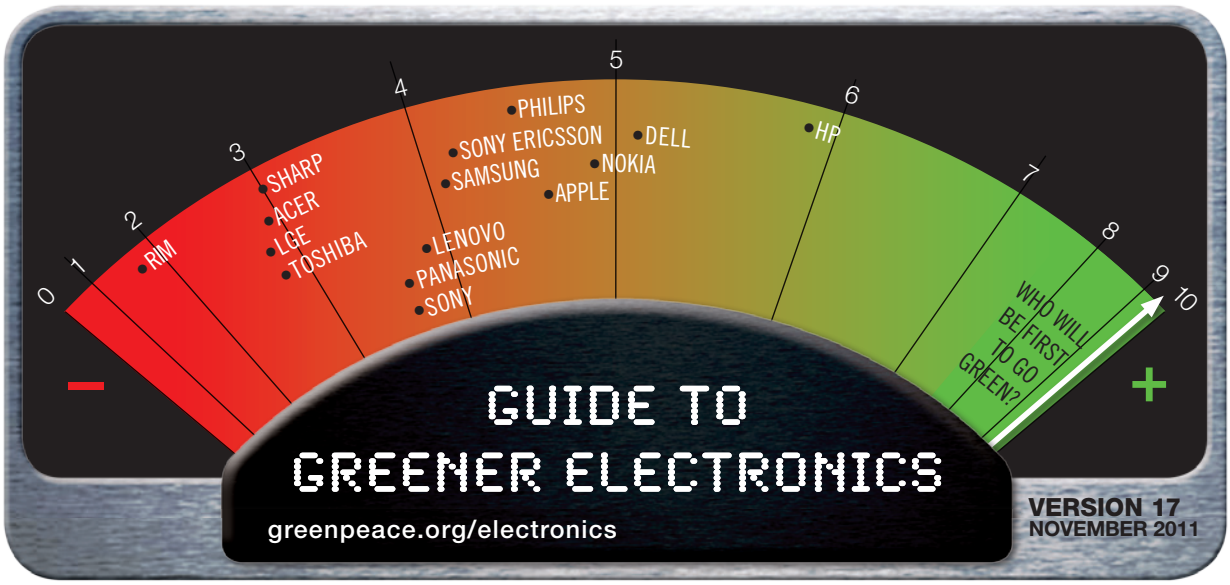


HP, 1st position, 5.9/10

HP takes the lead in the re-launched Guide with 5.9 points. It scores most of its points and is the leader on the new Sustainable **Operations** criteria, which includes the management of its supply chain. It has the best programme for measuring and reducing emissions of greenhouse gases (GHGs) from its suppliers, disclosing emissions from its manufacturing at 3,500,000 tonnes CO_2-e, with 91 percent of first-tier suppliers reporting estimated emissions in 2009. It also scores maximum points for its thorough paper procurement policy; HP and Dell are the only companies in the Guide that effectively exclude the sourcing of paper from suppliers linked to illegal logging or deforestation. Together with Apple, HP is also a top scorer for its policies and practices on the sourcing of conflict minerals, for publishing its suppliers and engaging effectively in the Electronics Industry Citizenship Coalition's conflict-free smelter program. The only operations criteria where it scores relatively poorly is e-waste, where it needs to expand its take-back programme for consumers in countries without legislation and improve on its reporting of data.

HP is also a relatively high scorer on the **Energy** criteria, and does especially well for its disclosure of externally verified GHG emissions from its own operations and for setting targets for their reduction, with reductions of 9 percent from 2009, although it needs to address increasing emissions from business travel and to set more ambitious targets to reduce its own GHG emissions by at least 30 percent by 2015 for its operations and to use 100 percent renewable electricity by 2020. It's score for its clean energy plan is average and although its use of renewable energy is increasing it needs to increase this further. HP is also rewarded for its relatively strong advocacy position in opposition to California's proposition 23 in Nov 2010, which it believes would "impair California's leadership in reducing greenhouse gases".

It scores the least points in the **Products** category; although it scores comparatively well for its progress on phasing out the use of polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs) from its product range and is on track to achieve 90 percent of its new goal to phase out BFR and PVC in newly introduced personal computing products in 2011. HP needs to report on the amount of post-consumer plastics it uses as a percentage of all plastics and publicly disclose the length of warranty and spare parts availability for its main product lines, as well as show more innovations to extend product life. HP does not provide a summary of the energy efficiency of its products by giving a percentage of its products that meet the latest Energy Star standards (or other relevant international standard for external power systems); this should be published on its website, for each product range. However, HP risks a **penalty point** in future Guide editions as it is a member of trade associations that have commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

HP Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

HP Detailed Scoring

Energy

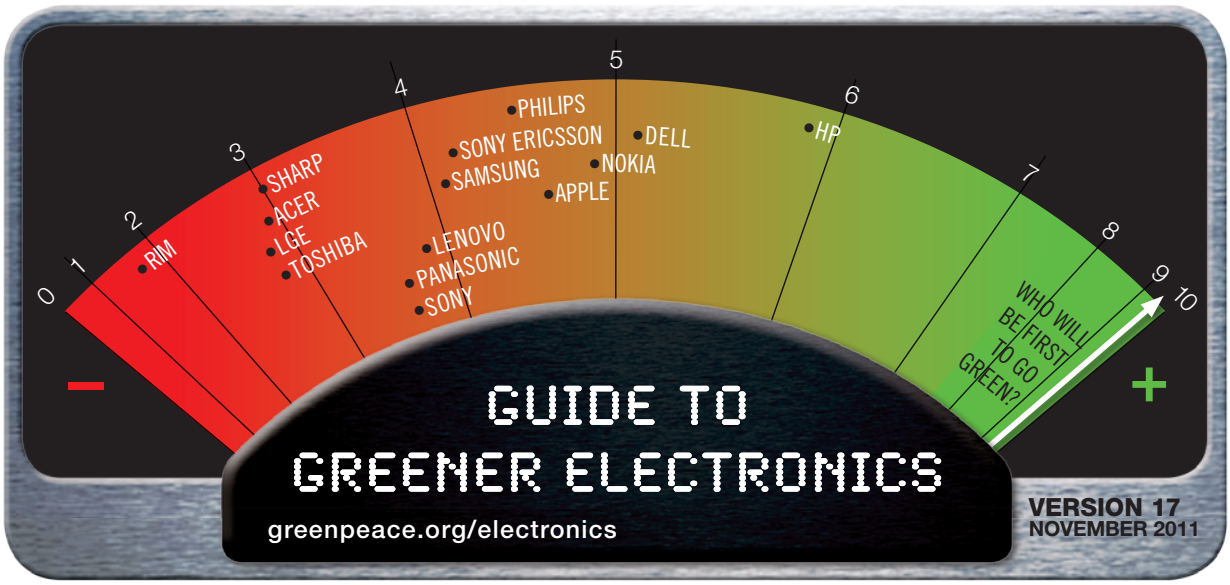
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
3/3	**5/8**	**4/8**	**3/8**
In 2010, GHG emissions from HP operations equaled 1.87 million tonnes of carbon dioxide equivalent (CO_2e), over 9% less than 2009. HP provides background information and analysis on the source of its GHG emissions. **More information.** GHG emissions from employee business travel were 463,000 tonnes of CO_2e. **More information.** HP calculates its GHG emissions according to the GHG Protocol; scope 1, 2, and 3 GHG emissions are reported. **More information.** **External verification.** HP provides background information and analysis on the source of its GHG emissions.	HP's goal is to reduce absolute GHG emissions from HP-owned and HP-leased facilities by 20% below 2005 levels by 2013. Emissions have been reduced by 9% from 2009. HP adjusts its baseline to account for acquisitions and divestitures. **More information here** and **here.** Emissions from business travel increased by 49% compared with 2009, returning to the levels generated in 2008. To reduce emissions, HP is working to eliminate high fuel consumption vehicles from its fleet. **More information.** Between 2005 and 2008, HP reduced the energy used in its operations by over 9% towards the previous goal of 16% by 2010. (previous version of HP webpage) **More information.** HP needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and use 100% renewable electricity by 2020.	HP states that it "is committed to making its global operations more energy efficient, seeking low-carbon energy sources where possible, and reducing employees' business travel." **More information.** HP considers that energy efficiency is central to reducing costs and greenhouse gas (GHG) emissions, as the business—and particularly its focus on data center services—grows. Energy efficiency projects are projected to reduce annual energy use by approximately 70 million kWh, and save $5.7 million USD annually. HP also gives details of how it is making data centres more energy efficient. **More information.** HP purchased approximately 311 million kWh of renewable energy worldwide in 2010— equivalent to over 8% of electricity use in facilities and twice the amount in 2009. This is made up of energy generated on-site and renewable energy credits (RECs) in the US, and does not include renewable energy available by default in the power grid. HP provides a **list of renewable energy initiatives** underway in 2010. HP has already met its goal to double voluntary purchases of renewable energy to 8% of electricity use by 2012. **See Operations Goals.**	HP gives details of its work with governments, NGOs and other technology companies to advocate action on energy and climate policies to improve energy efficiency and reduce greenhouse gas (GHG) emissions throughout the global economy. **More information.** **See also public policy.** **See also HP's statement** in opposition to California's Proposition 23.

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
3/5	**3/5**	**1/3**	**1/3**
100% of HP EPSs are Level V of the International Efficiency Marking Protocol for External Power Supplies, as specified in the **HP General Specification for the Environment** (Product section "7.1.1 Mandatory (Legal) specifications for Single Voltage External ac-dc and ac-ac Power Supplies", p.81). HP informs Greenpeace that 75% of its current PC and display product family portfolio have ENERGY STAR® qualified configurations. 75% of HP's Display product portfolio exceeds the ENERGY STAR 1W sleep mode threshold limit by more than 50%. 90% of HP's Display product portfolio exceeds the ENERGY STAR 1W off mode threshold limit by more than 50%. However, this information is not provided on HP's website. **More information here** and **here.** Information on Energy Star qualified products and tools for energy management – see for example HP Power Assistant for notebooks and desktops, is provided. **More information.** HP also provides a **carbon footprint calculator.** HP needs to provide information on the percentage of its products that are ES qualified in a more transparent and accessible way. However, HP is a member of ITI and CEA, industry associations that recently made comments against stricter energy efficiency standards (a. the inclusion of computers and servers; b. comments against battery chargers systems regulation, respectively in the scope of the California Appliance Efficiency Regulations. HP needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. it needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	At the end of 2010, 100% of all new HP notebook products are BFR- and PVC-free. -The HP All-in-One200 PC, the first HP consumer desktop to contain some BFR- and PVC-free components -HP EliteBook and ProBook notebooks and the HP Compaq 6005 Pro Ultra-slim Desktop (USDT) PC -The HP EliteBook 8440p and the HP 2310e LED consumer display, which also include mercury-free LED backlights Mercury was also removed from all notebooks by the end of 2010. Introduced in 2010, the HP ENVY100 e-All-in-One is the first PVC-free printer. Palm products, such as Pre and Pixi and the new Palm Pre 2, are also PVC-free. **More information.** **Product Eco Declarations.** HP is on track to achieve 90% of its new goal to phase out BFR and PVC in newly introduced personal computing products in 2011. Its target to phase out the phthalates DEHP, DBP and BBP in newly introduced personal computing products has been revised to the end of 2012. However, there is no goal to phase out all phthalates, although HP says it 'may require additional future restrictions'. **Sustainable Design – Goals - Materials.** Beryllium and its compounds must not be used in parts, components, materials, or products in concentrations greater than 0.1% (1000 ppm) by weight (with exemptions). When "BFR/PVC-free" is specified in HP product and component specifications, antimony in the form of antimony trioxide must not be present. However, there is no limit or objective for other forms of antimony. See p. 10, 12, **General Specification for the Environment.**	HP has used more than 20,000 tonnes of recycled plastic resin in 760 million ink print cartridges between 2005 & 2009. Its goal is to use a cumulative total of 100 million pounds (45,000 tonnes) of recycled plastic in printing products, including ink cartridges, between 2007 and 2011. **More information.** HP gives two examples of products that use recycled plastics: the EliteBook 2540p, its first notebook computer with more than 10% recycled plastic, was launched in 2010 and the HP Deskjet 3050 printer, which has the highest ever recycled content of any of its printers, with 35% recycled plastic. **More information.**	HP informs Greenpeace that all consumer PC and display warranties have a standard 1 year warranty, while select consumer PC products have a 2 year standard warranty. All business PCs have a 1 year standard warranty, while many business PC products have a 3 year standard warranty. All business displays have a 3 year standard warranty. The standard warranty periods for HP home and office printers are 1 year with the exception of low end inkjet products that are priced less than $60, which have a 90 day parts and labor warranty in the US and Canada. All HP notebook and desk-based computers are designed to be customer-upgradeable and are supported by an **extensive portfolio** of upgrade modules and accessories. Over half (58%) of all HP EPEAT registered products meet all the relevant product longevity/life cycle extension criteria (availability of 3 year product warranty, upgradeable with common tools, modular design, and 5 year replacement parts after end of production) as declared on the **EPEAT registry.** HP business Notebook innovations offer long life battery technology, LED backlighting and HP Power Assistant to save energy and extend battery life. **More information.** HP offers trade-in and buy-back programs in select countries, where previously owned HP products are made available for purchase and extend product lifecycles. **More information.** HP needs to publicly disclose the length of warranty and spare parts availability for its main product lines for more points. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
4/5	**4/5**	**3/3**	**4/5**	**3/8**
HP reports emissions from its manufacturing at 3,500,000 tonnes CO_2-e. 91% of first-tier suppliers reported estimated emissions (in 2009, the most recent year data is available). HP reports that "aggregate estimated emissions in 2009 were roughly the same as 2007 despite being attributable to a higher proportion of and a 4% increase in absolute dollar spend". **More information.** HP has been working with BSR in China to help suppliers reduce energy use, GHG emissions and costs. HP is working with the Electronic Industry Citizenship Coalition (EICC) which has developed a tool for suppliers to report GHG emissions which helped to significantly increase participation; in 2010, 251 suppliers responded to the EICC request for information—more than three times the number in 2009. Typical targets set by suppliers equate to a 2–3% reduction per year in absolute emissions and more first-tier suppliers are estimating their suppliers' emissions. **More information.**	HP's definition of the Precautionary Principle reflects the the need to eliminate potentially harmful chemicals even without full scientific certainty of harm. **More information.** HP supports the need for RoHS 2.0 to adopt restrictions on PVC and BFRs as a focus for the restriction of chlorine and bromine from electrical and electronic products, and believes restrictions of PVC and BFRs in RoHS may be possible in 2015 as long as specific issues and exemptions are addressed. **More information.** To score full points HP needs to demonstrate proactive advocacy. HP scores well for its chemicals management, which also specifies certain substances should not be used in processes. **General Specification for the Environment.** HP also published information on its reporting under the US Toxics Release Inventory for manufacturing worldwide. **More information.**	HP released the HP Environmentally Preferable Paper Policy in 2008, which details principles for buying, selling or using paper and paper-based product packaging. The policy outlines its aims to increasingly source paper and packaging from suppliers that demonstrate sustainable forestry practices, recycle paper when possible and reduce the tonnage of paper HP uses in its operations. HP sets goals to drive implementation of the paper policy that include reducing paper use in its operations and increasing recycled and Forest Stewardship Council (FSC) fibre in its products. Progress is reported annually in HP's Global Citizenship Report: **Paper.** **Packaging.** **Goals.** HP has been working to increase the amount of forest certified paper products across its portfolio. **HP's FSC and PEFC certified products.** Its **FSC certified paper products brochure.** The **PEFC certified paper products brochure.** HP's General Specification for the Environment prohibits the use of illegally sourced plant based products. **GSE pp. 17 & 18.**	HP has undertaken a multi-year tracing effort with its suppliers and has published its suppliers online. **More information here** and **here.** It is one of the leaders in the EICC conflict-free smelter program; it is very active in the EICC smelter audit process, it helped get independent experts on the EICC audit review committee and has an extensive new internal audit policy for suppliers on conflict minerals, including a requirement to source only from smelters that have passed the conflict-free audits. HP has also updated its General Specification for the Environment to include obligations for all contracted suppliers. **More information.** HP signed up to the Public Private Alliance and has statements on the need for a multi-stakeholder certification process; it has publicly committed to implement the OECD due diligence guidelines. HP also joined Motorola's "Solutions for Hope" project to source Congolese conflict-free tantalum in 2011. HP did not issue a statement against the Chamber of Commerce lawsuit but it did join the multi-stakeholder submission to the SEC on conflict minerals. HP participated in the OECD due diligence drafting and has actively reached out to NGOs on conflict minerals.	HP offers hardware recycling services in 46 countries or territories worldwide. Consumer take-back programmes include Australia, Brazil, China, India, Hong Kong, Canada, New Zealand and South Africa, although there are major gaps in Africa and South America. **More information here** and **here.** HP has also been involved in projects in Nigeria and Kenya to reduce environmental and human health impacts from e-waste recycling. **More information.** HP's consumer take-back programme in India has 15 collection points in 9 cities. **More information.** 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. HP's reuse and recycling rate in 2010 was 16%, at the same level as 2009. More information is also needed on how the 16% is calculated. HP recycled approximately 121,000 tonnes of e-waste in 2010; more than 50% of this was returned by consumers. **More information.** To score more points, HP needs to prove energy recovery (aka incineration) is not part of the 16% recycling performance figure and if so, exclude it from future calculations. **More information.**



DELL, 2nd position, 5.1/10

Dell takes 2nd position in the re-launched Guide with 5.1 points, making a dramatic improvement from its former position in 10th, partly as a result of a penalty point being lifted. This was imposed for backtracking on its commitment to eliminate PVC vinyl plastic and brominated flame retardants (BFRs) in all its products by the end of 2009, in line with its new commitment to eliminate PVC and BFRs by the end of 2011 in computing products. It is now on track to meet its PVC/BFR free commitment, although it is limited to computing products only and there is no commitment to phase out other specified hazardous substances – eg. antimony & compounds, beryllium & compounds and all phthalates. Dell scores poorly on all the other **Products** criteria. Although it reports on the quantities of post-consumer recycled plastics used, this is not given as a percentage of total plastics use and there is no target and timeline for increasing its use. Dell needs to publicly disclose the length of warranty and spare parts availability for its main product lines in order to score any points for extending its products life cycle. Dell does not provide figures on the percentage of its products that meet and exceed the latest Energy Star standard, although it offers tools for users to optimise energy efficiency. Dell also risks a **penalty point** in future Guide editions as it is a member of trade associations that have commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

On the **Energy** criteria, Dell scores top marks for its disclosure of externally verified GHG emissions from its own operations and is the top scorer for committing to reduce global absolute emissions of GHGs from its worldwide facilities by 40 percent by 2015, from a baseline year of 2007, although more progress needs to be made towards this goal and its goal to reduce energy intensity; it still needs to set a goal to increase its use of renewable energy to 100 percent by 2020. The amount of renewable energy it uses has reduced from 26 percent of global electricity purchases in 2009 to 21 percent in 2011; however, it scores reasonably well for its clean energy policy, which also includes energy efficiency measures. Dell's overall score on energy is let down by the lack of specific examples of advocacy to promote clean energy policy.

Dell performs well on the Sustainable **Operations** criteria, which includes the management of its supply chain, with maximum points for its thorough paper procurement policy; Dell and HP are the only companies in the Guide that effectively exclude the sourcing of paper from suppliers linked to illegal logging or deforestation. Dell also has a relatively comprehensive take-back programme and provides good information to its customers on how to recycle their discarded electronics; however, it no longer provides data on recycling rates based on past sales. Data on greenhouse gas (GHG) emissions from its supply chain has not yet been published, although Dell is working with its suppliers to report on this and has already tracked the total carbon footprint associated with some of its products.

DELL Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

DELL Detailed Scoring

Energy

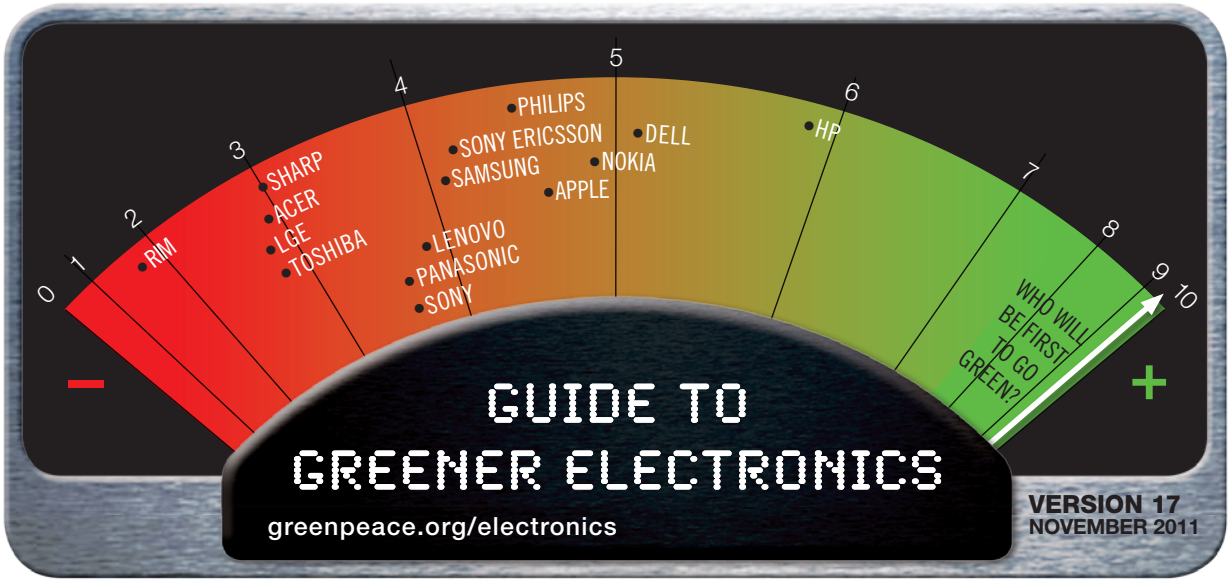
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
3/3	**6/8**	**4/8**	**0/8**
The latest FY2011 figures for scope 1, 2 & 3 (that are attributed to employee business air travel) are summarised and compared to previous years. Dell follows GHG Protocol Corporate Standard and EPA Climate Leaders reporting protocols. See. p.17 2011 **Corporate Responsibility Report.** **More information.** **Third party verification** of all GHG emissions data is provided by ICF, select GRI Index. To keep these points Dell needs to provide more background information and analysis on the source of its GHG emissions (on its website or CR report).	In 2007, Dell announced a goal to reduce its total direct and indirect emissions intensity by 15 percent by 2012, using FY08 as the base year. Intensity measures emissions against revenue. Dell is committed to reduce global absolute emissions of GHGs from its worldwide facilities by 40% by 2015, from a baseline year of 2007. Dell reports that progress needs improvement for both these goals. See. p.3 2011 **Corporate Responsibility Report.** Dell states that it is "in the process of updating our environmental strategy to reflect Dell's growth in services and solutions and will release updated environmental targets in the coming months." See p.12 2011 Corporate Responsibility Report. Absolute GHG emissions increased in FY2011 due primarily to several acquisitions, including Perot Systems. Carbon intensity remained flat from FY10 to FY11. **More information.** Dell's previous aim was to use energy that is 100% generated by clean and renewable sources, although there was no timeline for this goal. Dell needs to set a goal to increase its use of renewable energy to 100% by 2020. **More information.**	Dell states that during FY11, 21 per cent of global electricity purchases came from green power sources, as defined by the EPA (down from 26% in 2009). Dell intends to "continue our strategy of purchasing a significant amount of renewable power, in place of fossil fuels, from our utility providers in the coming years." Eight of its global facilities use 100 per cent non-fossil fuel, renewable power. Dell has completed more than 170 of efficiency improvement projects over the last four years, such as lighting upgrades; equipment optimization; installation of timers and sensors; heating; ventilation; and air-conditioning modifications. Options to maximize the efficiency of new and existing data centres will also be explored, for example, new technology and design features, including the availability of green power. **More information.** Dell has decided to end its Renewable Energy Credits programme for the purpose of achieving carbon neutral operations, but will continue to purchase as much renewable energy as practical. See p.12 **2011 Corporate Responsibility Report.** Dell needs to provide more details on how much of its renewable energy is from renewable energy credits.	Dell sets out the measures that it has identified that need to be taken in its "Principles for Global Climate Change Policy Dell believes that a combination of global emissions reductions, efficiency improvements, and a transition to renewable energy sources are necessary to significantly reduce atmospheric GHG levels. The transition to a lower-carbon economy requires participation of governments, businesses, universities, non-governmental organizations, communities, and individuals. **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
2/5	**2/5**	**1/3**	**0/3**
All Latitude™, Dell Precision™ and OptiPlex systems can be configured for ENERGY STAR® compliance and are among the most energy-efficient in the industry. Virtually every Dell rack and tower server also comes with the ENERGY STAR option. **More information.** However, Dell does not provide figures on the percentage of their products that meet and exceed the latest Energy Star standard. It does provide a list of laptops and desktops with Energy Star certification. (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.** Dell laptops and desktops are 25% more efficient today than in 2008, meeting a commitment that it made in 2008. **More information.** Dell states that it leads the market with its 96 per cent efficient power supply. See p.14 & 15 2011 **Corporate Responsibility Report.** Dell offers tools to optimise energy efficiency – it estimates that customers using desktop power management features and settings have saved more than $4 billion in energy costs. **More information.** However, Dell is a member of ITI and CEA, industry associations that recently made comments against stricter energy efficiency standards (a. the inclusion of computers and servers; b. comments against battery chargers systems regulation, respectively) in the scope of the California Appliance Efficiency Regulations. Dell needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	The Optiplex 990 SFF and Latitude E2640 can be configured to be completely PVC/BFR free, including power supply. Other PVC/BFR free products are two G-series monitors and two mobile phones – Mini 3i (China only) 2009 and Dell Aero 2010. PVC, BFRs and CFRs are also being removed at a commodity and component level. All removable media storage devices, memory and hard disk drives became BFR/CFR/PVC-free in 2011. Most laptop displays and keyboards were BFR/CFR/PVC-free. PVC/BFR reduced products are listed. By the end of 2011, all newly introduced Dell personal computing products will be BFR/CFR/PVC-free, as acceptable alternatives are identified. Dell has set end of 2011 as its new target for eliminating PVC and BFRs but no longer commits to removing these substances from all products (just computing ones) and the timeline is unreasonable. Dell has provided assurance that its new target will be met. **More information here** and **here.** An update to Dell's January 2009 version of its Materials Restricted for Use Specification (6T198) restricts 3 phthalates (DEHP, BBP, DBP) as from July 1 2010 for newly launched parts and products and by July 2012 for sustaining products. 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. 11 & 12 **Guidance Document on Restricted Materials.** Dell also plans to expand its mercury-free LED based introduce arsenic free display glass. **More information.**	In 2009 Dell shipped "approximately 7.2 million pounds of post-consumer recycled plastic in select monitors and systems, equivalent to recycling more than 263 million water bottles", but gives no information on the % of total plastics sourced. The enclosures of the OptiPlex™ 980 and XE can be configured to include up to 25 percent post-consumer recycled plastic (up from 10 percent). The enclosures of numerous flat-panel monitors contain 25 percent post-consumer recycled plastic. These include the E190S, E170S, G2410H, P2011H, P2211H, P2311H and many more. **More information.** Dell states that it increases the amount of recycled content in its products and packaging on a regular basis, however, it has no public target for increasing use of post consumer recycled plastic. **More information.**	Dell integrates environmental considerations into product designs and development processes to improve the environmental performance of products during their entire life cycle. **More information.** Products, parts and components are designed to be upgraded extending the technological life of the product. **More information.** Dell informs Greenpeace that its standard warranty is 1 to 3 years for defects in materials and workmanship, depending on the product type. However, this information is not presented on its website. Dell needs to publicly disclose the length of warranty and spare parts availability for its main product lines and show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	**4/5**	**3/3**	**3/5**	**5/8**
Dell joined the CDP's Supply Chain Leadership Collaboration Project in 2007, working with suppliers to report their emissions and formulate climate change strategies. All Tier 1 suppliers are required to publish a corporate responsibility report. p.17 and p.4 **Corporate Responsibility Report.** Dell reports to the CDP that primary suppliers are expected to: 1) Publicly disclose annual GHG emissions by participating in the CDP; 2) Establish a public goal for reducing operational GHG impacts; 3) Set expectations for Tier2 suppliers to manage and publicly disclose emissions. GHG emissions data and reduction goals are taken into consideration when awarding business. However, the data on Scope 3 emissions from the supply chain is not available. **See CDC website**, questions 2.2a and 15.1 (registration required). Dell has tracked the carbon footprint of some products, starting with the Latitude™ E6400 laptop. **More information.** The breakdown shows that the GHG emissions from use and manufacturing are roughly equal. 95% of emissions associated with manufacturing are from the motherboard, the display, the chassis and the battery. **More information.** Dell fails to score more points as data on GHG emissions from its supply chain has not yet been published.	Definition of precautionary principle reflects need to eliminate potentially harmful chemicals even without full scientific certainty of cause and effect. Dell supports restrictions of PVC and BFRs as a focus for the restriction of chlorine and bromine from electrical and electronic products, and supports restriction under the current RoHS recast provided that some critical technical and supply chain issues can be overcome or addressed by specific exemptions. **More information here** and **here.** Dell scores full marks for demonstrating proactive advocacy. **More information here** and **here.** See also p 35, **Corporate Responsibility Summary Report 2010** Dell's chemicals management programme lists substances targeted for substitution and explains how it manages its supply chain to achieve its substitution goals. However, the substance restrictions do not apply to manufacturing processes for most substances, with the exception of fluorinated greenhouse gases. **Guidance Document on Restricted Materials** 2011.	Dell recognises the need to protect the earth's forests and takes a four-pronged approach: - Reduce the amount of paper it uses - Reduce the use of virgin tree fibre - Increase the use of forest-friendly paper - Support forests directly through initiatives. Dell has established baseline starting points and time-bound goals and benchmarks in its Forest Products Stewardship Mode (established in 2004)l to reduce the use of virgin fibre and eliminate the purchase of wood and fibre from endangered forests. This policy increases the use of recycled and alternative fibre and the use of wood and fibre independently certified as sustainable. **More information.** Dell's policy is not to source paper from companies that are known to log endangered forests. It explains its strategy for implementing this policy through its supply chain. Dell's long-term goal is to have all of its forest product suppliers certified to FSC or similarly recognized standards. Detailed goals are set out, however, many of these are out of date as they were set in 2004. **More information.** For data on quantities of recycled paper used see **GRI Index, EN2.**	Dell states that under its policy, "it is a violation for suppliers to purchase minerals from known conflict zones in the DRC." **More information.** Dell reports on the Conflict-Free Smelter (CFS) assessment program which was launched in 2011 by the GeSI/EICC and aims for preliminary list of conflict free smelters for tin, tantalum, tungsten and gold by the end of the calendar year; this programme provides independent third-party evaluation. **More information.** Dell is active in the EICC conflict-free smelter program but has not yet published a list of smelters or suppliers, as several companies have already done. It is active in the EICC smelter audit process, has a new internal policy for suppliers on conflict minerals, but this does not yet have third party monitoring. Dell has signed up to the Public Private Alliance but has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. Dell did not issue a statement against the Chamber of Commerce lawsuit but it did join the multi-stakeholder submission to the SEC on conflict minerals. It participated in the OECD due diligence drafting and has actively reached out to NGOs and organized several outreach panels on conflict minerals.	Dell offers free recycling in most places where it does direct business. It has expanded its global programme and now offers recycling of used electronics in 78 countries worldwide (although only 69 appear to be available via its website). **More information.** Countries where Dell offers recycling without take-back legislation include Columbia, Chile, South Africa, Ghana, Morocco, Russia, Thailand, Malaysia and China. **More information here** and **here.** Dell received the highest rank from the Electronics Take Back Coalition in their latest report card, for its take-back programme in the US. **More information.** The Reconnect Program, which Dell runs in partnership with Goodwill, is now available throughout the US and in selected communities in Canada. **More information.** Information is provided to Dell's individual customers, although there are still gaps, particularly in Africa and Central & South America www.dell.com/recycling **Dell's US programme.** In FY11, Dell recycled more than 150 million pounds of electronics globally, see. p6 and p.21 **Corporate Responsibility Report 2011.** Dell no longer reports its recycling data as a percentage of sales 7 years ago. Instead, it is using a new system for reporting recycling and take-back information.



NOKIA = 3rd position, 4.9/10

Nokia takes 3rd position in the re-launched Guide, finally losing its place at the top of the table, a position that it has enjoyed since v.8 in September 2008. It slips behind both HP and Dell due to its weaker performance on the **Energy** criteria. It needs to further develop its clean electricity plan to demonstrate how it will reduce future emissions through energy efficiency and renewable energy; it also needs to set new targets to cut its operational greenhouse gas (GHG) emissions by at least 30 percent by 2015 and to increase its use of renewable energy to 100 percent by 2020. It has reached and exceeded its targets to reduce facility-related carbon emissions by 10 percent in 2009 and 18 percent in 2010 compared to 2006 levels. It also gets maximum points for disclosure of externally verified GHG emissions from its own operations. However, its lack of specific examples of clean energy policy advocacy means that it scores no points on this criterion.

On **Products** it scores no points for the use of recycled plastics; although it now reports that the Nokia 700 is its first smartphone to use recycled plastics which make up 33 percent of the plastics used, it needs to expand its use further and report total use as a percentage of all plastics used in order to score points. To score on the products life cycle criteria it needs to publicly disclose the length of warranty and spare parts availability for its main product lines. It scores close to maximum points on the new criteria for hazardous substances in products, with all of its products free from almost all the specified hazardous substances, missing the target because it does not include all antimony compounds in its restrictions on hazardous substances. It continues to score maximum points for the energy efficiency of its products; it has achieved its target of reducing no-load power used by its chargers by 50 percent from 2006 to 2010 and has set a new target of 75 percent by 2012. However, Nokia risks a **penalty point** in future Guide editions as it is a member of trade associations that have commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

Nokia scores most of its points on the new Sustainable **Operations** criteria, mainly for its comprehensive voluntary take-back programme, which spans 100 countries providing almost 6,000 collection points for end-of-life mobile phones with accessible information provided to customers. It fails to score maximum points as although it is recycling increasing quantities of e-waste, the quantities are still small and are not reported as a percentage of past sales. Nokia also does reasonably well for reporting emissions of GHGs from its supply chain, its chemicals management programme and policies and for its programme to address conflict minerals. However, it fails to score on the paper sourcing criteria and needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging.

NOKIA Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

NOKIA Detailed Scoring

Energy

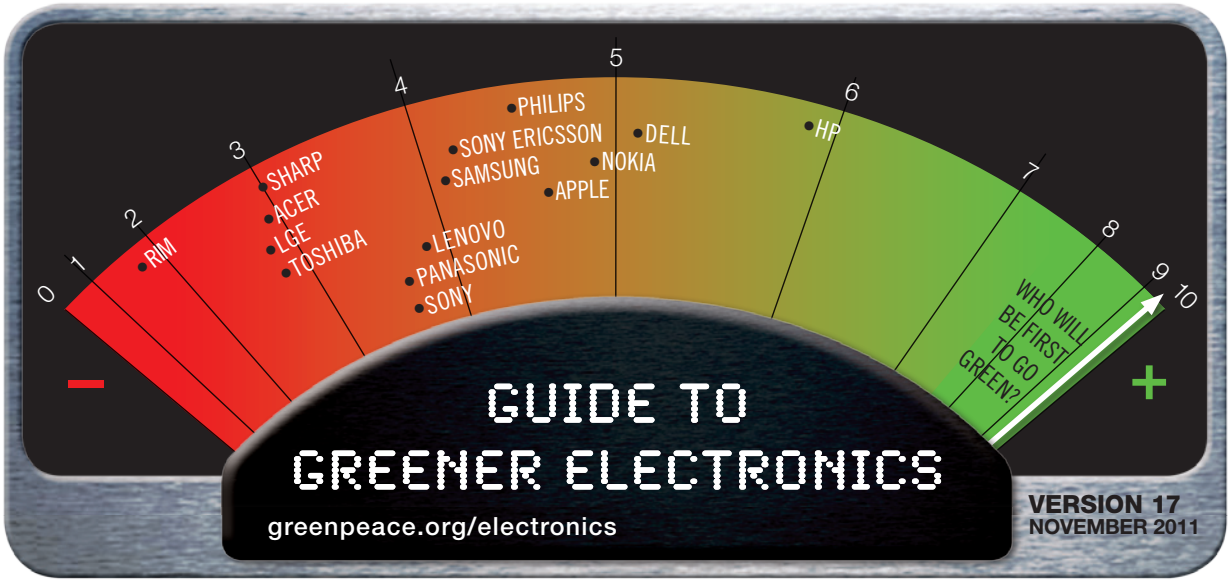
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
3/3	**4/8**	**2/8**	**0/8**
Nokia reports that the energy consumption by its facilities resulted in 14,000 tonnes of direct and 226,000 tonnes of indirect GHG emissions in 2010. (p.76, **Sustainability Report 2010**). Nokia provides a reasonably detailed breakdown and analysis of its GHG emissions. Verification of the data is provided by PricewaterhouseCoopers Oy is provided (p.102). Nokia provides a life cycle analysis of a typical Nokia device (p132).	Nokia's aspirational target is to reduce (GHG) emissions caused during the whole device life cycle by over 60% by the year 2020 compared to the level in 2000. Nokia is committed to reduce GHG emissions in its offices, R&D sites and manufacturing facilities by a minimum of 30% by 2020 (2006 baseline). It also has a relative target to reduce GHG emissions per person working in Nokia offices and R&D by a minimum of 23% by 2012, compared to year 2006. (p. 72 **Sustainability Report 2010**). Nokia reached and exceeded its targets to reduce facility-related carbon emissions by 10% in 2009 and 18% in 2010 compared to 2006 levels. (p. 74). Nokia does not currently have a target to increase use of renewable energy; its first climate strategy published in 2006 set a target to increase green electricity purchases from 25% of total electricity consumption in 2007 to 50% in 2010; this was integrated into a broader goal to reduce carbon emissions by 18% in its **2008 strategy update**. (p.81). Nokia's aspirational target is to reduce the GHG emissions caused during the whole device life cycle by over 60% by the year 2020 compared to level in 2000. **More information.** Nokia needs to set new targets to cut its operational GHG emissions by at least 30% by 2015 and to increase its use of renewable energy to 100% by 2020.	Nokia's energy efficiency initiatives include greener buildings and saving energy within buildings technical systems; full details are in Nokia's Sustainability Report 2010, p76 – 80. Another climate target is to "continue the development of our Green Data Center strategy that is already implemented in Finland, delivering targeted cooling, environmentally friendly backup power and power-efficient server racks". (p.73) Nokia does not currently have a target to increase its use of renewable energy, although it has been increasing its share of renewable energy since 2006; in 2010 the share of renewable energy was equivalent to 36% of total electricity consumption, meeting its target to reduce carbon emissions from facilities by 18% by 2010. However, this was less than its original target of 50%. **Sustainability Report 2010** (p.81) Nokia's intention is to "maintain the purchase of renewable energy via grid and via renewable energy certificates approximately in the current level of 35%. Slow development of renewable energy markets in some of the countries we operate continues to be a challenge for us." **More information.**	Nokia lists the international organisations driving sustainability that it works with, such as the Global e-Sustainability Initiative and the ICT for energy efficiency forum. **More information.** More specific details about Nokia's advocacy for clean energy are not provided.

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
5/5	**4/5**	**0/3**	**0/3**
New chargers launched in July are the AC-11 with 5 stars, AC-16 with 4 stars, according to the voluntary agreement EU & industry IPP project rating system. Between 2000 and 2009 Nokia has reduced the average no-load power consumption of its chargers by over 80%, and in its best in class chargers by over 95%. **More information.** Nokia reached and exceeded its target of reducing no-load power used by its chargers by 50% from 2006 to 2010. (**Sustainability Report 2010**, p.74). Nokia's aspirational target is to reduce the (GHG) emissions caused during the whole device life cycle by over 60% by the year 2020 compared to the level in 2000. Targets for product use are: reduce the average charger's no-load power consumption by 75% by 2012 (2006 baseline); continue to study new technologies which will use renewable energy, such as solar panels and kinetic energy, and develop solutions that enhance the energy efficiency in its products (p.73). Nokia is a member of the ICT for energy efficiency forum. **More information.** However, Nokia is a member of ITI and CEA, industry associations that recently made comments against stricter energy efficiency standards (a. the inclusion of computers and servers; b. comments against battery chargers systems regulation, respectively) in the scope of the California Appliance Efficiency Regulations. Nokia needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	Nokia is close to getting maximum points as it has achieved its goal to phase out brominated compounds, chlorinated flame retardants and antimony trioxide; however, there is no target to phase out other antimony compounds. Nokia eliminated remaining uses of PVC in 2006 and the use of phthalates has been restricted since 2005. It banned the use of beryllium oxide in 2004 and the use of all other beryllium compounds has been restricted since 2010, for all new products. **More information.** From the beginning of 2010, all new Nokia products must be free of bromine, chlorine and antimony trioxide as defined in the **Nokia Substance List.** **Eco-declarations** provided for all Nokia products. **Product details.** **PVC elimination case study.** **Case study** on phasing out brominated and chlorinated compounds and antimony trioxide.	Nokia continues to actively research the use of recycled plastic and is working on to find ways to overcome durability issues that currently result from the lower quality of available recycled plastics. Nokia 700 is the first Nokia smartphone to introduce the use of recycled plastics. The total amount of eco plastics – including recycled plastics and bio plastics – in this device is 33 % of all plastics used, and 11 % of the total mass of the device. To score points it will need to add more examples of products using recycled plastics and publish overall figures on the overall quantities of recycled plastics used as a percentage of total plastics use. **More information.**	Nokia states that "the possibility to download software updates allows our customers always have the best performance and the latest features in their Nokia device - thus also increasing its life span. The possibility to download the SW update over the air also reduces the need to travel to the nearest Care point, saves time and environment." **More information.** Nokia provides **eco profiles** for all its products. Details about the average length of product warranty are not provided. Nokia needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
3/5	**3/5**	**0/3**	**3/5**	**7/8**
Nokia reports its supply chain emissions of CO_2-e as 6,880,000 tonnes in 2010. (**Sustainability Report p.134**), which are verified (see E1). Nokia states that 'By the end of 2012: we aim to ensure that all our key suppliers set energy efficiency and greenhouse gas emission reduction targets." **More information.** Nokia has identified component types and processes that are more energy intensive than others and requires suppliers of these components or processes to measure and monitor their energy consumption and greenhouse gas emissions. Direct suppliers representing 96% of Nokia's total spend were engaged in this activity. Remaining direct suppliers are also encouraged to monitor and measure their energy and greenhouse gas emissions, of whom many are voluntarily reporting. However, there are no details about the exact stages of the supply chain this represents. **More information.** During 2010, 71.9% of hardware suppliers that account for the highest environmental impact or are strategically important, had company level reduction targets for energy and carbon dioxide (equivalent) in place and monitored. In the longer term Nokia would like all suppliers to have reduction targets in place (Sustainability Report p.94).	Nokia has already phased out some harmful chemicals and identified future substances for elimination. It follows the precautionary principle and aims to go beyond legislation and compliance. Nokia states that it "is actively contributing to the development of systematic criteria and processes for improved RoHS legislation. Nokia continues to support effective RoHS legislation to complement but not contradict with other legal requirements. Nokia also supports "further restrictions for chlorinated and brominated compounds, as already committed to in our ambitious targets" but does not openly support restrictions on at least PVC, CFRs and BFRs in the next 3-5 years in RoHS 2.0. **More information.** New version (2011) of **Nokia's substance list.** The list also specifies a ban on use of certain restricted substances by suppliers but is not to be generally applied to raw materials and process chemicals. Nokia's requirements for the control of materials and substances used by suppliers in their processes are defined in the Nokia **Supplier Requirements for Environmental Management**; for more points this needs to be publicly available.	Nokia states that "More than 95% of our packaging is made from renewable, paper-based materials, of which up to 60 % is recycled content" and that it is working with its suppliers "to increase the amount of recycled content in our packaging". Nokia needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres. **More information.**	Nokia requires its suppliers "to confirm that our ban of conflict metals is respected, and our requirements fulfilled - key suppliers are required to "map their supply chains for the metals in their components back down to smelter and then to source where possible." Nokia is currently developing its "conflict metal policy that will complement our current, strict supplier requirements. The policy will be published during 2011". **More information.** Nokia is active in the EICC conflict-free smelter program but has not yet published smelters or suppliers, as several companies have already done. It has a new internal policy for suppliers on conflict minerals, but does not yet have third party monitoring. Although it has signed up to the Public Private Alliance it has not made statements on the need for a multi-stakeholder certification process or made a public commitment to implement the OECD due diligence guidelines. Nokia did not issue a statement against the Chamber of Commerce lawsuit and did not join the multi-stakeholder submission to the SEC on conflict minerals. Nokia participated in the OECD due diligence drafting and has actively reached out to NGOs after the movie "Blood in the Mobile."	Nokia has around 6,000 recycling points in almost 100 countries around the world. The information provided is very good, with addresses, phone numbers and directions to **Nokia Care Centres.** Although Nokia has a programme in Argentina this isn't listed on its global website. **More information.** **Take-back points.** Nokia provides updates on its recycling programmes in India, China, Brazil, SE Asia, Norway, Australia, Middle East and North America in its Sustainability Report (p.40). New programmes were launched in Africa, the Middle East (Saudi Arabia, Lebanon and Uganda), Sri Lanka, Uruguay, Pakistan and Paraguay and in Europe in Belarus, Bosnia, Malta and Ukraine. Nokia reports that 415 tonnes of e-waste was collected in 2010 compared to 373 in 2009. (p.138), however, this is not reported as a percentage of sales. **More information.**



APPLE, 4th position, 4.6/10

Apple takes 4th place in the re-launched Guide, with a score of 4.6. It scores most of its points on the Sustainable **Operations**; it gets near to maximum points on the e-waste criteria, where it reports that in 2010, its global recycling exceeded its 70 percent goal (as a percentage of sales 7 years ago), a level that it is confident will be maintained through 2015, though it can still make improvements by providing a breakdown of its recycling data and by further extending its take-back programme. Together with HP, Apple is also a top scorer for its policies and practices on the sourcing of conflict minerals, for publishing its suppliers and engaging effectively in the Electronics Industry Citizenship Coalition's conflict-free smelter program. Apple would score more points on the other criteria with greater transparency of its data in reporting the greenhouse gas emissions (GHG) of its supply chain and disclosure of the documents it uses to communicate with its supply chain for chemicals management. It scores zero on paper sourcing, and needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging.

Apple scores poorly on the **Energy** criteria; GHG emissions data of its operations needs to have external verification and it does not specify any target to reduce emissions. Apple earns more points for the the steps it has taken to improve energy efficiency and its use of renewable energy, which represents more than 13 percent of Apple's facility-related electricity consumption. Apple could increase its score by setting an ambitious goal for boosting its renewable energy use by 2020. Apple provides no specific examples of clean energy policy advocacy.

It continues to score well on the **Products** criteria; all Apple products are now free of PVC vinyl plastic and brominated flame retardants (BFRs), with the exception of PVC-free power cords in countries where their safety certification process is still ongoing; however, it does not mention plans to phase out antimony or beryllium. Apple scores a point for its information on battery life for the product life cycle criterion, but it needs to publicly disclose the length of warranty and spare parts availability for its main product lines. It provides no information on its use of post-consumer recycled plastics. It gets maximum points for reporting that all of its products meet or exceed the latest Energy Star standards for energy efficiency, however, it risks a **penalty point** in future Guide editions as it is a member of a trade association that has commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

APPLE Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions			■	
GHG emissions reductions and targets		■		
Clean Electricity Plan (CEP)		■		
Clean Energy Policy Advocacy	■			
Product Energy Efficiency				■
Avoidance of Hazardous Substances in Products			■	
Use of Recycled Plastic in Products	■			
Product Life-Cycle		■		
Measure and reduce energy consumption in the supply chain		■		
Chemicals Management and Advocacy			■	
Policy and practice on sustainable sourcing of fibres for paper	■			
Policy and practice on avoidance of conflict minerals			■	
Provides effective voluntary take-back where no EPR laws				■

APPLE Detailed Scoring

Energy

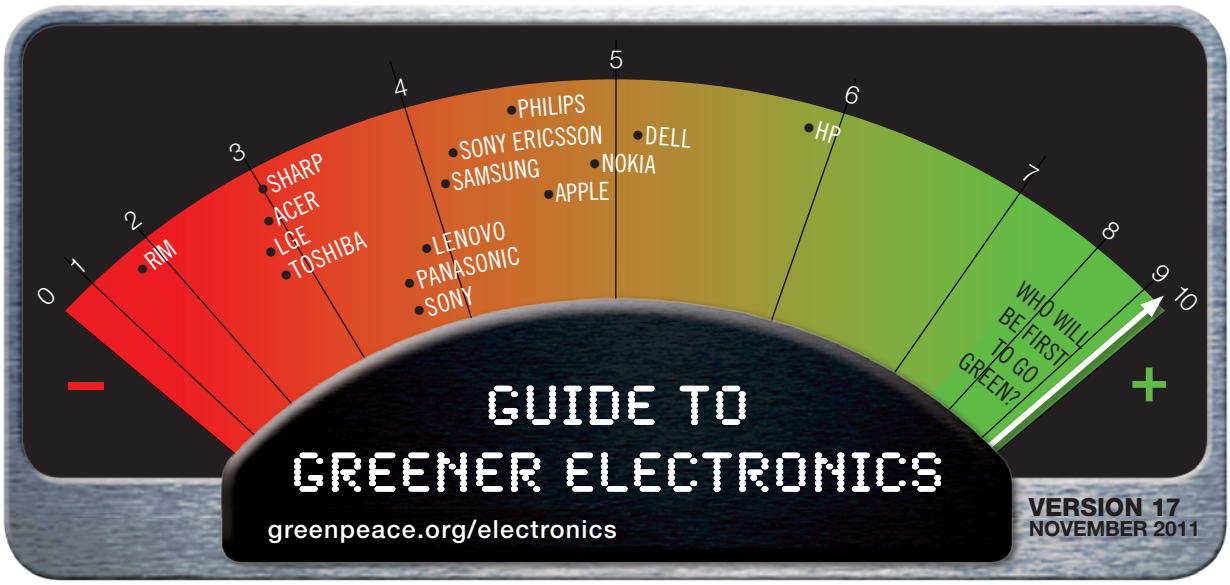
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
2/3	**1/8**	**3/8**	**0/8**
Apple reports on its GHG emissions in 2010 as 14.8 million metric tons, which divides as follows: for manufacturing (46%), transportation (5%), product use (45%), recycling (1%) and facilities (2%). Facilities accounted for 303,000 metric tons of greenhouse gas emissions. GHG emissions are calculated in accordance with guidelines and requirements as specified by ISO 14040 and ISO 14044. For full marks Apple needs to supply external verification. **More information.** A breakdown of these emissions is provided in Apple's facilities report, although all figures are presented as 'per employee'. This includes employee travel which amounts to 135,040 metric tons of CO_2e (an unspecified portion of this is business air travel) **More information.** For more points Apple needs to provide external verification and present the breakdown of its figures as totals as well as per employee.	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.** While total energy consumption grew approximately 14 per cent in 2010, emissions increased by only 9 per cent year over year from 2009 to 2010 (due to energy efficiency measures and the use of renewable energy). Total 2010 energy consumption included 371 million kWh of electricity and 3 million therms of natural gas. **More information.** Revenue has grown by 74% since 2008, while GHG emissions grew by only 57%. **More information.** Apple needs to focus on both absolute and relative reductions of GHGs. It needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and use 100% renewable electricity by 2020.	Apple does not provide targets to increase use of renewable energy or reduce energy consumption through energy efficiency, or a plan to achieve this. However, it does report on the steps it has taken to improve energy efficiency and its use of renewable energy, in its facilities report. Its facilities located in Austin, Texas; Elk Grove, California; and Cork, Ireland are powered by 100 percent renewable energy resources. Approximately 27.5 million kilograms of CO_2e emissions were avoided through the use of renewable energy programs in fiscal 2010 (this compares to 8.3 million kgs in 2008). Apple states that these programs have converted more than 48 million kWh's worth of consumption per annum to local renewable sources, which represents more than 13 per cent of Apple's facility-related electricity consumption. Apple states that it will continue to look at adding renewable energy to its energy portfolio. **More information.**	No information.

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
5/5	**4/5**	**0/3**	**1/3**
All of Apple's products meet and exceed the United States Environmental Protection Agency's strict ENERGY STAR guidelines for efficiency. Apple products are at least twice as efficient as the ES standard, and in the case of the Mac mini, six times as efficient. **More information.** Apple designs its products to use more efficient power supplies, use components that require less power, and use power management software. **More information.** However, Apple is a member of CEA, an industry association that recently made comments against the battery chargers systems regulation in the California Appliance Efficiency Regulations. It needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	iMac and MacBook now ship with PVC-free power cords in the U.S., Canada, Mexico, Colombia, El Salvador, Guatemala, Panama, Peru, Puerto Rico, the U.S. Virgin Islands, and Venezuela. All Apple products are now free of BFRs and other 'harmful toxins' such as PVC and phthalates, with the exception of power cords which are undergoing certification in regions outside of those mentioned above. Products are also mercury free and have arsenic free glass. **More information.** **Environmental reports** and specs for desktops, notebooks, cinema display, server, iPhone and iPod. Apple planned to completely eliminate the use of PVC and brominated flame retardants in its products by the end of 2008 – and were the first company to achieve this goal for PCs. Apple plans to eliminate all forms of chlorine and bromine, not just those in PVC and flame retardants. However, antimony is not mentioned and beryllium is no longer referred to. **More information.**	Apple provides no information on its use of post-consumer recycled plastics. Apple products are designed using recyclable materials. **More information.**	Apple includes information on longer lasting products. It gives the example of the built-in battery in the MacBook Pro line-up. Other notebook batteries can be charged only 200 to 300 times. The MacBook Pro battery can be charged up to 1000 times. And because this battery lasts up to five years, MacBook Pro uses just one battery in about the same time a typical notebook uses three. However, Apple does not warrant the battery beyond 1 year. **More information.** Apple needs to publicly disclose the length of warranty and spare parts availability for its main product lines for more points. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	**3/5**	**0/3**	**4/5**	**7/8**
Manufacturing - including extraction of raw materials and product assembly - accounts for 46 percent of Apple's total greenhouse gas emissions. In 2010 the manufacture of Apple products resulted in 6,852,000 metric tons of greenhouse gas emissions. **More information.** No details are provided on how this figure breaks down, no targets for future reductions and no verification. Apple has estimated the life cycle GHG emissions, including a breakdown of their source, for individual models of products in **Product Environmental Reports**. See **MacBook Air** for example. For more points Apple needs to be more transparent by presenting a breakdown of its data.	Apple refers to its 'precautionary approach' to substances. **More information.** 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. **More information.** Evidence of lobbying on RoHS 2.0 **here.** Apple needs to provide a public position on its support for immediate restrictions in RoHS 2.0 on at least PVC, BFRs and CFRs organo- chlorine and bromine compounds (at least within 3-5 years), as well as an end-of-life focused methodology for adding future substance restrictions. Apple refers to its Regulated Substances Specification "which details a broad range of substances that are restricted or banned", yet still fails to disclose its Substance Specification 069-0135. **More information.** Apple's **Suppliers Code of Conduct** states that "suppliers shall comply with the most recent version of Apple's Regulated Substances Specification, 069-015 and with any applicable laws and regulations prohibiting or restricting the use or handling of specific substances." It is not possible to evaluate Apple's communications with its supply chain on hazardous substances without disclosure of the Specification. Although Apple clearly implements its chemicals policy through its supply chain, it needs to be more transparent and disclose its Regulated Substances Specification.	Apple provides no information on its policies and practices for sustainable sourcing of fibres for paper. It is reducing the size of its packaging to save transportation costs. **More information.** Apple needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	Apple is a member of the Electronics Industry Citizenship Coalition (EICC), which has an extensive programme on conflict minerals. Apple was the first company to map its suppliers and smelters in its **2011 Supplier Responsibility Report**. It is also active in the EICC conflict-free smelter program and the EICC smelter audit process, where it helped get independent experts on the EICC audit review committee. It has an extensive new internal audit policy for suppliers on conflict minerals, including a requirement to source only from smelters that have passed the conflict-free audits. This is the only known company in the industry with such a procurement policy. However, Apple has not signed up to the Public Private Alliance and has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. It would be helpful if Apple signed on to the OECD pilot. Apple did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. Apple participated in the OECD due diligence drafting and has actively reached out to NGOs on conflict minerals.	Apple now operates or participates in recycling programs in countries where more than 95 per cent of its products are sold. **More information.** Apple has recently added Brazil and Costa Rica to its voluntary take-back programme for Apple branded e-waste. **More information.** Apple also has voluntary take-back of Apple branded e-waste in India, China, Hong Kong, Malaysia, Singapore, New Zealand, Korea, Taiwan and Australia. **More information.** **Free recycling** for iPods & mobile phones of all brands (US only). In the US Apple offers a **gift card** for new equipment if an old computer is suitable for re-use, or free recycling for Apple branded equipment. Links to programs in the US, Canada, Europe, Japan, Asia Pacific/Australia and Brazil/ Costa Rica are provided. However, no information is available to customers in 'New Europe'. Apple's original goal for 2010 was to achieve a worldwide recycling rate of 50 percent (as a percentage of sales 7 years ago). In 2010, Apple global recycling exceeded its 70 percent goal, and it is confident that it will maintain this level through 2015. For more transparency, Apple needs to provide a breakdown of the recycling quantities of its various products (eg. iPods, PCs) that make up these figures. **More information.**



PHILIPS, 5th position, 4.5/10

Philips takes 5th position in the re-launched Guide, with 4.5 points. Together with Sony it is the top scorer in the **Energy** category for its energy policy advocacy, for calling upon the EU to adopt an unconditional 30 percent reduction target for greenhouse gas (GHG) emissions (below 1990 levels) by 2020, supporting climate protection and clean energy development across the EU. It also gets maximum points for its verified disclosure of GHG emissions for its own operations. It scores relatively well for its achievements in reducing its GHG emissions, mostly due to an increase in purchased electricity from renewable sources; however, it needs to set a longer term target to reduce its GHG emissions beyond 2012 – by a further 30 percent by 2015 and to use 100 percent renewable electricity by 2020. It has short term targets to increase the energy efficiency of its operations by 25 percent by 2012 and increase use of renewable energy to the level needed to achieve its 2 percent carbon footprint reduction target by 2012.

On **Products** it has brought a number of product ranges onto the market that are free from polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs), as well as six phthalates and antimony, to add to the industry's first PVC/BFR free TV, the Econova LED TV, as part of its commitment for all new products to be free from these substances from 2011. It needs to commit to phase out exempted uses of beryllium and all phthalates. Philips has a target to double its use of recycled plastics by 2015, but needs to specify if this is post-consumer recycled plastics; it also needs to report the percentage of post-consumer plastics it uses currently. To score points on the product life cycle criteria Philips needs to publicly disclose the length of warranty and spare parts availability for their main product lines. It also has targets to increase the energy efficiency of its products but needs to update its information on the percentage of its products that meet and exceed the Energy Star standards. Philips risks a **penalty point** in future Guide editions as it is a member of a trade association that has commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

For the **Operations** criteria it scores best for its policy and practice on conflict minerals (although it it has not published or publicly mapped smelters or suppliers), and for its chemicals policy and management of chemicals in its supply chain. It has begun the process of investigating supply chain emissions of GHGs but has yet to publish data. Its take-back and recycling programme also needs to expand beyond the pilot project stage, in particular to countries where e-waste legislation is not in place. It fails to score for sustainable sourcing of fibres for paper and needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging.

PHILIPS Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

PHILIPS Detailed Scoring

Energy

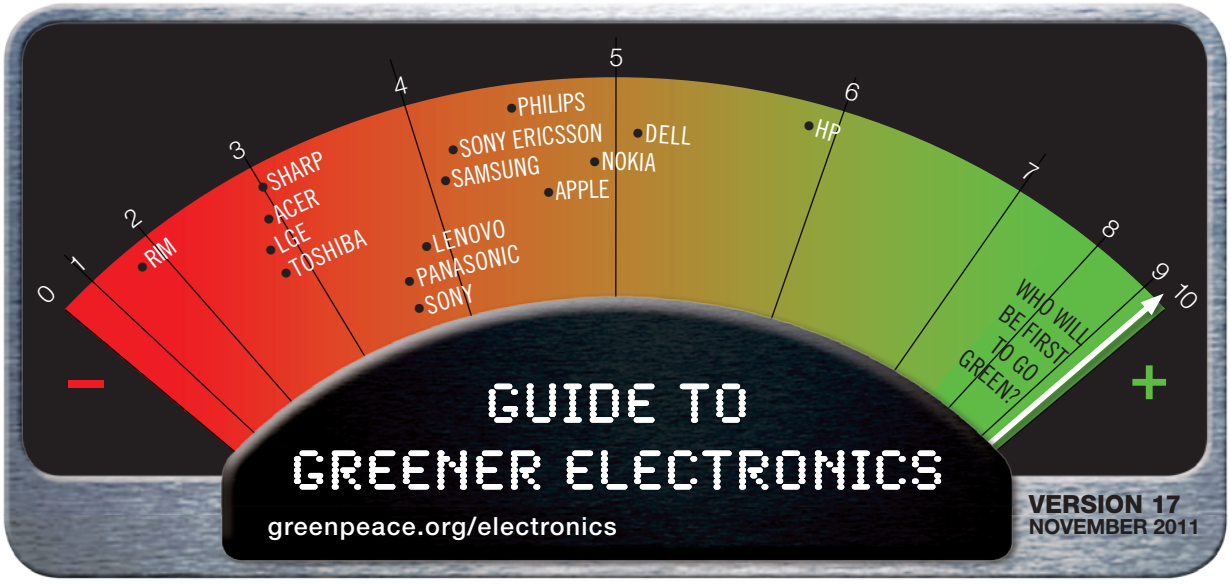
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
3/3	**4/8**	**4/8**	**5/8**
Philips discloses its CO_2 equivalent emissions to be 1,808 kt in 2010 (reduced from 1,920 kt in 2009) in its Annual 2010 Report. Emissions are reported from Scope 1,2 & 3 (business travel and logistics). Philips provides background information and analysis on the source of its GHG emissions. Philips was recognized as a leader in carbon disclosure and carbon performance by the Carbon Disclosure Project (CDP) 2010 Global 500 report, receiving a score of 94/100 and an 'A' rating making it a company with "both higher degrees of maturity in their climate change initiatives and achievement of their objectives". See p. 4, 35, 43, 47, 48, 50, **Sustainability Section, Annual Report 2010**. Assurance is provided by KPMG for **Sustainability Statements**.	Philips is committed to reducing its operational carbon footprint by 25% by 2012, using 2007 as a baseline. **More information.** Operational emissions decreased by 7% in 2010. CO_2 emissions from manufacturing decreased 17% due to its ongoing energy efficiency program, the changing industrial footprint and mostly to an increase in purchased electricity from renewable sources. CO_2 emissions from non-industrial sites decreased 26%, due to efficient use of facility space and an increase in electricity from renewable sources. CO_2 emissions from business travel increased by 13%, but are still 7% below the 2007 level. Operational energy efficiency improved by 6%. See p. 34, 35, 47, 48 **Sustainability Section, Annual Report 2010**. Philips needs to set a longer term target to reduce its GHG emissions beyond 2012 – by a further 30% by 2015 and to use 100% renewable electricity by 2020.	To achieve its targets for reducing its operational carbon efficiency, Philips aims to further increase the energy efficiency of its operations by 25% by 2012. To achieve this target it is running many initiatives in IT, logistics, manufacturing, business travel and more. Philips doubled its purchase of green electricity from 7% in 2007 to 15% currently. 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 more 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.**	Philips participated in the United Nations Climate Change Conference in Cancun, Mexico and states that it "partnered with other leading industry players, governmental organizations, NGOs (like The Climate Group) and the United Nations Environmental Program to create a global sectoral agreement on phasing out inefficient lighting. At COP16, this roll-out was welcomed by a range of different stakeholders given its triple benefits for consumers, environment and economy." See p. 40, **Sustainability Section, Annual Report 2010.** 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 has called upon the EU to adopt an unconditional 30% reduction target (below 1990 levels) by 2020, supporting climate protection and clean energy development across the EU. **More information here** and **here.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
3/5	**3/5**	**1/3**	**0/3**
Philips has a target for improving the energy efficiency of its products of 50% by 2015 (for the average total product portfolio) compared to 2009. **More information.** The average energy efficiency of Philips total product portfolio improved by 4% in 2010. See p.33, **Sustainability Section, Annual Report 2010.** Philips states that it welcomes "the creation of a level playing field by setting mandatory minimum energy efficiency standards for products such as the European Ecodesign for Energy Using Products Directive aims to do". **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%. Philips still refers to 2008 models and needs to update its information. **More information.** Philips still reports that 10% of Philips current battery charger models fulfil the Energy Star v. 2 requirements. These models exceed the technical Energy Star requirements by 5-15%. Philips states that "we are planning compliance with Energy Star version 2.0 before the end of 2010". Philips needs to provide an update and report on the percentage of its EPSs that meet Level V of the International Efficiency Marking Protocol for External Power Supplies. **More information.** However, Philips is a member of CEA, an industry association that recently made comments against the battery chargers systems regulation in the California Appliance Efficiency Regulations. It needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	Philips is the first company to introduce a PVC and BFR-free TV; its latest PVC and BFR-free products are the Econova LED-TV and the shaver range RQ12. From July 2010 new adapters for consumer lifestyle products are also PVC and BFR-free. A large number of PVC/BFR free product ranges such as Oral Healthcare, vacuum cleaners and shavers have been put on the market. Phthalates (limited to six types – see Table 2 RSL below) and antimony trioxide are being phased out from new products along with PVC and BFRs. Arsenic has been eliminated from TV glass and other displays from 2008. Beryllium and its compounds are already restricted with a threshold of 1000 ppm, but include exemptions – (**see Table 5 RSL**). **News release announcing Econova TV.** In 2010 Philips launched its comprehensive PVC/BFR free policy, committing itself to their phase out in new consumer products placed on the market after January 2011. Philips states that "the electronics industry very much relies on the use of PVC and BFR containing plastics, and sometimes their use is mandated in technical, safety or regulatory standards. Despite these challenges, Philips remains committed to its ambitious roadmaps to make PVC and BFR free consumer products across its entire spectrum of electronics devices." Philips needs to provide a timeline for overcoming the exemptions on beryllium and to clarify why other types of phthalates (beyond the six specified) are not scheduled for elimination. **See RSL Table 2 & Table 5.**	Philips has a target to double the global collection, recycling amounts and recycled materials in products by 2015 compared to 2009. **More information.** The methodology behind this target is outlined. **More information.** In 2010 the baseline for recycled materials in Philips products was established at 75,000 tons. See p.33, **Sustainability Section, Annual Report 2010.** 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.**	The Philips EcoDesign process aims to create products that have significantly less impact on the environment during their whole lifecycle - mostly realized in energy efficiency. See p.46, **Sustainability Section, Annual Report 2010.** Philips also offers refurbished health care systems to make first-rate equipment available for lesser cost, which will also extend product life cycle. **More information.** Philips needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
1/5	**3/5**	**0/3**	**3/5**	**1/8**
Philips is a member of the Carbon Disclosure Project 2010 Supply Chain program, which provides a tried and-tested, standardized methodology to support effective collaboration with its suppliers on climate change and GHG emissions. Philips intends tol use the program to create awareness and drive action in its supply chain and to continue to increase the number of suppliers that it invites to participate in the years to come. See p.23, **Sustainability Section, Annual Report 2010.** Data on GHG emissions from the supply chain are not available.	Philips' definition of the Precautionary Principle identifies the need to take preventative measures without full scientific certainty. **More information.** However, Philips states no support for the need for RoHS 2.0 to adopt a ban on organo-chlorine and bromine substances (at least PVC, CFRs and BFRs within 3 – 5 years), as well as an end-of-life focused methodology for adding future substance restrictions. Philips statement on RoHS Recast. **More information.** Philips scores well for providing Product and Process Specs, criteria for identifying 'future substances' for elimination and examples such as substance restrictions and declarations. **More information.** Philips Regulated Substances List, Version B, reflects commitments to phase out PVC and BFRs (**see Table 6**). The Restricted Substances in Processes document refers to a Classified Substance List; however, it's not clear if this list is publically available. **More information.** **Framework document.** **More information.** In March 2010, Philips introduced a new way of working for suppliers to demonstrate their compliance to the Philips Regulated Substances List, where suppliers upload their compliance declarations exclusively into BOMcheck, a web-based industry platform. **More information.**	Packaging is mentioned as one of the areas that Philips looks at for its Philips Green Focal Areas. However, no details appear to be available to describe Philips policy and criteria for sourcing of fibres for paper. **More information.** Philips mentions biodiversity in its Annual Report 2010 but does not refer to deforestation. See p.40, **Sustainability Section, Annual Report 2010.** Philips needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	Philips provides extensive information on its efforts to trace and track minerals back to the mine of origin. **More information.** Its position paper on conflict minerals. **More information.** Philips is in the EICC Extractives Working Group. It has begun tracing but it has not published or publicly mapped smelters or suppliers, as several companies have already done. It has, however, helped develop the conflict reporting template, which will help industry map supply chains. Philips has no internal audit policy on conflict minerals. It did not sign up to the Public Private Alliance but has publicly committed to implement the OECD due diligence guidelines. Philips says its work is partially aimed at "enabling legitimate minerals from the region to enter global supply chains, thereby supporting the Congolese economy and the local communities that depend on these exports." However, we have yet to see evidence of this; such evidence would be welcome, (for example the Motorola "Solutions for Hope" project). A statement on the need for a multi-stakeholder certification process would also be welcome. Philips did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. Philips participated in the OECD due diligence drafting and has engaged US and European NGOs repeatedly on conflict minerals.	Philips aims to double the collection and recycling of its end-of-life products by 2015. **More information.** Philips has a voluntary take-back programme in India encompassing 6 cities with 24 service centres. **More information.** Pilot projects have started in **Brazil** and Argentina but have not been expanded further, and monitors can be recycled in **Canada and New Zealand.** In the US, Philips participates in the MRM programme as well as MP3 player recycling via **specified retailers.** Philips provides general advice to customers on recycling, contacts for recyclers in most of the EU (excluding some New Member States), and a **search tool** to locate recyclers courtesy of the Consumer Electronics Association in the US. Philips needs to institutionalise the pilot projects and expand its take-back programme to other countries. Philips reports that in 2009 the total amount of WEE recycled waste in EU countries was over 100,000 tons (up from 69,818 tons in 2008). It no longer provides details of its recycling rate as a % of past sales. **More information.** **Background** about the calculation of recycling data in Europe.



SONY ERICSSON, 6th position, 4.2/10

Sony Ericsson takes 6th place in the re-launched Guide. It is one of the top scorers in the **Products** category, scoring maximum points for the energy efficiency of its phones, its advice to users and its targets to increase their efficiency. It is close to scoring maximum points for its avoidance of hazardous substances in its products, with only a few exemptions for uses of antimony and some types of phthalates remaining. It reports the recycled plastics content for several of its phones but still needs to report the amount of recycled plastic sourced as a percentage of all plastics used. To score on the product life cycle category it needs to publicly disclose the length of warranty and spare parts availability for its main product lines.

It scores less well on **Energy**, with most points for its targets to reduce greenhouse gas (GHG) emissions from its internal activities by 20 percent by 2015, however, it needs to set a more ambitious target of at least 30 percent by 2015 and aim to use 100 percent renewable electricity by 2020. Although 31 percent of the electricity if purchases globally is from renewable sources, it does not set out a plan to reduce its GHG emissions through energy efficiency or more use of renewable energy. It also fails to get maximum points for the reporting of its GHG emissions as there is no external verification and it lacks any specific examples of positive lobbying for a clean energy policy.

It scores relatively well on Sustainable **Operations**, with maximum points for its chemicals management policy and programme; its work with suppliers to avoid the use of restricted substances is a good example. It still needs to report total GHG emissions from its supply chain and set out a plan for reducing emissions, although it does provides some information from its product life cycle assessments. It reports the quantities of e-waste it collects as a percentage but needs to provide a better summary of the extent of its take-back programme. Sony Ericsson has not yet published or publicly mapped smelters or suppliers of conflict minerals and needs to provide proof of verification of its suppliers. It also needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging.

SONY ERICSSON Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

SONY ERICSSON Detailed Scoring

Energy

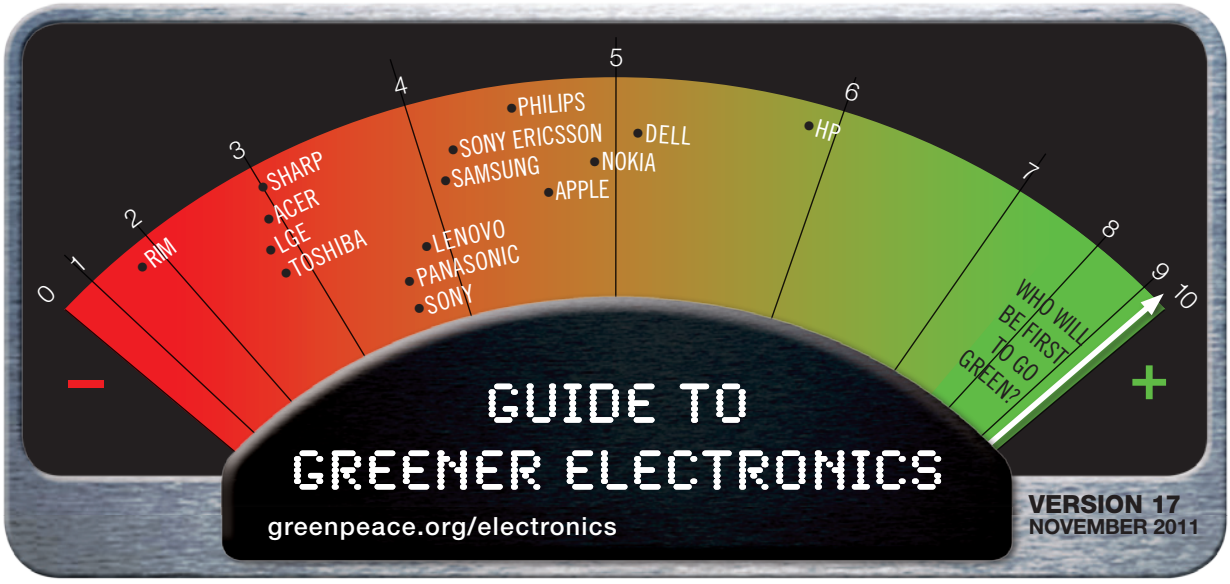
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
2/3	**3/8**	**2/8**	**0/8**
Sony Ericsson reports its total GHG emissions as 143,134,582 kg CO_2, (Scope 1,2 & 3, including business travel and logistics). Calculations are done according to the GHG Protocol. See p. 8 **Sustainability Report 2010.** p. 15 is about certification, however, a certificate for its GHG emissions is not provided. **More information.** For more points Sony Ericsson needs to provide evidence of external verification and more background information and analysis on the source of its GHG emissions.	Sony Ericsson has absolute targets to reduce its total GHG emissions. **More information.** 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. Its 2010 **GHG emissions** compare to 175,378,384 kg CO_2 in 2009, a reduction of 18%; emissions have reduced 43% since 2008. The biggest reductions have been in emissions from logistics; when this isn't taken into account the reduction is by 15% since 2008. However, Sony Ericsson is also restructuring and downsizing. Also see p. 8 **Sustainability Report 2010.** Sony Ericsson needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and use 100% renewable electricity by 2020.	Sony Ericsson states that it "purchases renewable energy from certified sources and currently over 31% (previously 30% in 2009) of all electricity purchased by the company globally (this includes Sony Ericsson's office sites and manufacturing facility) has been certified by the Swedish Society for Nature Conservation. This marks an increase from 29% in 2009. See p. 8 **Sustainability Report 2010.** In Sweden all the electricity used by Sony Ericsson comes from renewable sources such as solar, wind and hydropower, and represents about 53% (previously 40% in 2009) of the total electricity used in all Sony Ericsson's office sites. It also put a heavy emphasis on reducing energy use when building a new office in Lund, including forced air cooling, efficient heat recycling and efficient lighting. **More information.** Sony Ericsson is working with ways of increasing its use of renewable energy.	Sony Ericsson states that "to continue our support for a comprehensive United Nations framework for tackling climate change, we have signed the Copenhagen Communiqué." **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
5/5	**4/5**	**1/3**	**0/3**
All phones sold globally since 2003 have chargers that meet the EU voluntary CoC for power supplies. GreenHeart™ chargers (EP-300, EP-310 and EP-800) comply with both the Energy Star level V and have a no-load power consumption ≤30mW. **More information.** Sony Ericsson also provides **advice** on the efficient use of energy for their mobile phones. It aims to reduce emissions from the full life cycle of its products by 15% by 2015. **More information.**	All new SE products have been PVC-free since 2007 and its whole range has been PVC free since 2009. SE also reports that BFRs will not be present in newly developed products from 2010; at present, products are nearly free from all halogenated (brominated and chlorinated) flame retardants. All SE products are also free from beryllium, antimony trioxide and the phthalates DEHP, DBP, BBP DINP, DIDP and DNOP. SE met its commitments to phase out these substance. SE continues to use antimony for varistors and this use is exempted from its phase out plan until alternatives have been identified. It also aims to phase out all phthalates from its products. **More information.** Environmental product declarations for phones **here**, **here** and **here** See **procedures** for monitoring and controlling substances in products. SE's List of **Banned & Restricted Substances**.	SE gives examples of several phones that contain ≥ 50 % post-consumer recycled plastics; the C901 GreenHeart™, Naite™, Elm™, Hazel™ and Cedar™. Aspen™ contains about 30 % post-consumer recycled plastics and other GreenHeart™ smartphones contain 50-70 % of post-consumer recycled plastics in the back covers. More than 50 % of the hard plastic parts in the MH300 headset are made of recycled plastics. **More information.** To score more 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.	SE does not summarise information on its warranties and availability of replacement parts on its website. An example of a Limited Warranty will last for a period of two years for a mobile phone, and for a period of one year for accessories (such as the battery, charger or handsfree kit). **More information.** Sony Ericsson is supporting the industry's adoption of a standardised charger interface and aims to introduce chargers and phones with this interface well ahead of the planned timeline. However, these should already have been implemented. **More information.** Sony Ericsson needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	**5/5**	**0/3**	**1/5**	**4/8**
SE assesses the emissions from all stages of the lifecycle of its products and aims to reduce the carbon emissions from the full lifecycle of its products by 15% in 2015, based on 2008 levels. The total CO_2 emissions from the full lifecycle of a W890 are 24kg; 56% of this comes from component manufacture and 8% comes from the extract of raw material. A formal critical review found that the Sony Ericsson W890 life cycle analysis was excellent and in full compliance with the ISO 14040 series standards. See p. 9 **Sustainability Report 2010.** **Also see Product life cycle.** Supplier Environmental Requirements state that "the Supplier shall also take into account the following recommendations: 1. Minimize energy consumption during production and development. **More information.** For more points Sony Ericsson needs to report total GHG emissions from its supply chain and set out a plan for reduction in supply chain emissions.	Sony Ericsson supports the Precautionary Principle as defined by the Rio Declaration and is implementing it. **More information.** It also states that, "alongside other global technology brands, (it) joined forces with an alliance of public interest organizations including ChemSec, Clean Production Action and the European Environmental Bureau to persuade the European Parliament to ban the use of hazardous substances in consumer electronics from 2015 onwards." SE supported the inclusion of BFRs and PVC in the revision of the RoHS Directive, together with a relevant exemption process as well as an improved methodology for further substance restrictions. SE also works with suppliers to prevent use of hazardous substances and to ensure that emissions to air, soil and water are minimized and do not have a negative impact on the environment. Its requirements are clearly articulated to its first tier suppliers, so that they and their suppliers systematically prohibit use of hazardous substances. See p. 12 **Sustainability Report 2010.** SE's List of **Banned & Restricted Substances.**	Sony Ericsson describes the attributes of a GreenHeart product, for example replacing paper manuals with an electronic version in the phone, saving 350 tonnes of paper (equal to 13,000 trees and 75,000 cubic metres of water). Phones are packed in smaller, lighter boxes, saving on emissions from transport and preserving natural resources. Boxes are made of 100% paper with a minimum 35% recycled material (for 2011). Sony Ericsson traces the source of virgin paper material. **More information.** Sony Ericsson needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	SE is in the EICC Extractives Working Group. It has begun tracing but it has not published or publicly mapped smelters or suppliers, as several companies have already done. SE is a member of the EICC Extractives Working Group. It reports that it "does not accept components containing metals "where child labour, violation of the basic human rights and/or illegal activities are taking place in any step of the value chain. Our suppliers have verified that they do not utilize such sources." **More information.** However, in the absence of a specific company supply chain audit policy on conflict minerals, it is unclear how such verification is obtained. We would welcome proof of such verification. SE did not sign up to the Public Private Alliance; it has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. SE did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. SE did not participate in the OECD due diligence drafting; it has refused calls on conflict minerals with US NGOs but has engaged some European groups on conflict minerals.	In autumn 2008, Sony Ericsson introduced the Global Environmental Warranty, which guarantees that all phones brought to SE collection points will be recycled in a responsible way. SE has been setting up collection schemes for the recycling of its used products and currently has around 500 collection points in 8 countries. It is expanding this coverage with, for example, postage paid collection in the U.S. Unfortunately, SE doesn't specify which 8 countries these are, so it's difficult to assess whether SE's programme is expanding to non-OECD countries. Countries mentioned on a previous web-page were: Taiwan, China, Thailand, Singapore, Malaysia, Philippines, New Zealand, India, Australia, Israel, USA and Canada. **More information.** SE also supports and directs users to industry, municipality and privately owned recycling schemes in another 28 countries. See p.10 **Sustainability Report 2010.** Information on local collection points is provided via the support page for each phone, according to your country. However, it's difficult to assess the quality of the information as this is only accessed from within the country concerned. **More information.** SE states that in 2010 about 1.5 million phones were recycled in its own systems (approximately 3% of the total number of Sony Ericsson phones sold in 2010) and it aims to increase that number in coming years. In addition, SE finances the collection and recycling of its products through electronic waste recycling systems in 15 countries. **More information.** SE states that it is working hard to address the challenge of measuring the quantities of phones collected and recycled in systems other than their own. See p.10 **Sustainability Report 2010**.



SAMSUNG, 7th position, 4.1/10

Samsung takes 7th position in the re-launched Guide. The penalty point which was first imposed in v.14 of the Guide for backtracking on its commitment to eliminate brominated flame retardants (BFRs) in new models of all products by January 2010 and PVC vinyl plastic by end of 2010 has been lifted. It now has notebooks, mobile phones and MP3 players that are free from these substances, but its commitment to phase out hazardous substances now only covers some product groups – TVs and household appliances are no longer included. Samsung does reasonably well on other **Products** criteria – it is one of the leaders on the new product life cycle criteria for providing information on its warranties and provision of spare parts as well as details of innovations. Samsung also scores well for the energy efficiency of its products, but it risks a **penalty point** in future Guide editions as it is a member of a trade association that has commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

On **Energy** Samsung scores maximum points for providing verified data on its greenhouse gas (GHG) emissions. Samsung has set a target to "reduce the GHG emissions by 24 percent compared to 'business as usual' by 2015" from its operations, but does not have a target for cutting absolute emissions, which needs to be at least 30 percent by 2015. Its current use of renewable energy is low, at 0.1 percent of global electricity use; it plans to increase this in line with the Korean government's plans for 6.9 percent renewable energy by 2020, however this is not its own target; it needs to set an ambitious target to increase its own use of renewable energy globally by 2020. On lobbying for a clean energy policy, Samsung gets a point for its support for cuts in GHG emissions by industrialised countries of at least 30 percent as a group by 2020.

Samsung scores most of its points for Sustainable **Operations** for its relatively good e-waste take-back programme and information; it needs to extend this further to cover its whole product range and to report on its recycling rate beyond Korea. It also reports on the GHG emissions of most of its 1st tier suppliers in Korea, and has plans to extend this to global suppliers in the near future. Samsung's chemicals policy has mechanisms to identify future substances of concern; it describes its supply chain management for chemicals but does not have a restricted substances list for manufacturing. It is in the process of signing a compliance agreement with its suppliers that prohibits the use of conflict minerals and it needs to publicly map its smelters or suppliers. On paper, Samsung scores a point for reporting on its paper use and aiming to increase the use of FSC paper; it needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging.

SAMSUNG Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

SAMSUNG Detailed Scoring

Energy

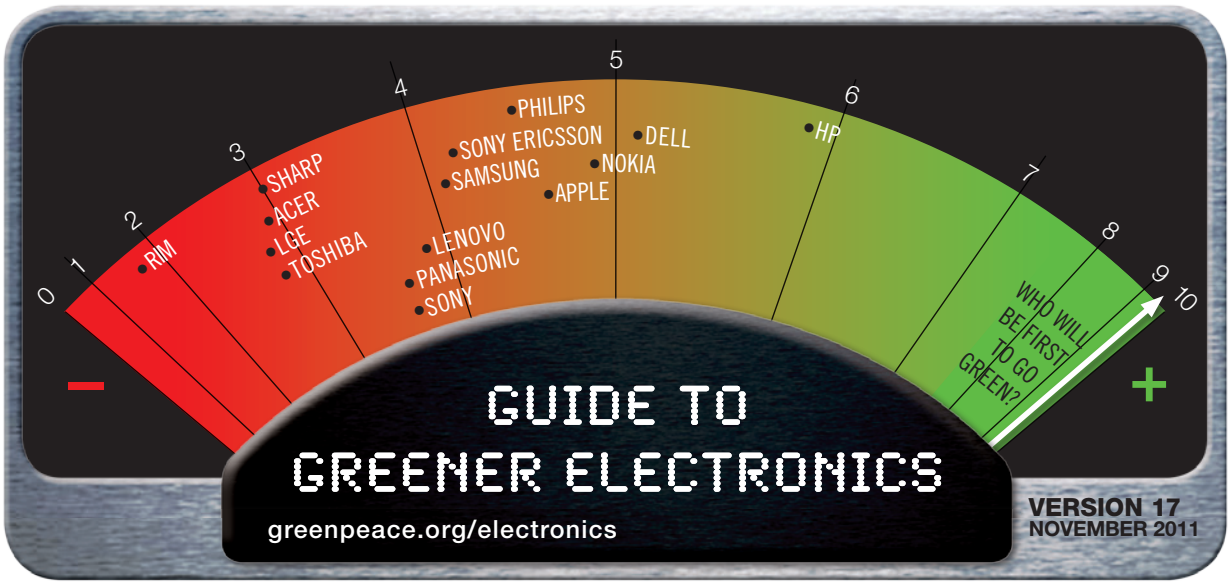
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
3/3	**3/8**	**1/8**	**1/8**
Samsung reports its global scope 1 & 2 GHG emissions of 10,655,000 tons for 2010, up from 9,375,000 tons for 2008; business travel is reported as 121 tons (compared to 61 tons in 2009). Samsung publishes a verification certificate from the Korea Energy Management Corporation and states that these emissions were verified in accordance with "Greenhouse Gas and Energy Target Management Scheme Guideline" run by the Korean government and "Samsung Electronics Guidelines for Greenhouse gas inventory" which is based on the international ISO 14064-1 standard. The certificate could be made more legible. **More information.** Employee travel emissions are reported as 121,000 tons CO_2-e in 2010 (p.45 **Sustainability Report**). To keep these points Samsung needs to provide more background information and analysis on the source of its GHG emissions (on its website or CR report).	Total GHG emissions increased as a result of increased production in 2010, but GHG emission intensity relative to sales decreased from 5.83 in 2009 to 5.11 in 2010. **More information.** Samsung previously aimed 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. Samsung aims to "reduce the GHG emissions by 24% compared to BAU (business as usual) by 2015 to meet the Korean government's mid-term GHG reduction target and policy". However, it's not clear if this target is for absolute reductions as there is no baseline year. Samsung has another relative target to "reduce its GHG emissions intensity normalized by sales (metric tonnes of CO_2 per KRW 100 million) by 50% until 2013 based on the level of 2008. " **More information.** Samsung needs to set new targets to make absolute cuts to its operational GHG emissions of at least 30% by 2015 and to dramatically increase renewable electricity use by 2020.	Samsung currently uses only small amounts of renewable energy; in 2010, the amount that it purchased was 0.1% of its total global electricity purchases. However, it is investing in the manufacture of renewables such as solar panels and plans to "increase its portion of renewable energy in line with Korean government's plans on renewable energy supply (the portion of renewables in total electricity generation in Korea is expected to reach 6.9% in 2020)", as the majority of its total global electricity consumption is in Korea (88% as of 2010). However, a target for increasing the use of renewable energy in Samsung's own operations is not given. Samsung plans to "gradually adopt renewable energy systems such as photovoltaic systems and small hydrogen energy systems at our operational sites". It also has energy management measures across its business and verified energy reduction programmes with targets, for its LCD division and its Gumi manufacturing plant. **More information.**	Samsung supports the "development of clean energy policies by participating in several initiatives. For example, the company contributes to reducing global GHG emissions and increasing clean energy sources by participating in WBCSD (World Business Council for Sustainable Development), KBCSD (Korea Business Council for Sustainable Development), EICC (Electronic Industry for Citizenship Coalition), and the Green Growth Committee run by Korean government." **More information.** 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 also calls for global greenhouse gas emissions to peak by 2015. **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
4/5	**2/5**	**1/3**	**2/3**
100% of Samsung notebook PC models on the market globally have met the latest Energy Star requirements, and 52% of Samsung notebook PC models on the market globally have exceeded the Energy Star TEC requirements for estimated annual energy consumption by 50 % or more. Samsung also reports that its TVs, monitors and printers meet the Energy Star requirements by between 86 and 98%. It reports that 100% of its EPS meet the latest Energy Star standards, however, these are now old and have not been updated, so Samsung needs to refer to other international standards. Samsung is a member of the Korea e-Standby Program and the China Energy Conservation Program, but needs to show more evidence of positive advocacy for higher energy efficiency. It also needs to provide information on energy management to its customers. **More information here** and **here.** However, Samsung is a member of CEA, an industry association that recently made comments against the battery chargers systems regulation in the California Appliance Efficiency Regulations. It needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	Samsung has achieved its target to phase out PVC and BFRs in notebooks (except power cord and adapter), ahead of its revised commitment of January 2012, and its target to phase out PVC in internal wires of TVs by January 2011. All models of mobile phones and MP3 players are free from BFRs as of January 2010 and PVC from April 2010. All HDD models launched after April 2009 are free from PVC and BFRs. Since 1st November 2007, all new models of LCD panels are PVC-free. Other products that are partly PVC/BFR free are: all models of digital cameras and camcorders launched after April 2010 have main PWB and cases free from BFRs and internal wires free from PVC. The housings of some TVs and all monitors are BFR free. Samsung previously backtracked on its commitment to eliminate BFRs in new models of all products by January 2010, and although it has set new timelines for eliminating PVC and BFRs for some product groups, the commitment no longer covers all its products or all parts (for example there is no commitment to extend the PVC/BFR phase out in notebooks to power cords and adapters). Samsung no longer plans to phase out the use of BFRs and all PVC in its TVs and household appliances and the timelines beyond 2010 are not acceptable. All new models of all products will be free from beryllium from January 2013. There is an exemption for the use of beryllium in connectors and certain electronic components. Phthalates are now to be phased out in mobile phones and MP3 players by January 2011 and otherwise in the same applications as PVC from January 2013. New models of the same list of products and applications will be free from Antimony trioxide from January 2013, but with 2 exemptions. For more points, Samsung needs to eliminate these substances from its whole product portfolio, as well as antimony and compounds. **More information here, here** and **here. Product information.**	Samsung is increasing the quantities of post-consumer plastic that it uses: in 2010, its' use across all products was approximately 0.55%, and has increased to 2.37% by June, 2011; this compares to 0.4% during the year 2009. Samsung gives some examples of several mobile phones, a refrigerator and a washing machine, as products with post-consumer plastics content. Samsung's target is to increase its use of post-consumer plastics to 2.62% by 2013 – which it has almost achieved. Previously it had a target of 25% recycled plastic content (from post-industrial as well as post-consumer sources) out of total plastics used by 2025 and intended to maximise the use of post-consumer recycled plastics over post-industrial plastics. An intermediate target is welcome, however, a longer term objective is also needed. **More information here** and **here.**	Samsung believes that "extending the lifespan of products is important for sustainability and has a policy on providing reasonable product warranty and service parts availability considering product categories, sales region and legal requirement." It offers a 1-2 year warranty on mobile phones and TVs and a 1-3 year warranty for monitors. Service parts are available for up to 8 years for mobile phones and monitors, and for up to 10 years for TVs. Samsung gives several examples of extending product life cycles, including a 'battery life extension mode' for PCs and its digital cameras have adopted the "Universal Charging Solution (UCS) which can be used for other mobile equipment such as smart phone, camcorder etc. This UCS standard initiated by Global System for Mobile communications Association (GSMA) can reduce standby energy consumption and eliminates the need for discarding chargers and keeping multiple chargers for different products". **More information.** For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	**2/5**	**1/3**	**1/5**	**5/8**
Samsung has measured GHG emissions from its 1st tier suppliers (Scope 1 & 2) on a yearly basis since 2009. In 2010, GHG emissions of 812,000 tons CO2-e, for the year of 2009, were measured from 662 suppliers located in Korea, which represents 98% of total suppliers in Korea and 40% of total purchase worldwide. This data was given limited assurance with other Samsung Sustainability Report data by Samil Pricewaterhouse Coopers based on ISAE 3000 and AA1000AS. Samsung plans to complete the measurement of GHG emissions by its suppliers globally by the end of 2011, ahead of its previous schedule of 2013. **More information.** However, elsewhere Samsung states that a global inventory of GHG emissions will be completed by 2013. **More information.** The figure of 218,000 is also reported in its **Sustainability Report 2011**, as scope 3 emissions (see P.45).	Samsung supports and understands the Precautionary Principle. However, although Samsung states that RoHS 2.0 has an important role in the phase out of PVC and BFRs it does not specifically state that RoHS 2.0 needs to adopt a ban on organo-chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years), as well as an end-of-life focused methodology for adding future substance restrictions. **More information.** Samsung also identifies future chemicals to be targeted for elimination. **More information.** **SEC Standard** (revision 13 0QA-2049) Samsung describes some of its measures for supply chain management but there is no restricted substances list for manufacturing. **More information.**	Samsung is working to increase the proportion of recycled fibre and FSC paper it uses. It reports that "in 2010, the company used 40% recycled paper content in packaging across all products. Also, 70% of manuals in home appliances (refrigerators, washing machine, air conditioners, etc) were manufactured with FSC certified papers." It has also introduced a range of measures to reduce paper usage, such as innovative green packaging and electronic manuals. Samsung scores one point for its use of FSC paper and its reporting. For more points Samsung needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres. **More information.**	Samsung states that it is "working closely with our procurement and supply chain partners, as well as our customers, to investigate our supply chain and mineral sourcing practices". So far it has not made in-depth investigations of its supply chain. Samsung is in the process of signing a compliance agreement with its suppliers that prohibits the use of conflict minerals. **More information.** Samsung has joined the EICC but is not an active member of the Extractives Working Group and has not published or publicly mapped smelters or suppliers, as several companies have already done. It is active in the EICC smelter audit process and is in the process of signing a compliance agreement with its suppliers that prohibits the use of conflict minerals, but the verification for this is unclear. In addition it has not signed up to the Public Private Alliance, made statements on the need for a multi-stakeholder certification process, orr publicly committed to implement the OECD due diligence guidelines. Samsung did not issue a statement against the Chamber of Commerce lawsuit and did not join the multi-stakeholder submission to the SEC on conflict minerals. Samsung did not participate in the OECD due diligence drafting.	Samsung offers diverse take-back programmes in 60 countries - see **Sustainability Report** p.48 Samsung initiated a take-back programme for all its consumer electronics products in August 2010, across 21 cities in India. Samsung also 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. A voluntary programme is also planned for China in 2012. For more points Samsung needs to continue to extend its voluntary take-back for all products to non-OECD countries. **More information.** **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 and now Canada. **Mobile phone take-back.** Samsung estimates its 2010 recycling rates for Korea as a percentage of past sales: TVs - 42 % (based on an average life-span of 10 years, 2000) Computers - 16 % (based on an average life-span of 7 years, 2003) Mobile phones - 27 % (based on an average life-span of 2 years, 2008). **Recycling rates** need to be provided globally. **Recycling amounts** for 2010 by region. Total quantities of recycled product waste are reported in its **Sustainability Report 2011** (p.49).



LENOVO, 8th position, 3.8/10

Lenovo takes 8th place in the re-launch of the Guide; it benefits from the removal of the penalty point that was imposed for backtracking on its commitment to eliminate PVC vinyl plastic and brominated flame retardants (BFRs) in all its products by the end of 2009. While its current goal for new products in 2011 to be PVC/BFR free has not been completely met, Lenovo has launched a number of PVC/BFR free products, including notebooks and a desktop and many components are PVC/BFR free. On other **Products** criteria it scores well for its use of recycled plastics, where a slightly higher percentage of post-consumer plastics use would earn Lenovo maximum points. However, to score any points on product life cycle it needs to publicly disclose the length of warranty and spare parts availability for its main product lines. It reports on the percentage of products that meet and exceed the Energy Star standard, although this needs to be a higher percentage for more points. Lenovo risks a **penalty point** in future Guide editions as it is a member of a trade association that has commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

On **Energy** Lenovo achieved its targets on greenhouse gas (GHG) emissions for financial year 2011, with Scope 1 emissions reduced by 17 percent and Scope 2 by 10 percent; it aims to establish new reduction targets by the end of 2012. It needs ambitious targets to reduce its own GHG emissions by at least 30 percent by 2015 for its operations and dramatically increase renewable electricity use by 2020. It has reduced its energy consumption through energy efficiency projects and has contracted to increase its use of renewable energy, although it needs to outline a detailed clean electricity plan. It scores maximum points for providing verified data on its GHG emissions and also scores a point on lobbying for a clean energy policy, for its support of a 30 percent reduction in emissions from developed countries by 2020.

Its best scores on **Operations** are for its e-waste take-back programme and reporting on the quantities recycled (although the amounts should be increasing rather than decreasing), and for its comprehensive chemicals management programme and policy. It is beginning the process of gathering data from its supply chain on GHG emissions and is collaborating to develop product carbon footprint protocols and tools that will promote energy reduction actions. On conflict minerals, Lenovo has not yet published or publicly mapped smelters or suppliers and does not yet have an internal policy, although it will support industry efforts in this area. Lenovo specifies the use of 'environmentally friendly packaging' but scores no points as it does not specifically exclude suppliers that are involved in deforestation and illegal logging or specify that its recycled fibres should be FSC certified.

LENOVO Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				■
GHG emissions reductions and targets		■		
Clean Electricity Plan (CEP)		■		
Clean Energy Policy Advocacy		■		
Product Energy Efficiency			■	
Avoidance of Hazardous Substances in Products		■		
Use of Recycled Plastic in Products			■	
Product Life-Cycle	■			
Measure and reduce energy consumption in the supply chain		■		
Chemicals Management and Advocacy			■	
Policy and practice on sustainable sourcing of fibres for paper	■			
Policy and practice on avoidance of conflict minerals		■		
Provides effective voluntary take-back where no EPR laws			■	

LENOVO Detailed Scoring

Energy

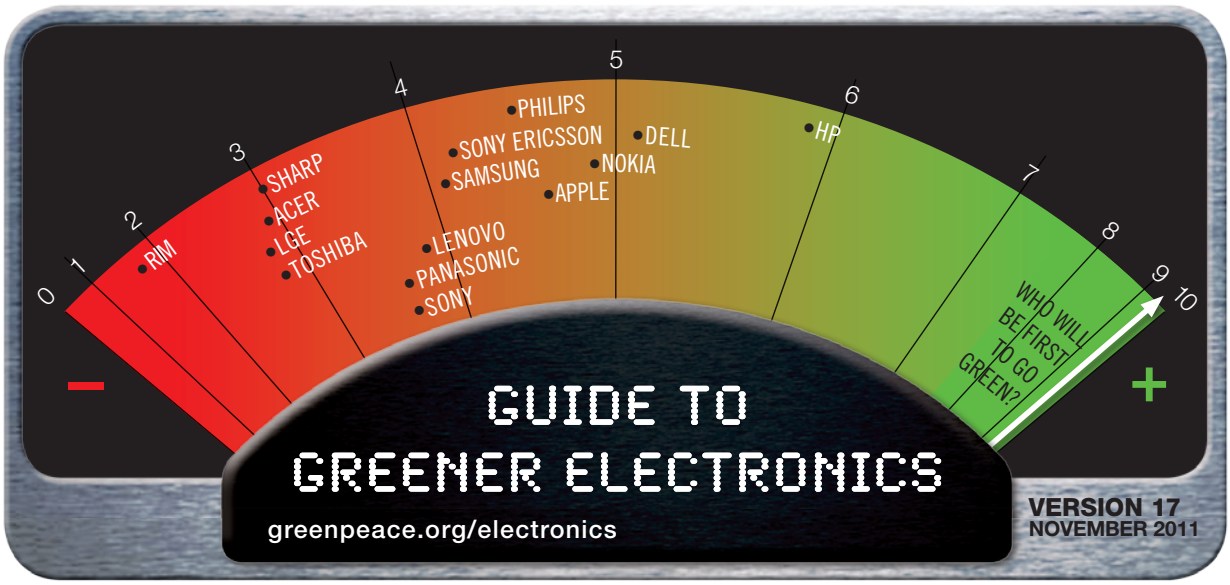
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
3/3	**3/8**	**2/8**	**1/8**
Lenovo reports GHG emissions of 86,637 metric tons CO_2-e from global operations in 2010/11, a slight increase from 85,303 tons in 2009/10, due to an increase in its Scope 3 emissions for business travel. **Emissions** from both Scope 1 and 2 are reduced. Lenovo provides verification for the first time, for its 2009/10 and 2010/11 data, by Bureau Veritias, according to ISO 14064. **More information.** To keep these points Lenovo needs to provide more background information and analysis on the source of its GHG emissions (on its website or CR report).	Lenovo achieved its climate change objective and target to eliminate or offset scope 1 GHG emissions by 100% by 31/3/2011; Lenovo reduced Scope 1 GHG emissions by 16.5% relative to FY 2009/10 and purchased carbon offsets for the remainder. It also has targets to achieve absolute reductions in scope 2 emissions, with progressive targets up to 20% by 31/3/2020, relative to 2008/09. It achieved its target to reduce absolute Scope 2 GHG emissions by 10.4 % relative to FY 2009/10. There are no specific targets for increasing use of renewable energy. Lenovo aims to reduce emissions associated with business travel and will establish reduction targets by 3/31/2012. Lenovo needs to make more ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and aim to dramatically increase renewable electricity use by 2020. **More information.**	Lenovo's plans to achieve its targets for Scope 2 emissions include: improving energy efficiency by installing energy efficient equipment and technologies and implementing Corporate energy use standards; installing local renewable energy generation sources where technically and economically feasible and, if not, purchasing renewable energy certificates; supporting increases in the percentage of renewable energy available from the grid. Lenovo gives examples of energy efficiency projects that led to 20% reduction in electricity consumption during 2009/10 and 2010/11. It has also purchased renewable energy in the US, equivalent to greater than 20% of the carbon emissions associated with Lenovo's purchased energy during FY 2009/10. **More information.** Lenovo provides a **certificate** for its purchase of RECs.	Lenovo supports the conclusions as presented by the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) - "Climate Change 2007", including the capping of global emissions by 2015, a 30% reduction in emissions from developed countries by 2020 (relative to year 1990 levels), and a 50% reduction in global emissions by 2050 (relative to year 1990 levels). However, Lenovo needs to specify that reductions by industrialised countries should be at LEAST 30% by 2020. Lenovo is a supporter of several initiatives, internationally and in China, such as the PC China Energy Efficiency Standard, Server China Energy Efficiency Standard, China GHG Standard, China Environmental Labeling Program, Energy Saving Work Association of Chinese Institute of Electronics, and China Energy Conservation Program. **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
3/5	**2/5**	**2/3**	**0/3**
Lenovo reports that approximately 95 percent of all notebook platforms, 50 percent of all desktop platforms, 92 percent of all workstation platforms and 95 percent of all monitors meet the latest Energy Star standards. All Lenovo newly released ENERGY STAR qualified Desktop and Notebook platforms, and Monitors exceed the current applicable ENERGY STAR power consumption requirements (by 25% to +60%). All Lenovo Class A EPS's meet and exceed US (e.g. Dept of Energy, California Appliance Efficiency Program, etc.) and WW (EU ErP, Australia MEPS, etc.) energy efficiency requirements. Lenovo provides a power management software tool, an energy calculator and links to a supplier of solar panels for its hardware. It participates in a number of industry workgroups focused on existing and proposed global IT product energy efficiency policy, regulation and requirements, such as ENERGY STAR, US DOE policy updates regarding battery charger and external power supplies, Mexico Energy Law, Australia MEPS, China CEC and a number of other emerging geo focused protocols and regulations. **More information.** However, Lenovo is a member of ITI and CEA, industry associations that recently made comments against stricter energy efficiency standards (a. the inclusion of computers and servers; b. comments against battery chargers systems regulation, respectively) in the scope of the California Appliance Efficiency Regulations. Lenovo needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	Lenovo introduced its first low halogen product, the ThinkVision L2440x Wide monitor, in October of 2008, and followed this product with the ThinkVision L2251x Wide monitor released in November 2009. Both of these products were available globally. In late 2010, Lenovo introduced the low halogen M90p desktop. In addition, all ThinkPad classic notebooks (the T420s, X1, T520, W520, T420, X220, and X220t) will be fully low halogen (with some exemptions such as power cables). Lenovo is also working on low halogen consumer products, including a low halogen notebook and desktop. Where full product systems are not yet available, products contain many low halogen components. For example, hard disk drives, optical disk drives, solid state drives, LCD screens, memory, CPUs, chipsets, and several communications cards meet the iNEMI definition of low halogen. In addition, all plastic enclosures and most components and connectors also met this definition of low halogen (with the exception of printed board laminates). In 2011, all ThinkPad notebooks will be released with low halogen PCBs. **More information here** and **here.** Lenovo's original timeline for eliminating PVC and BFRs in all products was end of 2009. It subsequently backtracked on this commitment providing a timeline of 2010. This timeline shifted further in time to 2011; its latest goal was to phase out the use BFRs and PVC across all newly introduced products in 2011. While this goal has not been achieved for all new products in 2011, there are several new product systems on the market that are PVC/BFR free. Progress towards this goal is demonstrated by the number of halogen-free components incorporated in several product lines. Lenovo states that it "plans to continue to work with our suppliers towards the goal of phasing out of the use of BFRs and PVC, recognizing that many technical and supply related challenges still exist." Antimony and beryllium and their compounds have a phase-out target date of 2012. Just three types of 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 which is 200 ppm, due to the requirements of European recyclers. **More information.** **See p.19**.	Lenovo reports its net Post-Consumer Content plastics (PCC) content in 2010 as 4.3% of the total plastics used. Many of Lenovo's products have some PCC, for example, in 2009, over 30% net of all plastic by weight used in Lenovo monitors consisted of low-halogen post-consumer recycled content. The L512 ThinkPad contains 18% net post-consumer plastics, making it the industry's highest amount of PCC plastics in a notebook. **More information.** Lenovo aims to grow the use of PCC plastics by 20% over the previous year. **More information.**	Lenovo does not provide a summary of the length of product warranties or availability of product replacement parts. Lenovo needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
1/5	**3/5**	**0/3**	**1/5**	**5/8**
Lenovo is working with the Electronics Industry Citizenship Coalition's Environmental Sustainability Working Group to develop and implement a carbon/water reporting tool, to gather primary data from key Tier 1 suppliers, based on percentage of production related and non-production related suppliers total spend. Lenovo plans to engage with its key suppliers on carbon emission reductions opportunities once internal evaluation of suppliers' aggregated data is completed. An evaluation of potential supplier climate change performance and strategy will become a differentiator in the procurement process, Points in the chain where significant risks are created due to high level of GHG emissions will be identified and specific mitigation plans implemented. Lenovo is engaged in the development of product carbon footprint (PCF) protocols and tools that will promote energy reduction actions and allow for product differentiation with external partners. The company participates as a member of the Stakeholder Advisory Group for the World Resources Institute (WRI) & World Business Council for Sustainable Development's (WBCSD) development of the Product Accounting & Reporting Standard. Lenovo's climate change targets include establishing the PCF for at least one product from each product family during the current fiscal year. This work will be used to drive identification & evaluation of opportunities to reduce the PCF of Lenovo's products. **More information.** Lenovo earns one point for collaborating to begin the process of addressing GHG emissions from its supply chain.	Lenovo states that its chemicals and substance management policy supports a precautionary approach that ensures that action is taken even if some cause and effect relationships are not scientifically established. Lenovo also supports the goal to phase out BFRs and PVC, however it does not mention of the need for RoHS 2.0 to adopt a ban on organo- chlorine and bromine compounds, as well as an end-of-life focused methodology for adding future substance restrictions. **More information.** See also **2010 Sustainability Report**, p.44. Lenovo's **Engineering Specification** 41A7731 reflects its commitments on eliminating PVC, BFRs, beryllium, antimony and their compounds. RoHS/**REACH Engineering Specification**. **Material Composition Declaration** for suppliers specifies no intentional use for some substances.	Lenovo states that 'where recycled material is not available, Lenovo will continue to seek sustainable material solutions (recycled or bio-based) and minimize the use of packaging material consumption. Its goal is to drive to 100% environmentally sustainable materials, and expand use of 100% post-consumer packaging material globally". It also states that "all the packaging materials used by Lenovo are recyclable and since 2006, Lenovo implemented the use of 100% recycled content packaging materials in China. As a part of Lenovo's green packaging strategy, the 100% post-consumer content materials are chosen for packaging design as a first priority". It reports on the progress made towards these targets. **More information here** and **here.** **Packaging Specification** 41A0613 Recyclable Packaging Materials. However, although Lenovo specifies 'environmentally friendly packaging' it does not specifically exclude suppliers that are involved in deforestation and illegal logging. It also does not specify that its recycled fibres should be FSC certified. Lenovo needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	Lenovo only scores 1 point; it has joined the EICC but is not an active member of the Extractives Working Group and has not published or publicly mapped smelters or suppliers, as several companies have already done. It is active in the EICC smelter audit process but has no internal policy on conflict minerals. In addition, it has not signed up to the Public Private Alliance and has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. Lenovo did not issue a statement against the Chamber of Commerce lawsuit, join the multi-stakeholder submission to the SEC on conflict minerals or participate in the OECD due diligence drafting. In 2011, Lenovo will continue to support industry efforts in this area. **More information here** and **here.**	Take-back is offered in 51 countries (of which 22 have voluntary take-back) where Lenovo sells products directly, but not in countries where re-sellers sell its products. Lenovo also provides **Asset Recovery Services** for business customers. **Product take-back** has been extended in India and in **China**. 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. Information about Lenovo's free **take-back programme in the US**. During 2009 (calendar year) Lenovo financed or managed the processing of over 11.547 metric tonnes of products. This equates to 6.4% of the weight of products shipped in 2002. The overall quantity of waste products recycled in 2009 dropped from 17,919 in 2008, due to lower new product sales as a result of the economic downturn, which resulted in lower customer returns of replaced products. See p. 48 & 49, **FY2010 Sustainability Report**.



PANASONIC Ranking = 3.6/10

Panasonic is in joint 9th place, together with Sony, with 3.6 points. It is let down by its low score on the **Energy** criteria, where it does not provide specific targets for the reduction of greenhouse gas (GHG) emissions from its operations; it has broad targets that include emissions from the life cycle of its products and the use of its renewable energy products, although it does score points for achieving reductions in emissions from its operations. It needs to focus specifically on its planned reductions of GHGs – both absolute and relative – and set ambitious targets to reduce its own GHG emissions by at least 30 percent by 2015 for its operations and dramatically increase renewable electricity use by 2020. Again, its clean energy plan has formulas for energy efficiency and renewable energy, but no specific targets; it has a programme for energy conservation but its current use of renewable energy is very small. Panasonic reports its GHG emissions from its own operations, which are externally verified, but does not report on business travel.

Panasonic is one of the top scorers on **Products**, scoring well for product life cycle as it provides information about its warranties and replacement parts, as well as many examples of innovation to make its products last longer. It has many products that are free from polyvinyl chloride plastic (PVC), and plans to eliminate PVC and brominated flame retardants (BFRs) from its notebooks and mobile phones by the end of 2011, but this commitment does not extend to all of its products. It reports on its use of recycled plastics but does not specify whether this is post-consumer plastic. It scores maximum points for the energy efficiency of its products for reporting that 100 percent of its TVs meet the latest Energy Star standards and exceed the standby power requirement. However, it risks a **penalty point** in future Guide editions as it is a member of trade associations that have commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

For Sustainable **Operations**, Panasonic reports the GHG emissions from its supply chain and has achieved some reductions since its programme started in 2009. Its take-back programmes for obsolete products are not worldwide and do not yet cover all Panasonic's product groups, although there is good coverage for its PCs. It has a detailed chemicals management programme, although there are some inconsistencies in comparison to its commitments. On conflict minerals it has requested its primary component and material suppliers to verify the sources of minerals used in their supplies but needs to develop its policy and programme further. Panasonic does have a policy to use FSC paper but does not exclude suppliers that are involved in deforestation and illegal logging.

PANASONIC Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions			■	
GHG emissions reductions and targets		■		
Clean Electricity Plan (CEP)		■		
Clean Energy Policy Advocacy	■			
Product Energy Efficiency				■
Avoidance of Hazardous Substances in Products		■		
Use of Recycled Plastic in Products		■		
Product Life-Cycle			■	
Measure and reduce energy consumption in the supply chain		■		
Chemicals Management and Advocacy		■		
Policy and practice on sustainable sourcing of fibres for paper		■		
Policy and practice on avoidance of conflict minerals		■		
Provides effective voluntary take-back where no EPR laws			■	

PANASONIC Detailed Scoring

Energy

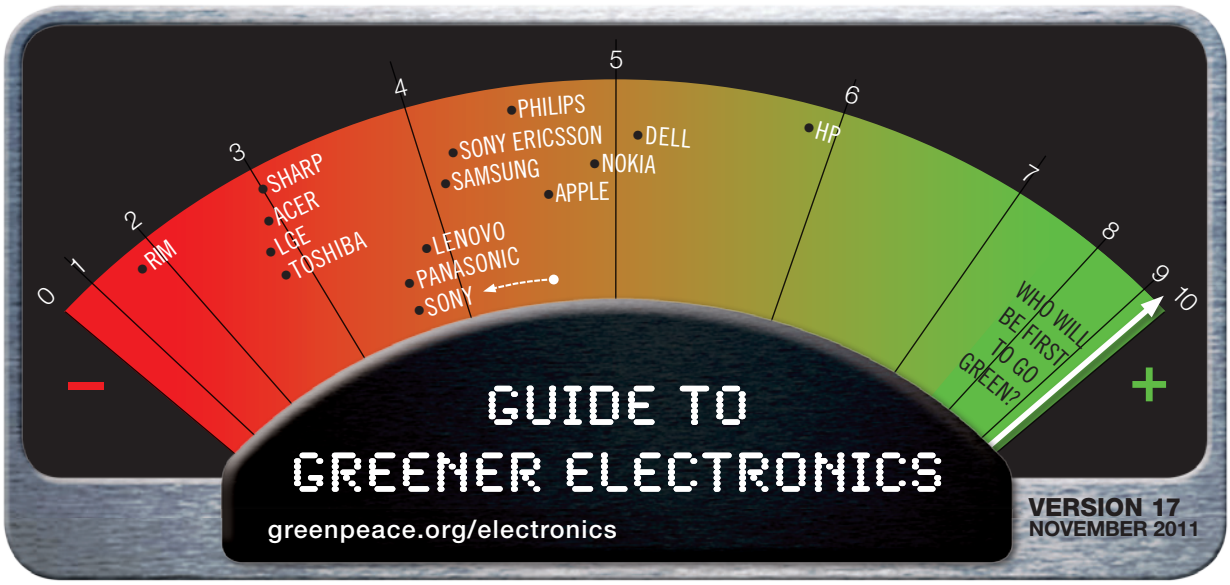
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
2/3	**1/8**	**2/8**	**0/8**
Panasonic gives an overview of its global emissions from the whole life cycle of its products. **More information.** Emissions of GHGs from production activities were 4 million tons CO_2-e in 2011, slightly higher than 3.94 million tons in 2010. **More information.** Emissions from GHGs other than CO_2 were 14,000 tons. **More information.** Emissions of GHG from non-manufacturing sites were 171,000 tons CO_2-e in 2011. **More information.** Panasonic also reports in detail on its GHG emissions from logistics, and on the introduction of 'eco-travel' company cars, but not on GHG emissions from business travel. **More information.** **Independent Assurance report** and calculating standards. Panasonic provides background information and analysis on the source of its GHG emissions. For more points it needs to report its GHG emissions from business travel.	Panasonic will endeavor to ensure that CO_2 emissions from its entire business operations—not only from its own production activities but also from the use of its products by customers—peak out by 2018. As a result of product energy efficiency, use of renewable energy and reduced emissions from operations, CO_2 emissions from its entire business operations were reduced by 35.18 million tons in fiscal 2011. Panasonic aims to increase this amount to 37 million tons and 50 million tons in fiscal 2012 and 2013, respectively, and eventually to 120 million tons in fiscal 2019. However, specific figures for the reduction of GHG emissions from operations are not provided. **More information.** Panasonic achieved 0.84 million tons in CO_2 emissions reductions in its production activities by fiscal 2010, far exceeding its target of 0.3 million tons from fiscal 2007 (per base unit). In fiscal 2011 this increased to 2.11 million tons. Absolute quantities of GHG emissions reduced from 4.59 million tons in 2006 to 4 million tons in 2011. **More information.** Panasonic's approach needs to focus specifically on its planned reductions of GHGs – both absolute and relative. It needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and dramatically increase renewable electricity use by 2020.	Formulas are given for increasing use of renewable energy, reducing emissions from operations and increasing product energy efficiency, as part of Panasonic's goal to peak out' by 2018, but no specific targets are given. **More information.** Panasonic now provides a figure for the amount of renewable energy used globally; in fiscal 2011 it was 2,190,000 kWh. Previously it reported that the renewable energy consumed in Japan in fiscal 2010 was 173,000 KWh, up from 53,000 KWh in fiscal 2009. The figure isn't given as a percentage of electricity consumption; however, this is a tiny proportion of its electricity consumption. To further promote energy conservation and reduce CO_2 emissions, from fiscal 2011 Panasonic has selected "Top Runner Factories" as a model, which create three year implementation plans for energy conservation and use of renewable energy. Innovations and techniques are then shared with other factories. **More information.** Panasonic has been implementing an energy conservation project at its factories in Malaysia since fiscal 2005. **More information.** An example of renewable energy use at **Kasai Green Energy Park** is given. On July 1, 2011, Panasonic established its "Corporate Electricity Saving Division" in response to the change in electricity supply situation caused by the Great East Japan Earthquake. **More information.**	Panasonic is actively engaged in various partnerships and communications with governments, through direct communication and participation in concrete projects. Some examples are given below. **Dialogue with key stakeholders** in Europe. **Participation in Singapore International Energy Week 2010.** **Sustainable Smart Town Project in Fujisawa, Japan.** **More information.** Asia's First Test-bed Project on Total Energy Solutions for Public Housing. **More information here** and **here.** Panasonic in general supports the GHG reduction target of 25% by 2020, announced by the Japanese Prime Minister, the adoption of the year 1990 as the baseline year and the need for industrialised countries to reduce emissions by 30% by 2020. Panasonic supports the view that global GHG emissions must peak out around ten to fifteen years from now. Panasonic needs to support the call for GHG emissions to peak by 2015; for industrialised countries to reduce emissions by AT LEAST 30%. **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
5/5	**2/5**	**1/3**	**2/3**
Panasonic aims to reduce GHG emissions through energy saving products by 32 million tons in fiscal 2012 and 45 million tons in fiscal 2013. In fiscal 2011, Panasonic achieved reductions of 31.17 million tons, largely due to the Japanese government's eco-point incentive programme. **More information.** 100% of 2011 TV models (44 models) meet ENERGY STAR requirement (ver. 4.2) for both on-mode and standby power requirements. 36 models exceed the standby power requirement by 80% and the remaining 8 models exceed by 70%. 2011 TV models exceed the on-mode requirements by approx. 36% on average and a representative LCD model, TC-L37E3 exceeds by 59%. All (100%) of 37 notebook series currently available qualify for ENERGY STAR requirement (ver. 5.2). (ENERGY STAR qualification based upon Total Energy Consumption (TEC) calculations in kilowatt hours per year (kWh)). Its notebook computers are approx. 25% better than ENERGY STAR TEC requirements on average. **More information.** TVs have other power saving functions. **More information.** (only in Japanese) PCs have a peak load time control system. **More information.** (only in Japanese) However, Panasonic is a member of ITI and CEA, industry associations that recently made comments against stricter energy efficiency standards (a. the inclusion of computers and servers; b. comments against battery chargers systems regulation, respectively) in the scope of the California Appliance Efficiency Regulations. Panasonic needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	All mobile phones (sold in Japan only) have been PVC-free (excluding internal wiring in a charger) from FY2005 models onwards. Since April 2007, Panasonic has been selling PVC-free notebook computers (excluding separate AC cord), in Japan only. There are many examples of PVC-free models, including healthcare products and LED panel display units. Panasonic gives examples of fluorescent ceiling lamps that are free of BFRs – & are manufacturing halogen-free printed wiring boards for certain applications and markets. Panasonic needs to show progress by bringing new PVC and BFR free products onto the market. Panasonic still plans to eliminate the use of PVC in notebooks by the end of 2011 globally, but notes that there are technical issues to do with the development of PVC-free AC cords. All new models of mobile phones and computers should be free of BFRs by end of 2011, but there is no commitment to eliminate BFRs and PVC from **Panasonic's whole product portfolio**. Panasonic has replaced PVC with a substitute for internal wiring of all products for the Japanese market by end of March 2009 and globally by end of March 2011. However, 54% of products – such as washing machines, are exempted due to technological problems, and the commitment is limited to internal wiring. **More information here** and **here.** Panasonic states that its commitment to eliminating PVC will reduce or eliminate the use of phthalates, used primarily as softeners in PVC. But what about other applications of phthalates e.g. in adhesives? Likewise, use of antimony trioxide will be reduced as BFRs are eliminated. No timelines are given. There is no reference to or plan to phase out the use of beryllium and compounds. **More information.**	Panasonic used approx. 6,000 tons of recycled plastic for its products in fiscal 2011. It's not clear whether this also includes post-industrial recycled plastics. **More information.** Panasonic gives some examples where recycled plastics are used in products. Total usage of plastics in fiscal 2010 for washing machines and refrigerators was 27,179 tons including 3,759 tons of recycled resin including that recycled within production processes. The ratio of recycled resin usage was 13.8%. **More information.** Panasonic needs to provide a target and timeline specifically for increasing use of post-consumer recycled plastic and clarify the proportion of post-consumer recycled plastics used in its data.	Spare parts are available for 8 years for TVs and 6 years for PCs. Warranties are 1 year. (in Japanese) **More information.** PCs use a battery economy mode function that limits battery up to 80% and increases the battery life 1.5 times. (in Japanese) **More information.** The EVOLTA battery (primary battery) is the **world's longest lasting battery**. The **rechargeable battery** has up to 1600 charging cycles. Panasonic launched a wireless charging pad for mobile phones, smart phones and games and can be used universally as long as devices are compatible with the global standard. It removes the need for separate charges and wires. **More information.** (only in Japanese) Panasonic released a range of LED lighting with a wide light distribution angle which is almost equivalent to angle of incandescent lights, with a service life of 40,000 hours. **More information.** Plasma panels in VIERA TVs last the equivalent of 100,000 hours (30 years at 8 hours a day). **More information.** Panasonic is rewarded with 2 points for providing this information. For maximum points its warranties need to be longer; it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	2/5	1/3	1/5	4/8
Panasonic manufactures many of its products in its own factories and emissions from these are reported above (E1). Panasonic asked suppliers belonging to Panasonic Kyoeikai (small and medium sized enterprises supporting the Panasonic Group's production activities) to identify and reduce their CO_2 emissions. In response, about 100 suppliers began conducting the necessary activities in fiscal 2009, and although overall emissions increased in fiscal 2011 year on year due to various factors, overall, the CO_2 emissions of suppliers decreased by about 11% compared with emissions prior to the launch of the project. Panasonic intends to identify total CO_2 emissions from the entire supply chain in the future. As the first step, it will cooperate with suppliers and materials manufacturers with high volumes of emissions. In order to supply products to Panasonic these suppliers will need to identify the amount of CO_2 they have emitted. **More information.**	Panasonic refers to the precautionary approach to hazardous substances as defined by the Rio Declaration and aims to voluntarily reduce or discontinue their use in case of any environmental risks. However, Panasonic makes no mention of the need for RoHS 2.0 to adopt a ban on organo- chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years), as well as an end-of-life focused methodology for adding future substance restrictions. **More information.** Pansonic's web pages on chemicals management contain a lot of detailed information. **Summary explanation on management of chemical substances**. **More information.** Chemical Substances Management Rank Guidelines Ver. 8 (for Products). Only specified BFRs are listed, despite the commitment to phase out BFRs in mobile phones and computers by the end of 2011. **More information.** Also see Chemical Substance Management Rank Guideline for Factories Ver.4. Substances restricted for use in products (eg. PVC) are not listed. Also, beryllium alloys are listed for 'reduction' and beryllium is 'prohibited', whereas it is not listed in the Guidelines for Products. **More information.**	In 2008 Panasonic agreed a policy with WWF to use FSC certified paper, with the aim of using 100 tons by 2010. **See Eco Ideas 2009**, p.42. Panasonic created the Panasonic Group Green Procurement Guidelines for Wood to conserve biodiversity and sustainable resource usage after thorough consultations with WWF Japan. The Guidelines divide various wood and wooden materials that may be procured into three categories. Panasonic reports on the percentage of wood and wooden materials used and its progress. It aims to reduce its procurement of Category 3 wood & wooden materials – those that are not confirmed to be legally logged - to nearly zero by fiscal 2013. **More information.** Panasonic needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	Panasonic provides details of its participation in a pilot project to implement the OECD guidance on conflict minerals. In February 2011 it requested its primary component and material suppliers to verify the sources of minerals used in their supplies. **More information.** It has not yet published smelters or suppliers, however, as several companies have already done. In February this year, Panasonic requested its primary component and material suppliers to verify the sources of minerals used in their supplies, but it is unclear whether this constitutes an audit or not. Panasonic is active in the EICC smelter audit process but does not have an internal policy for suppliers on conflict minerals. It has not signed up to the Public Private Alliance, made a statement on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. Panasonic did not issue a statement in support of the legislation before it passed, or against the Chamber of Commerce lawsuit. It did not join the multi-stakeholder submission to the SEC on conflict minerals. Panasonic has not responded to requests for meetings on conflict minerals and deleted comments on its Facebook page related to conflict minerals in October 2011, despite keeping spam messages on its page.	Panasonic signed an agreement to establish a joint company for recycling business in Hangzhou, China, in May 2011, for recycling home appliances in China. **More information.** Voluntary take-back programmes are not worldwide and do not yet cover all Panasonic's product groups, mainly mobiles, PCs, TVs 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, audio and video and is now available in all 50 States at 310 drop-off points. Information on the different regions, including Europe, China, India and Australia is provided. In Australia Panasonic plans to implement a National Television and Computer Product Stewardship Scheme in 2011. It also plans to expand its programme in India in FY 2011 across key cities in India that include Mumbai, Pune, Delhi, Kolkota and Ahmedabad. Panasonic needs to continue to expand its take-back to more non- OECD countries and product groups. **More information here** and **here.** Panasonic India gives information about its **voluntary take-back for TVs** in 3 cities in India. Information to customers is available in European countries with EPR laws and for electronics, batteries and toner cartridges in US. However, the information on how to recycle is not always easily accessible to customers. No information is available to consumers about the recycling programmes in **China and Japan**. Panasonic provides data on home appliances and PCs recycled in Japan in fiscal 2010 and recycling quantities for the US (PCs, batteries and other) and Korea. **More information.** **For PCs.** For Europe information on recycling rates for 2007 - 2010) based on current sales is provided for 18 countries. Panasonic has undertaken sample tests for the return share of TVs in seven European countries. 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.**



SONY Ranking = 4.6/10 - 1 = 3.6/10

Sony takes joint 9th position, together with Panasonic, with 3.6 points, reduced from 4.6 as a result of a **penalty point**, for comments it has made in opposition to energy efficiency standards in California. Sony also risks a **penalty point** in future Guide editions as it is a member of trade associations that have commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement. On **Products** its performance on the energy efficiency of its products earns top marks; all of its TVs meet or exceed the latest Energy Star standards. It uses comparatively high quantities of post-consumer recycled plastics but no longer provides information on its use of recycled plastics as a percentage of total plastics used. It is less impressive on the other products criteria; it scores no points on product life cycle as it does not report on the length of warranty and spare parts availability for its main product lines. Although it has phased out polyvinyl chloride plastic (PVC) from many of its products the scope of its phase out of brominated flame retardants (BFRs) is limited.

Sony is a top scorer on **Energy**; together with Philips it has the highest score for energy policy advocacy, for calling upon the EU to adopt an unconditional 30 percent reduction target for greenhouse gas (GHG) emissions (below 1990 levels) by 2020, supporting climate protection and clean energy development across the EU. It also gets maximum points for its verified disclosure of GHG emissions for its own operations. It aims to reduce GHG emissions by an absolute value of 30 percent from the fiscal 2000 level and has achieved reductions in its emissions well above the original mid-term target, although it does not specify a target for renewable energy. Sony's strategy for reducing GHG emissions includes energy efficiency and increasing use of renewable energy, which currently accounts for 9 percent of the total amount of electricity that Sony purchases globally each year. It needs to set an ambitious goal to increase its use of renewable energy by 2020.

It performs worst on Sustainable **Operations**; it scores no points on paper policy and it risks a **penalty point** in future editions of the Guide as it is listed as a client of Asia Pulp and Paper (APP), which is responsible for illegal logging and deforestation in Indonesia. Sony should immediately and public commit to stop sourcing any paper or packaging needs from APP. On conflict minerals it has started to identify certain minerals used in Sony products and in its supply chain and will identify measures to eliminate such conflict minerals as far as possible; it needs to map its smelters and suppliers. Sony bases its chemicals management on the precautionary principle; however its programme does not fully implement this. It still has not expanded its take-back programme in non-OECD countries sufficiently, and needs to report its recycling rate globally. It reports on the GHG emissions of its main suppliers, conducts product life cycle assessments and plans to expand the scope of both these initiatives in future.

SONY Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

SONY Detailed Scoring

Energy

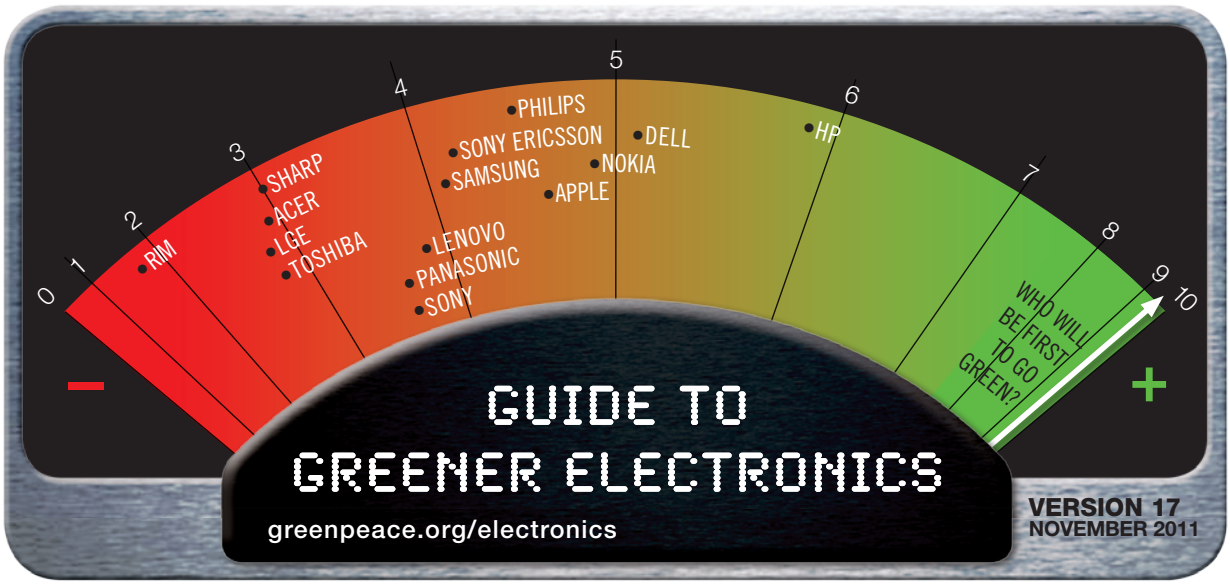
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
3/3	**5/8**	**3/8**	**5/8**
Sony discloses total GHG emissions from its own operations (scope 1 &2) as 1.617 million tons CO_2-e. Scope 3 emissions from business travel are disclosed as 82,000 CO_2-e. Sony also provides data on Scope 3 GHG emissions from the electricity consumed during product use (22.990 million t-CO_2) and emissions from product shipment (549,000 t-CO_2). Sony provides background information and analysis on the source of its GHG emissions. **More information.** **Verification** is provided by Bureau Veritas. **2010 figures** are also provided on its website as 1.53 milllion tons CO_2-e.	Sony has set itself the objective of 'zero environmental footprint' by 2050. To achieve this long term goal, it has specified targets for 2015: it aims to reduce GHG emissions by an absolute value of 30% from the fiscal 2000 level. It also aims to reduce CO_2 emissions from logistics by 14% from the fiscal 2008 level. **More information.** Sony set a target to achieve an absolute reduction in greenhouse gas emissions (calculated in terms of CO_2) of 7% or more from the fiscal year 2000 level by fiscal year 2010. The GHG emissions of 1.53 million tons CO_2-e are down 90,000 tons from the fiscal year 2009 level. This represents a 31% decrease from the fiscal year 2000 level, well above the original mid-term target. Sony also aims to reduce business travel; in North America, Sony Electronics Inc. (SEL) of the United States issued guidelines aimed at reducing international business travel by 80% and domestic business travel by 50% in each of its departments. **More information.** Sony does not specify a target for renewable energy although it does state that it is a key part of its efforts to reduce GHG emissions. It needs to set a goal to increase its use of renewable energy to 100% by 2020. **More information.**	One of Sony's climate change targets to achieve 'zero environmental footprint' is to: "develop technologies that reduce energy consumption of products and facilitate the use of renewable energy and thus improve energy self-sufficiency at the individual level". **More information.** **Sony's strategy for reducing GHG emissions** at its sites is summarised. In 2007 Sony began a programme of 'energy saving assessments' to assess and improve energy efficiency in each global region – 14 sites have been assessed by FY2010. Sony gives details of verified emissions reduction as a result of energy efficiency measures at some sites. **More information.** In fiscal year 2010 the use of the Green Power Certification System and of solar power generation systems helped reduce Sony's CO_2 emissions by approximately 127,000 tons. Renewable energy accounts for 9% of the total amount of electricity that Sony purchases worldwide each year. Renewable energy (supplied by renewable energy sources where possible and the purchase of Renewable Energy Certificates) currently accounts for 100% of total electricity consumption by Sony's major European sites. 100% of the electricity consumed at Sony Electronics sites in the US is offset by certified renewable energy. **More information.**	Sony gives an example of its activities in Japan and states that it "actively supports further introduction of renewable energy in the society as well." It is a key part of the "Green Energy Partnership" that was formed by Ministry of Economy, Trade, and Industry (METI), and manufacturers, retailers, green power generation companies, Green Power Certificate issuers, and representatives of consumers in 2008. R. Chubachi, president of Sony Corporation at the time, stated and first chairman of the Partnership said: "Under this Partnership, we hope to raise awareness of green energy use among all people of Japan. By all of us cooperating and considering good ways to use green energy, we'd like to make Japan the proudest country in the world regarding green energy use." **More information.** Sony is also a member of the World Wildlife Fund (WWF) Climate Savers Program, working to establish ambitious targets to voluntarily reduce CO_2 emissions. **More information here** and **here.** Sony has called upon the EU to adopt an unconditional 30% reduction target (below 1990 levels) by 2020, supporting climate protection and clean energy development across the EU. **More information here** and **here.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
5/5	**1/5**	**2/3**	**0/3**
All models of TVs launched in the United States and Canada in 2011 complied with the International Energy Star® program requirements (Version 4.2), while 100% of models achieved the program's sleep mode power consumption requirements by a margin of 50% or more. Moreover, approximately 79% (37 models) of U.S. and Canada models launched in 2011 complied with the new requirements (Version 5.3) effective September 30, 2011. 100% of new models released after July 2009 have been Version 5.2 compliant. Of those models, 303 models (approximately 23%) exceeded the Version 5.2 requirements by a margin of 50% or more in TEC (Total Energy Consumption) value. **More information.** Sony aims to reduce annual per-product energy consumption by 30% from the fiscal 2008 level. **More information.** However, Sony has made comments in opposition to energy efficiency standards in California, (specifically on the CA Title20 Battery chargers systems and the SB 454: Enforcement of energy efficiency appliance standards) and incurs a penalty point on its total score. Sony is also a member of ITI and CEA, industry associations that recently made comments against stricter energy efficiency standards (a. the inclusion of computers and servers; b. comments against battery chargers systems regulation, respectively) in the scope of the California Appliance Efficiency Regulations. Sony needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	As of March 2011, Sony has phased out the use of PVC (defined as "no use of PVC in casing and cables for internal wiring, excluding accessories") and BFRs (defined as "no use of BFRs in casing and main PWBs of products, excluding accessories") in its products. External cabling is not included and not all wiring boards are BFR-free. **More information.** Sony provides an extensive list of products (including model numbers) that are "PVC/BFR-free", including: Personal Computer "VAIO" Laptops - MP3 players "WALKMAN" - PSP® (PlayStation®Portable) **More information.** However, there are many exemptions from its ban on PVC and its ban on BFRs covers all uses but is limited to PBBs, PBDE and Deca BDE (and therefore does not go beyond regulatory requirements). See details in the **Tenth Edition of Standard SS-00259 for General Use** (p8, 9 & 10). Sony plans to ban the use of another BFR, (HBCDD) as a flame retardant used in plastics in its products, effective from 2015, and the chlorinated flame retardant TCEP, effective from 2014. Sony is working to eliminate specific phthalates, namely DEHP, DBP, BBP and DIBP as plasticizers in cables and cords beginning in 2014, but not all phthalates are banned and the deadline is unreasonable. Sony has banned beryllium oxide from April 2008 with exemptions, although beryllium copper is listed as a controlled substance with no timeline for elimination. Antimony is not listed. **More information.** Sony has a new objective for 2015 to "eliminate environment-related Substances to be Controlled which are of very high concern, polyvinyl chloride (PVC) and brominated flame retardants (BFRs) in certain specified applications". It has clarified that this is all BFRs and that the applications are product chassis and main circuit boards. **More information.**	The Sony Group currently uses more than 24,000 tons of recycled plastics annually in various products, including televisions, recording media, audio products, PCs and digital video cameras. Approximately 98% is post-consumer plastics from used products, containers, etc. Previously, Sony used approximately 17,000 tons recycled plastics annually in various products, representing 10% of all plastics used (by FY 2008). However, it no longer provides information on its use of recycled plastics as a percentage of total plastics used, so although Sony could potentially score maximum points for this criterion, it only earns 2 points. Sony gives an example of the LCD TV BRAVIA™ KLV-32BX320; the ratio of post-consumer recycled plastics used for this product is approximately 30%. Sony also has a goal to "reduce utilization ratio of virgin oil-based plastics in products by 5% from the fiscal 2008 level" by 2015. **More information.**	Sony has design, manufacturing and parts related initiatives aimed at improving the quality, safety and long-term reliability of products. It recognises the importance of parts and resolves to manufacture products built for long-term use. Key parts are selected independently for each of its major product categories and efforts are aimed at increasing the reliability of the parts it uses, through cooperation with relevant departments and Sony's headquarters. Sony also has a Quality Reliability Lab which works on product safety and reliability, in order to deliver safe, long-lasting and reliable products to customers. Sony does not provide information on the average length of product warranties. **More information.** Sony needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	**2/5**	**0/3**	**1/5**	**3/8**
Sony has participated in two projects, one run by the Carbon Disclosure Project (CDP) and one by Electronics Industry Citizenship Coalition, to evaluate supply chain emissions. Trials started in fiscal year 2009 on the emissions from its main contracted original equipment manufacturers (OEM) and original design manufacturers (ODM). From this trial, the emissions of GHGs from ODMs and OEMs associated with Sony products in fiscal year 2009 were partially captured, which amounted to be approximately 640,000 tons. In future Sony intends to expand the scope to include other suppliers. **More information.** Targets in its Green Management Plan (2015) for Procurement are to: 1. Establish a mechanism for determining suppliers' greenhouse gas emissions 2. Contribute to the development of a common industry-wide reporting format. **More information.** Sony conducts product life cycle assessments (LCAs) that quantify the impact of materials and parts production, product assembly and transport, product use and standby mode, and end of life (i.e., disposal and recycling). One of Sony's Green Management 2010 mid-term environmental targets is to conduct LCAs for all major products. **More information.**	Sony references the precautionary principle and clarifies that this means taking action to substitute a chemical even where the scientific evidence is not fully proven. However, Sony makes no mention of the need for RoHS 2.0 to adopt a ban on organo- chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years) as well as an end-of-life focused methodology for adding future substance restrictions. **More information.** Sony provides information in SS-00259 (10th edition, March 2010) Management Regulations and Green Partner programme to ensure implementation of the Regulations. It aims to ban or phase out the use of "controlled substances" in the process of design, manufacture, and distribution of products. However, its approach does not fully implement the precautionary principle. **More information here** and **here.** Sony reports on emissions and restrictions on hazardous substance use at its sites. Sony sites apply internal standards based on Japan's PRTR register. **More information here** and **here.**	Sony is taking measures to reduce its use of paper: The volume of paper used in fiscal year 2010 was 6% below the fiscal year 2009 level. **More information.** Under Green Management 2010, Sony aimed to increase its reused/ recycled materials utilization rate to 12% or higher. **More information.** Sony is also reducing the size of its packages and the amount of packaging that it uses. **More information.** Sony states that it acknowledges "increasing concern regarding the environmental impact of illegal logging by incorporating such considerations into its procurement policies for wood and paper products and will take steps necessary to respond this concern." **More information.** Sony now needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres. However, Sony is listed as a client of Asia Pulp & Paper (APP), which is responsible for the illegal logging and deforestation of rainforest in Indonesia. Sony needs to stop sourcing its paper from APP immediately or risk being penalised in future versions of the Guide.	Sony states that it is working first to identify certain minerals used in Sony products, as well as the respective supply chains. This information will inform its policy framework and the measures necessary to eliminate such conflict minerals - to the greatest extent possible - from its supply chain. **More information.** Sony has joined the EICC but is not an active member of the Extractives Working Group. It has begun tracing but it has not published or publicly mapped smelters or suppliers, as several companies have already done. Sony has no internal policy on conflict minerals. Sony signed up to the Public Private Alliance but has neither made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. Sony did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. It did not participate in the OECD due diligence drafting or engage the public on conflict minerals.	Sony has a nationwide recycling program in the US, together with WM Recycle America and the GreenFill initiative for recycling small electronics via retailers. **More information.** Sony has still not expanded its take-back programme in non-OECD countries sufficiently, although it now links to a third party recycling company in Columbia. **More information.** It was also involved in a recycling event in Costa Rica and a TV trade-in event in Chile. **More information.** In Canada, all Sony handheld products are accepted for recycling, and notebook PCs can be traded in, at its Sony Style stores across Canada. 26 non-retail locations accept all Sony products for recycling at no charge. **More information.** Sony offers battery take-back and recycling in **Brazil, Australia, New Zealand and Argentina.** Sony provides information to individual customers in the **EU, US (including on batteries) and Japan**, but not in Canada. Also see **Sony Take Back Recycling Program for the US**. In fiscal 2009, Sony recovered 112,122 tons of end-of-life products from Japan, Europe, North America and South Korea, including TVs and PCs from Japanese consumers; the collection rate for TVs and PCs in Japan was approximately 88%, based on their average lifespan. 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. (see links above for these regions) **Recycling in Europe and ERP**.



SHARP, 11th position, 3/10

Sharp takes 11th place, with a score of 3. On the **Energy** criteria it does comparatively well on public support for a clean energy policy, for advocating to the Japanese Government to expand the use of renewable energy, stressing the importance of setting a good feed in tariff. It has a relative long term target to reduce CO_2 emissions globally by 2 percent (per production unit) compared to the previous year, for every fiscal year, but no clear target for absolute reductions; it needs to set ambitious targets and aim to reduce its own greenhouse gas (GHG) emissions by at least 30 percent by 2015 for its operations. Its use of renewable energy was approximately 0.5 percent of the electricity used worldwide and it intends to increase this use, however, there is no target, even though it is a solar power manufacturer. It needs to aim to dramatically increase renewable electricity use by 2020. Sharp reports its GHG emissions from its own operations, which are externally verified, but does not report on business travel.

It scores most of its points on the **Products** criteria for the energy efficiency of its products, reporting that all of its TVs meet the latest Energy Star standard, with 90 percent of them exceeding the requirements for sleep mode. However, it risks a **penalty point** in future Guide editions as it is a member of a trade association that has commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement. Sharp has many products that are free from polyvinyl chloride plastics (PVC) but its phase out of brominated flame retardants (BFRs) is mostly limited to casings and it has not met its commitment; it it needs to communicate the dates when new products will be free of PVC, phthalates, BFRs and antimony. It reports on its use of recycled plastics but not as a percentage of total plastics used. Sharp provides some examples of extending product life cycle but does not publicly disclose the length of warranty and spare parts availability for its main product lines.

Sharp scores least points on the Sustainable **Operations** criteria; it only scores a few points for its take-back programme which is focussed on countries with existing legislation, with expansion plans only where future legislation is likely. Sharp provides detailed reports on GHG emissions of its main manufacturing sites, but does not present these as a total or have an overall reduction plan. It scores no points for chemicals management as it is not implementing its support for the precautionary principle or communicating commitments it has made on phasing out hazardous substances in a consistent way to its supply chain. Also lacking is any significant initiative to address the conflict minerals issue or to exclude the sourcing of paper from suppliers that are involved in deforestation and illegal logging.

SHARP Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

SHARP Detailed Scoring

Energy

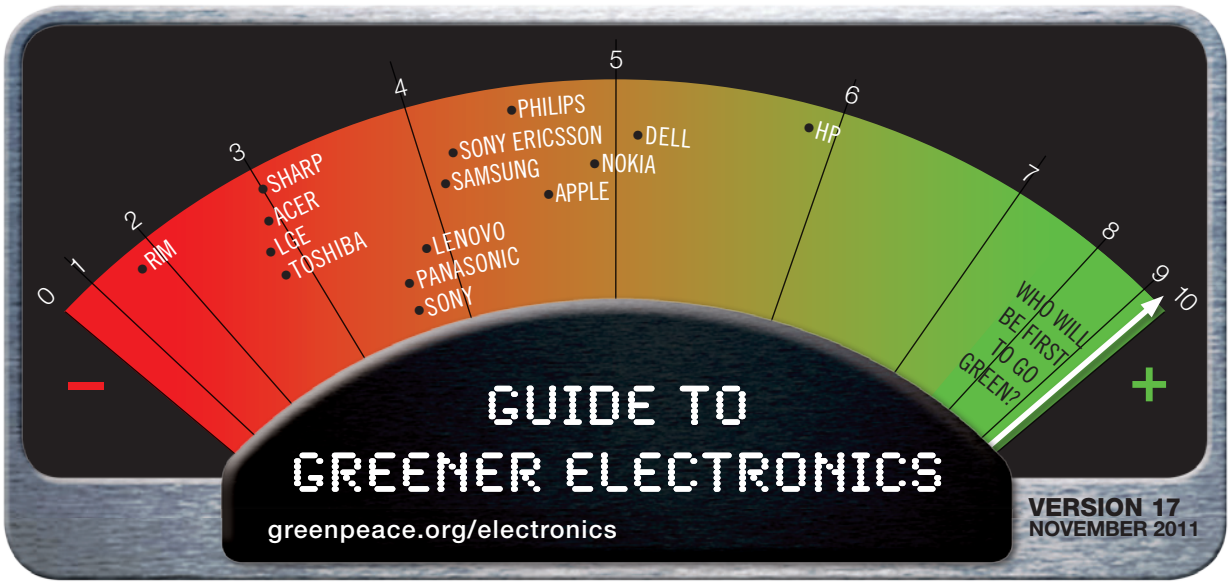
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
2/3	**1/8**	**2/8**	**3/8**
Total GHG emissions from Sharps operations are reported as 1,634 thousand tonnes CO_2-e in fiscal 2010; the data is subdivided into emissions from Sharps plants in Japan, overseas plants, offices in Japan and overseas and PFCs. **More information.** Scope 3 emissions for business travel are not reported, but Sharp plans to establish a reporting method. Data is also reported in **Sharps CSR report** (see ESR p 060) **Verification** is provided. Sharp also reports on its scope 3 emissions for shipping in Japan as 50,000 tons CO_2. **More information.** Sharp provides background information and analysis on the source of its GHG emissions. For more points it needs to report on its GHG emissions from business travel.	Sharp reports an increase in total greenhouse gas emissions in fiscal 2010 of 9% compared fiscal 2009, as a result of increased production of LCD panels and solar cells. Levels are still below their baseline year of 2007. **More information.** By fiscal 2012, Sharp's goal is to have emission reductions that result from customer use of Sharp energy-creating and energy-saving products be more than double the total GHG emissions from business activities. **More information.** Sharps aims to increase this target to 5 times its GHG emissions by fiscal 2015 and 10 times by fiscal 2020. However, the proportion of emissions reduction from operations that makes up this objective is not explained. **More information.** Sharp's global long term target is to reduce CO_2 emissions by 2% (per production unit) compared to the previous year, for every fiscal year. For 10 of its plants in Japan, it aims to make absolute cuts to below 2007 levels, every fiscal year, and to cut by 3% compared to business as usual (BAU), every fiscal year. See p. 030 **ESR 2911**. Sharp needs to focus on both absolute and relative reductions and set objectives separately for its consumer products and its solar power businesses. It needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and dramatically increase renewable electricity use by 2020.	Sharp has installed photovoltaic power systems at all of its domestic production sites; the electricity generated by renewable energy was approximately 0.5% of the electricity Sharp used worldwide in the same year. Sharp plans to install further solar power using available roof space. **More information.** Sharp also uses renewable energy in the US and Europe; 10 sites in Europe operate on renewable energy and in the US two sites use 85% renewable energy. **More information.** It aims for reductions in GHG emissions through energy efficiency at its sites worldwide and provides detailed case studies – see **ESR p. 055, 056, 057 CSR report**. Sharp aims to become a total solutions business for solar-generated electric power. **More information.** However, there are no specific mid or long term targets for increasing use of renewable energy or reducing emissions through energy efficiency.	On August 26th, 2011, Mr. Katayama, president of Sharp Corporation and also the chairman of JPEA (Japan Photovoltaic Energy Association), advocated to the Japanese Government to expand the use of renewable energy and publish a report, stressing the importance of setting a good tariff which is attractive enough for investments from companies. **More information.** Mr Katayama was interviewed by the Wall Street Journal about solar power. **More information.** Sharp previously stated its support for 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. It needs to update its webpages to re-state this support.

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
5/5	**1/5**	**1/3**	**1/3**
100% of Sharp TVs (61 models) meet the latest Energy Star requirements (May 1, 2010). Almost 90% of them are at least 50% more energy efficient than the Energy Star baseline requires in sleep mode, and almost 50% of them are at least 30% more energy efficient in on mode. 100% of Sharp MFPs (88 models) meet the Energy Star requirements for imaging equipment (ver. 1.1). Although the Energy Star requirements have been changed since July 1, 2009, 30% of them are at least 30% more energy efficient than the Energy Star baseline requires. **More information.** Sharp aims to continuously improve the energy efficiency of its products and sets objectives for the development of environmentally conscious products and devices as well as assessment standards for certification. **More information.** However, Sharp is a member of CEA, an industry association that recently made comments against the battery chargers systems regulation in the California Appliance Efficiency Regulations. It needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	Sharp lists many products that are free from PVC and phthalates (except accessories), including LCD TVs, solar modules, LED lighting, small household appliances, mobile phones, calculators, electronic dictionaries. Model numbers are listed. BFR and antimony free products are listed as: LED Lighting, Theatre Racks, Home Video System, electronic dictionaries. Products with only casings free from BFRs are: LCD TVs, blue-ray recorders/players, video projectors, copiers/MFPs, supplies, mobile phones. Sharp's commitment was to phase out the use of PVC, phthalates, BFRs and antimony by fiscal year 2010, provided it can find suitable alternatives. Not all products are free from PVC and phthalates; BFRs and antimony have only been removed from casings in the majority of products such as LCD TVs. Sharp states that it will "continue these efforts to expand the product categories and models that require the elimination of BFRs and antimony compounds." However, as Sharp has now gone past its timeline without fully meeting its commitment, it needs to communicate the dates when new products and components will be free from PVC, phthalates, BFRs and antimony in order to complete its phase out. The company has already banned beryllium oxide, but there are many exemptions for which Sharp needs to find substitutes. **More information.** Sharp's internal certification standards for its green products include "uses no halogenated flame retardants, uses polyvinyl chloride substitutes". (See p. 041 **ESR, CSR Report**)	Sharp has developed recycling technology for repeatedly recovering plastic from used consumer electronics and reusing it in parts of new consumer electronics. In fiscal 2010, the volume of plastic derived from this closed-loop plastic material recycling technology that was recycled and reused in new products increased to 1,300 tons. **More information.** Also see p.034, **ESR, CR Report**. **Recycling technology for LED and LCD panels**, p. 035 **Recycling of bioplastics**, p. 036. Examples of products with environmental attributes, including the use of recycled plastics. P 044 – 048, **ESR – CSR 2011** Sharp's objective is to use 1,500 tons of post-consumer plastic in 2012, p. 029. Sharp also needs to present its post-consumer plastics use and targets as a percentage of total plastics used. **More information.**	One of Sharp's Green Device concepts is Long Life - to "extend the life of the product with exchangeable parts and consumables." **More information.** Sharp has developed many long life products; see for example its products catalogue which shows the future of long life in products. (**See p.4**) The Zenigata series LEDs for lighting has a design life of 40,000 hours or more. **More information.** Sharp needs to publicly disclose the length of warranty and spare parts availability for its main product lines for more points. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	**0/5**	**0/3**	**0/5**	**3/8**
Sharp's objectives for absolute cuts (see E3) are focused on its 11 main plants in Japan. Its reporting on GHG emissions also covers its global operations. However, the scope that these reported emissions cover is not reported (eg. Scope 1,2 & 3 for its manufacturing supply chain). It has many plants, subsidiaries and affiliated companies outside Japan (**see list**:). Each site has a detailed environmental report which includes GHG emissions, energy efficiency measures and use of renewable energy. Sharp provides data giving a breakdown of CO_2 emissions for products (LCD TVs, refrigerators and air conditioners) during their life cycle. **More information.**	Sharp shows strong support for and understanding of the Precautionary Principle, however, in practice it is not fully implementing this principle. Sharp makes no mention of the need for RoHS 2.0 to adopt a ban on organo-chlorine and bromine substances (at least PVC, CFRs and BFRs within 3 – 5 years), as well as an end-of-life focused methodology for adding future substance restrictions. **More information.** Also in **Fundamental Orientation Concerning the Environment** (point 2.3). Sharp sets out its management system for **Green Procurement**. However, its list of substances no longer presents criteria for identifying future substances for elimination. In addition, "other BFRs" are listed as "managed substances" and not "banned, depending on the application" as PVC and phthalates are. Antimony is not listed at all. This contradicts Sharp's statement that it is making moves to "eliminate BFRs and antimony compounds from new products put on the market since the end of fiscal 2010" (see P2 above). Therefore Sharp scores no points for this criteria. **List of substances.** Suppliers are not required to report on their use of all BFRs or antimony. **More information.** See also "**Request to Provide Information on Chemical Substances contained in Parts/ Materials Related with REACH**". Sharp has a Manual for Survey of Chemical Substances Contained in Parts and Materials; however, it is no longer available to the public, see p.6 & 12. **Green Procurement Guidelines** (new version, June 2011).	Sharp states that it has detailed measures in each step of the value chain for ensuring that business activities exert minimal impact on biodiversity. **More information.** It requires suppliers to "establish a policy on the conservation of biodiversity and the sustainable use of natural resources in business activities". **Green Procurement Guidelines** (new version, June 2011), pp. 11 & 18. Its **Green Office Certification Standards** require the use of FSC paper. Sharp needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	Sharp began asking suppliers in January 2011 whether such minerals are contained in products and materials supplied to Sharp, and, if so, what is their country of origin." **More information.** However, this is the step that the leading companies took in 2008, so Sharp lags behind publicly mapping smelters or suppliers, as several companies have already done. Sharp has not joined the EICC audit process and does not have an internal audit policy on conflict minerals. It has not signed up to the Public Private Alliance, made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. Sharp did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. Sharp did not participate in the OECD due diligence drafting, and has not engaged the public on conflict minerals.	Sharp offers nationwide recycling in the US, including TVs and consumer electronics, which covers all US States. In the US, Sharp is part of US EPA's Plug-In To eCycling. It offers voluntary take-back of toner cartridges in Canada, France Japan, Australia and New Zealand, and mobiles (Mobile Muster) in Australia. Links to local Sharp contacts for customers in EU, US, Canada, Japan and Australia are provided. In countries where recycling legislation is currently being considered, such as China, Thailand, and India, Sharp is actively cooperating with industry associations in the construction of effective recycling systems. Sharp needs to expand take-back services to non-OECD countries, especially those where recycling legislation is not likely in the near future, or it could lose points in the next version of the Guide. **More information.** **US MRM recycling network**. Total figures are provided for amounts of e-waste collected in 3 European countries and in the US, but not as a percentage of sales. For Japan, Sharp provides figures for recycling of TVs, copiers, PCs & washing machines (by wt) from 2005 (40.1%) to 2010 (106.6%), based on sales 10 years ago. **More information.** It now provides a breakdown of the quantities and recycling rates for these 4 product categories. **More information.**



ACER, 12th position, 2.9/10

Acer takes 12th position with a score of 2.9. It is weakest on the **Energy** criteria, scoring nothing for its objectives to reduce greenhouse gas (GHG) emissions, as although Acer intended to set these targets in 2010, this has not been done. Acer has drawn up an "energy reduction policy" with five major directions, including increasing energy efficiency and the purchase of carbon credits for renewable energy; it reports on energy efficiency savings. It supports cuts of 30 percent by 2020 from industrialised countries but needs to set some ambitious targets of its own, to reduce GHG emissions by at least 30 percent by 2015 for its operations and to dramatically increase renewable electricity use by 2020. It also does not provide external verification for the GHG emissions that it reports for its operations and business travel.

It does not do much better on **Products**; it scores no points on product life cycle and needs to publicly disclose the length of warranty and spare parts availability for its main product lines. However, it does report on the use of post- consumer recycled plastic in monitor casings of seven families of EPEAT Gold models. It has also launched many new models of products that are free from polyvinyl chloride plastic (PVC) and brominated flame retardants (BFRs) and it has informed Greenpeace that the majority of its products will be PVC/BFR free in the near future. A higher percentage of its products need to meet or exceed the latest Energy Star standards in order for it to score more points on product energy efficiency.

It scores most of its points on Sustainable **Operations**, doing particularly well on chemicals management for its lobbying for restrictions on organo-halogens and for its precautionary approach to chemicals, although it does need to update its chemicals management systems and make them more thorough. Acer scores well for reporting on emissions of GHGs from its first tier suppliers and is investigating the second tier; Acer's programme includes auditing and reduction targets. It publishes the results of a survey it did of its suppliers on use of conflict minerals but does not yet provide a map of its smelters or suppliers. It fails to score on paper sourcing as it doesn't specify the need to source FSC paper or aim to avoid the use of fibres from illegal logging or deforestation.

ACER Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

ACER Detailed Scoring

Energy

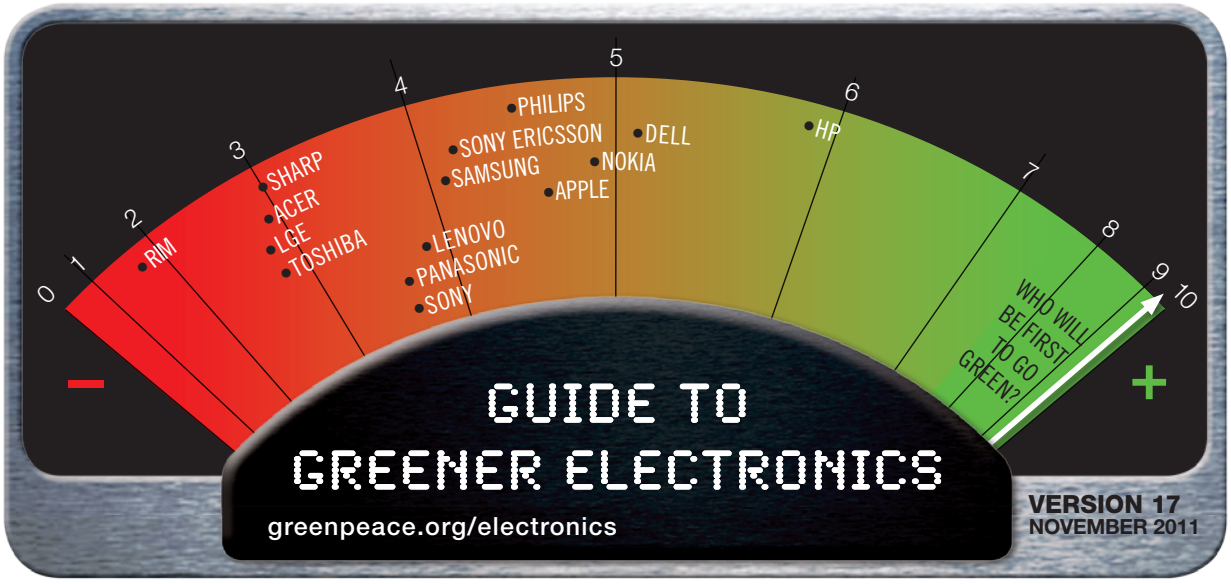
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
2/3	**0/8**	**1/8**	**1/8**
Acer calculates GHG emissions of worldwide operations in 2010 at around 132,040 tonnes carbon dioxide equivalents (CO_2e). Over 60% of emissions are generated by Acer e-Enabling Data Center's (eDC) data supply and storage services. Excluding eDC's operations, total GHG emissions in 2010 amount to 44,073 tonnes CO_2e. This data covers Scope 1,2, and 3 and includes emissions from product use and supply chain inventory. **Acer Corporate Responsibility Report 2010**, pp. 9, 34 & 35 Slightly different figures for 2009 (35,750 CO_2e) are reported on Acer's website. This figure includes 3,083 tons CO_2e for business travel. External verification is not provided for its GHG emissions data, however, Acer states that by "training our personnel to establish more complete and reliable procedures for evaluating emissions data we will be better placed to facilitate third party verification and also to respond to stricter standards for data reliability in the future." **More information.** For more points Acer needs to provide external verification and more background information and analysis on the source of its GHG emissions (on its website or CR report).	One of Acer's 2010 goals was to develop GHG reduction goals. Acer states that: "In 2010, to improve inventory comprehensiveness, Acer redefined its organization boundaries, and will move to set an appropriate GHG reduction goals accordingly." **Acer Corporate Responsibility Report 2010**, p. 6 Previously Acer expected to finalise its short-term, mid-term and long term GHG reduction targets in 2009. This was already delayed as previously Acer expected to finalize its mid- and long-term GHG reduction targets in winter 2008. (**previous web-page**) GHG emissions have risen substantially since 2007 but have reduced slightly from the 2009 level. P.35, CR Report 2010. Acer needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and dramatically increase renewable electricity use by 2020.	Although Acer has no goals or targets, it has drawn up an "energy reduction policy" with five major directions, including increasing energy efficiency and the purchase of carbon credits for renewable energy. **More information.** Acer states that it is "now planning to assess the feasibility of investing in projects to generate or purchase renewable energy to offset our emissions in the future." Previously Acer reported that a global survey was conducted in 2008 on purchasing renewable energy and that it was assessing the feasibility of using renewable energy, however it has still not updated its website with the results of this survey. **Acer Corporate Responsibility Report 2010**, p. 37 **More information here** and **here.** Details of energy efficiency savings that have been made are provided, as well as information on the installation of a combined solar and wind power generation system at its e-enabling Data Centre in Taiwan, the first of its facilities to install renewable energy. Acer has also pledged, along with other enterprises, to reduce electricity consumption by 5% within three years, as part of a voluntary carbon reduction plan promoted by the Bureau of Energy, Ministry of Economic Affairs in Taiwan. P. 37, 38 CR Report.	Acer states that it "offers support both directly and indirectly to enhance policymaking efficiency: it participates in the policy enactment process by offering its own frontline experiences, and involves in organizations concerned with such issues to provide industrial perspectives. These issues encompass wide-ranging concerns on a global, regional, and local level in Taiwan – where Acer is headquartered." **Acer Corporate Responsibility Report 2010**, p. 23 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 also supports calls for global GHG emissions to peak by 2015. **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
2/5	**2/5**	**1/3**	**0/3**
63.2% of notebook PCs and 40.6% of desktop PCs (52% in total) are compliant with Energy Star 5.0. The typical energy consumption (TEC) of Aspire Timeline 4810T notebooks is about half the Category A requirement of Energy Star 5.0. Its PowerSmart adapter in no-load mode can reach 0.1 W, which is 67% better than the Energy Star requirement of 0.3 W. However, this requirement is now out of date and Acer needs to report on the percentage of its EPSs that meet Level V of the International Efficiency Marking Protocol for External Power Supplies. Acer gives the example of optimal system efficiency; to increase the product energy efficiency, an energy-saving systematic design is used instead of increasing the battery capacity. Each notebook features a Acer PowerSmart key that extends battery life automatically increasing energy efficiency when activated. **More information.**	New BVR/PVC free products that have been launched since 2010 Q3 are: - sixteen new models of TravelMate and Gateway notebooks that are BFRs/PVC-free (except external cables) - Four new monitors. - Acer's first BFR/PVC-free Desktop "aHornet" – another is due later in 2011. - ICONIA SMART is the first BFR/PVC-free Smart Handheld that Acer launched in 2011 Q3 **More information.** These add to Acer's existing BFR/PVC-free products, such as the four notebooks launched in January 2010 and the 16 models of LCD monitor launched since October 2008. Acer has a new timeline and roadmap for eliminating PVC and BFRs of 2011, which now applies only to personal and mobile computing products; its previous commitment applied to all products. **More information.** Acer has informed Greenpeace that the majority of its products will be PVC/BFR free in the near future. **More information.** 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 2011, along with PVC and all phthalates by 2012. **More information.**	Acer uses a material containing 28% post- consumer recycled plastic in monitor casings of 7 families of EPEAT Gold models. The recycled plastic percentage will be around 10%~13% of all plastics used in the monitor. Acer intends to draw up a phase-in plan with a detailed schedule and targets. **More information.**	No information. Acer needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
3/5	**4/5**	**0/3**	**1/5**	**3/8**
GHG emissions from Acer's supply chain are also included in its overall data (see above E1) Acer requires ODM suppliers to disclose product carbon footprints in the R&D and manufacture stages, taking 2008 as the baseline year. It also conducts on-site audits to verify the GHG data of all suppliers. In 2010 Acer continued to request carbon data disclosure from first and second tier suppliers and set a 3% reduction target for all supplier products. Acer aims for all product line ODM partners to be a part of this working group by the end of 2011. **Acer Corporate Responsibility Report 2010**, p.39 A preliminary figure for GHG emissions from the first tier of the supply chain is around 220,000 tons of CO_2-e allocated to Acer's products in 2010. GHG emissions from the second tier of the supply chain are still under investigation. **More information.** Acer has published carbon footprint disclosure for two of its products, which identifies raw materials, manufacturing and use as the source of the majority of GHG emissions, p36, CR Report. Acer also began actively participating in the WRI/ WBCSD Greenhouse Gas Protocol Scope 3 & Product Life Cycle Accounting and Reporting Standards Road Testing in 2010. See p.40 CR Report.	Acer's statement on the precautionary principle recognises the need for preventive action, even if scientific evidence is not conclusive. **More information.** Acer is proactively supporting a ban on organo - chlorine and bromine substances in the revision of RoHS 2.0 and scores maximum points for providing evidence of actively promoting this position to EU decision makers. **More information here** and **here.** **Acer describes the mechanisms for identifying future substances of concern**. Green Supply chain management information has not been updated with the latest restrictions requirements. Hazardous substances that are restricted for use in products should also be used intentionally in production processes. Acer needs to update its chemicals management systems and make them more thorough. **More information.** **HSF (Hazardous Substance Free) Planning.**	Acer sets out its policy on packaging, which is focussed on making its packaging recyclable and free from hazardous substances. However, it doesn't specify the need to source FSC paper, or to use recycled post-consumer fibres. There's no aim to avoid the use of fibres from illegal logging or deforestation. **More information.** Acer needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	Acer has issued a statement for Materials (Metals) Extraction to its suppliers and announced that it will not accept illegally extracted metals or metals that are extracted under inhumane working conditions. **Acer Corporate Responsibility Report 2010**, p.44 - 45 Acer also reports on the results of a survey of its suppliers that it undertook in 2009. **More information.** Acer has joined the EICC initiative also but has not yet publicly mapped its smelters or suppliers. It has also joined the EICC audit process but does not have an internal audit policy on conflict minerals. Acer has not signed up to the Public Private Alliance; it has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. Acer did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. It did not participate in the OECD due diligence drafting or engage the public on conflict minerals.	Acer Indonesia launched the Acer Goes Green voluntary recycling program in April 2010, offering consumers a 100,000 rupiah coupon for turning in computer components that may contain PVC or BFRs and have passed their warranty period, including motherboards, keyboards, ODDs, LCD monitors and HDDs. All Acer service centres in Indonesia provide recycling services. Acer also reports on recycling activities in South Africa and America. **Acer Corporate Responsibility Report 2010**, pp.29. 31. Acer also takes back and recycles for free in India. 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. **More information.** However, although Acer doesn't provide the link, it does in fact have a **US website for recycling**. Recycling information is provided for EU, Japanese, Taiwanese and Indian customers only. In the EU, some of the links provided navigate to trade associations (e.g. Czech Republic) and not to recyclers. Recycling information for Indonesia is only in its CSR report and not the website and there is no link to its US recycling programme. Acer needs to update its website or lose points in the next version of the Guide. **More information.** **Europe.** **Taiwan.** **Japan - PC recycling.** **India**. Acer reports a recycling rate of 35.75% in 2010 based on sales 6 years ago, for desktops and notebooks sold and recycled in Taiwan. However, data on the recycling rate is only for Taiwan. The total quantities recycled in Japan and America are also reported. **Acer Corporate Responsibility Report 2010**, pp.29. 30.



LGE, = 13th position, 2.8/10

LGE scores 2.8 points and takes joint 13th place, together with Toshiba. It benefits from having a penalty point lifted, imposed for backtracking on its commitment to have all its products free of polyvinyl chloride (PVC) plastic and brominated flame retardants (BFRs) by the end of 2010. All of LGE's mobile phones are now free from PVC and BFRs as well as phthalates, antimony trioxide and beryllium oxide; other products such as TVs and notebooks have many PVC/BFR free parts and LGE aims to phase these substances out from TVs monitors and PCs by 2012 and household appliances by 2014. On other **Products** categories LGE scores best for its product energy efficiency; it regains points that it lost in the last edition by making a strong statement in support of more stringent Energy Star verification standards. LGE reports on the quantities of post-consumer plastics that it uses and gives an example of a product with recycled content, but does not have a target to increase its use of recycled plastics. It does not yet score on the product life cycle category, as there is no information on product warranties or replacement parts availability.

It scores least points on the **Energy** criteria; it sets an weak target of 10 percent reduction of greenhouse gas (GHG) emissions from its operations by 2020 which needs to be at least 30 percent by 2015. It has achieved a yearly GHG gas reduction of approximately 20,000 tons through various energy efficiency measures; however, although it has plans to increase its use of renewable energy this is not part of its low carbon strategy. It needs an ambitious target to dramatically increase renewable electricity use by 2020 and a strategy to implement this. It earns a point for its support for mandatory cuts of at least 30 percent in industrialised countries by 2020. LGE also reports on its GHG emissions for its operations and business travel but although it has verification for its emissions in Korea, it is still awaiting verification for its global emissions.

It earns most of its points on Sustainable **Operations**. It provides take-back in 52 countries for obsolete mobile phones, (although this page is no longer accessible from its main take-back pages), but needs to continue to expand its programme for all its products in non-OECD countries. LGE no longer reports its recycling rates as a percentage of past sales. Its policy on chemicals is based on the precautionary principle and its communication with its suppliers on chemicals management reflects its hazardous substance phase out plans. LGE does not yet publish data on GHG emissions from its supply chain but has begun to work with suppliers to gather this information. LGE is engaged in the process to address conflict minerals but has not publicly mapped smelters or suppliers and does not yet have a policy. It scores no points for paper sourcing and risks a **penalty point** in future Guide editions as it is listed as a client of Asia Pulp and Paper (APP), which is responsible for illegal logging and deforestation in Indonesia. LGE should immediately and publicly commit to stop sourcing any paper or packaging needs from APP.

LG ELECTRONICS Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions			■	
GHG emissions reductions and targets		■		
Clean Electricity Plan (CEP)		■		
Clean Energy Policy Advocacy		■		
Product Energy Efficiency			■	
Avoidance of Hazardous Substances in Products		■		
Use of Recycled Plastic in Products		■		
Product Life-Cycle	■			
Measure and reduce energy consumption in the supply chain		■		
Chemicals Management and Advocacy			■	
Policy and practice on sustainable sourcing of fibres for paper	■			
Policy and practice on avoidance of conflict minerals		■		
Provides effective voluntary take-back where no EPR laws		■		

LG ELECTRONICS Detailed Scoring

Energy

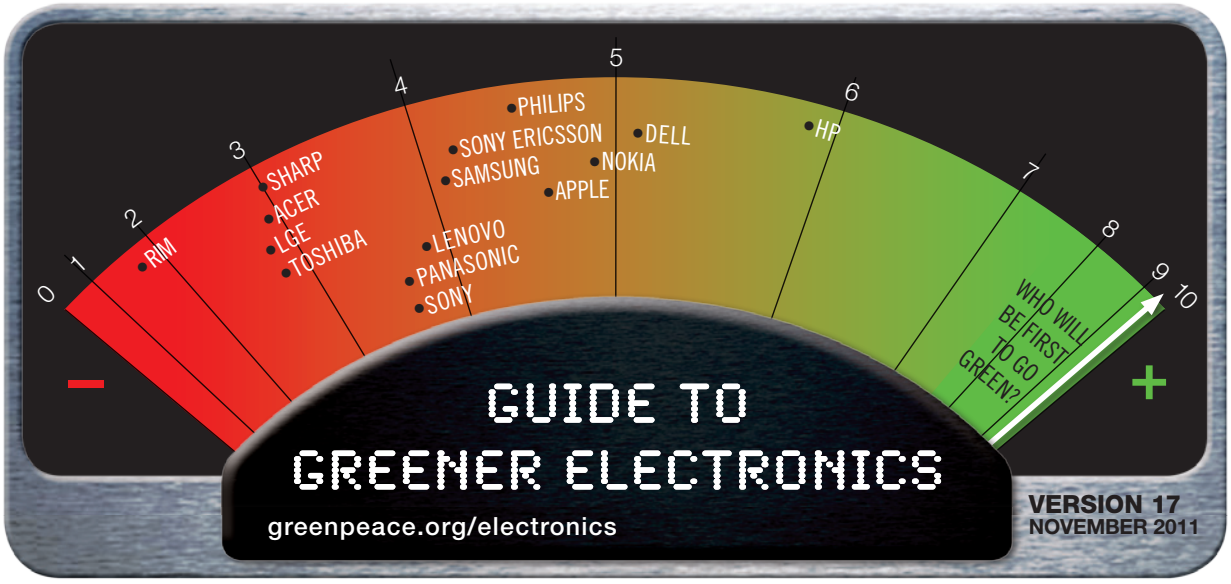
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
2/3	**1/8**	**1/8**	**1/8**
LGE reports global GHG emission data (Scope 1,2 &3) for 2008 – 2010. The data includes 12 Korean operations and 29 overseas manufacturing operations. Emissions from business travel are also reported, although business travel of employees outside Korea is not yet included. LGE provides third-party validation for its 13 manufacturing sites in China, although the certificates are not legible. LGE is in the process of obtaining third party verification for all the data, as it notes that the data may vary slightly after verification. **More information.** See also p.44 **Sustainability Report 2010, Environment.** For more points LGE needs to provide external verification for al its data and more background information and analysis on the source of its GHG emissions (on its website or CR report).	LGE aims to reduce GHG emissions from manufacturing by 5% (75,000 tons) below the 2008 level (of 1,529,000 tons CO_2-e) by 2012 and by 10% (150,000 tons) by 2020. LGE set a target to reduce 100 kilo tons in production levels of GHG in 2010 compared to 2008 and achieved a 160 kilo tons GHG reduction through diverse activities. The difference between the manufacturing level objective and the production level objective isn't clear. **More information.** See also pp.43 & 44 **Sustainability Report 2010, Environment**. LGE needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and use 100% renewable electricity by 2020.	LGE sets out its low carbon strategy on its website and in its Sustainability Report (p.43). LGE achieved a yearly GHG gas reduction of approximately 20,000 tons by improving the energy efficiency of compressors and air handling units, respectively used in the manufacturing facilities of air conditioners as well as household appliances and mobile phones. LGE also reports on yearly reduction of 10,000 tons of GHG emission and KRW 3.1 billion of energy consumption of GHG emissions from a new incineration system compared to the previous LNG system; however, incineration can't be considered as renewable energy and can release toxic substances. Solar power is LGE's new energy business. It has installed its solar modules at the Gumi 1 Site, which provide up to 20-30% of electricity used in the administration offices. LGE plans to expand its solar power production to 330MW in 2011. It also aims to increase production capacity and research and development in its solar power business, to achieve a revenue goal of KRW 300 million by 2015. However, Renewable energy isn't part of LGE's low carbon strategy. See pp.43, 44 & 46 **Sustainability Report 2010, Environment.** **More information.**	LG Electronics is actively participating in activities developed by international organizations, including the UN and the Electronics Industry Citizenship Coalition. 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…" as well as mandatory cuts of at least 30% in industrialised countries by 2020. **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
3/5	**2/5**	**1/3**	**0/3**
LGE reports that about 78% of its TVs comply with Energy Star 4.1, but has not reported on compliance of its other products. **More information.** LGE now makes a strong statement in support of more stringent ES verification standards and states that it "will fully cooperate with other project partners and contribute to the collective efforts to enhance reliability of energy efficiency verification methods. Besides, LG Electronics is strongly in support of stringent Energy Star verification standards led by US Department of Energy in order to promote market transparency." Previously, LGE lost points because it was caught making false claims about the energy efficiency of its white goods, resulting in Energy Star labels being removed from the products. **More information.** LGE also aims to reduce GHG emissions during the product use phase, it set a reduction target of 30 million tons of GHG emissions from 'Business As Usual' in 2020. LGE intends to maintain its efforts to develop high efficiency products. See p.43, **Sustainability Report 2010, Environment.**	All LGE mobile phones are free from PVC and BFRs, as from 2010. Other substances phased out from new mobile phones are phthalates and antimony trioxide from January 2011 and beryllium oxide from 2002. Monitors have been PVC/BFR free for all mechanical plastic parts such as cabinet, back cover, stand and packing since 2009. LCD TVs have many parts free from PVC and BFRs, including housings. All laptops have PVC/BFR free housings and the X300 and P210 models have PVC/BFR free HDD, ODD, FET, DC jack, and IC for P210 model. All Optical Disk Drives are PVC/BFR free from 2009. Steam cleaners and vacuum cleaners also have PVC/BFR free parts LGE backtracked on its commitment to eliminate PVC and BFRs in all its products by 2010. Now only mobile phones are free of these toxic substances from 2010; PVC and BFRs will now be banned from TVs, monitors and PCs by 2012, which is no longer a reasonable timeline. PVC and BFRs will be totally banned from use in household appliance models by 2014. Details about the phase out of PVC and BFRs in components for these products show progress towards these objectives. The use of phthalates and antimony will be prohibited for all new TVs, monitors, PCs by 2012 and all new household appliances by 2014. The use of beryllium oxide in mobile phones has already been phased out and other kinds of beryllium compounds will be prohibited in new products by 2012. **More information.**	LGE uses post-consumer recycled materials (e.g.recycled plastic: recycled polypropylene(PP) and acrylonitrile butadiene styrene(ABS) accounts for 667 tons from the 625,000 tons of plastic used in 2009). In 2010, LGE used a total of 2,014 tons of recycled plastic: 3.3 tons of polycarbonate, 1,221 tons of PP, 506 tons of ABS and 284 tons of ABS+PET. The mobile phone LG-VN270 uses recycled plastic. LGE does not currently have a target to increase its use of post-consumer plastic. See p.39, 42, **Sustainability Report 2010, Environment**.	LGE provides no information on average length of warranty or product replacement parts, or other information about extending product life cycle. **Environmental attributes of products are listed.** See p.38-39, **Sustainability Report 2010, Environment**. LGE needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
1/5	**3/5**	**0/3**	**1/5**	**3/8**
LG Electronics states that it "is planning to construct a low carbon supply chain by implementing low-carbon procurement from suppliers who actively participate in the GHG reduction. The low carbon purchase is intended for selection of preferred suppliers who have the GHG reduction objectives, and the purchase volume will reach KRW 50 trillion in 2020. We will gradually provide suppliers with GHG inventory and monitoring system setup, third party validation, GHG reduction know-how consulting and training services to support their low-carbon green management." **More information.** LGE has carbon footprint labels that are third party certified for 12 of its products. It plans to extend this to its other products such as TVs and refrigerators. Based on the carbon footprint, LGE makes efforts to reduce the GHG emission in each required step. However, the data does not appear to be available. See p.45, **Sustainability Report 2010, Environment.**	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.** However, LGE makes no mention of the need for RoHS 2.0 to adopt a ban on organo- chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years) as well as an end-of-life focused methodology for adding future substance restrictions. LGE's product specs in the updated (6th edition) "LG Electronics manual of the hazardous substance management in the parts and models" reflects its plans to phase out hazardous substances and also identifies the phase out of future substances to be reduced, such as musk xylene by 2014 from all products. Chlorinated flame retardants have also been phased out from mobile phones. LGE requires 'non-use certification' for its parts and products; this also needs to apply to the use of its listed substances in production processes. **More information here** and **here.**	LGE does not have a policy on the sourcing of fibres from sustainable forestry or the use of recycled paper. LGE states that "we try to improve packaging as well as products in an ecofriendly manner. We have invented various types of packaging methods to store and deliver products safely using less harmful resource and fewer materials. We also adjust the size and way of packaging to increase the transportation efficiency." **More information.** LGE needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres. However, LGE is listed as a client of Asia Pulp & Paper (APP), which is responsible for illegal logging and deforestation in Indonesia. LGE should immediately and publicly commit to stop sourcing any paper or packaging needs from APP or risk being penalised in future versions of the Guide.	LG has joined the EICC initiative but has not publicly mapped smelters or suppliers, as several companies have already done. It has also joined the EICC audit process but does not have an internal audit policy on conflict minerals. LG has not signed up to the Public Private Alliance; it has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. It did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. LG did not participate in the OECD due diligence drafting and it has not engaged the public on conflict minerals. In addition, no details of its policy or programme on conflict minerals are available on its website. **More information.**	LGE aims to establish a global take-back programme. See p.41, 42, **Sustainability Report 2010, Environment.** 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. However, LGE no longer links to this programme from its recycling home page. **More information.** The **previous website** is still current. 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 here** and **here.** LGE is now offering take-back of its products in India, in addition to mobile phone take-back. **More information.** For more points, LGE needs to provide voluntary take-back of more product types and in more non-OECD countries. LGE reports the total quantities recycled in Europe, Korea, Japan and North America from 2006 to 2010. Data by country and by product type is also provided. However, LGE no longer reports its recycling rates as a percentage of past sales. **More information.** LGE reports this data in its Sustainability Report and provides details on WEEE recycling in Europe. See p. 42, **Sustainability Report 2010, Environment.**



TOSHIBA, = 13th position, 2.8/10

Toshiba scores 2.8 points and takes joint 13th place, together with LGE. It also benefits from having its two penalty points lifted, which were imposed for backtracking on its commitment for all new consumer electronics products to be free of PVC vinyl plastic and brominated flame retardants (BFRs) by 1 April 2010 and for misleading its customers and Greenpeace by not admitting that it would not meet its public commitment. It released a PC in March 2011 which is PVC and BFR free. It has also made a new commitment to phase out PVC, BFRs, antimony and compounds, beryllium and compounds and phthalates by FY2015 from ALL its consumer products; the timeline is unreasonable, however, the fact that it covers all products and a range of hazardous substances is welcome. It also scores poorly on other **Products** criteria; it provides some information on extending product life but does not publish information on its warranties and availability of spare parts. The quantities of recycled plastics it uses have also gone down. It needs to report on the percentage of its products that meet and exceed Energy Star standards for each product range. However, it risks a **penalty point** as it is a member of a trade association that has commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement.

It scores least points on **Energy**; although it has reduced its emissions of CO_2 in line with its previous targets and aims to keep CO_2 emissions below 60 percent of the FY1990 level, the presentation of these objectives is confusing and difficult to compare with the need to reduce its GHG emissions by at least 30 percent by 2015 for its own operations. Toshiba gives some examples of energy efficiency measures and use of renewable energy but does not have a clean energy strategy; it aims to use renewable energy for a wider range of its operations and needs to set a target to dramatically increase renewable electricity use by 2020. It reports its greenhouse gas (GHG) emissions for its operations, but not for business travel and does not provide external verification for this data.

Toshiba scores much better on Sustainable **Operations**, particularly on the e-waste criteria, as it provides data on its global recycling rates for TVs and PCs, together with a detailed breakdown; it still needs to expand its take-back programme to non-OECD countries for its TVs. On conflict minerals, Toshiba has done supplier surveys and begun tracing but has not yet publicly mapped its smelters and suppliers. It has a detailed chemicals management programme which is based on the precautionary principle. Toshiba estimates GHG emissions from each stage of a product's lifecycle for its whole range of products, but does not provide an overall total for supply chain emissions. It fails to score on paper sourcing as it does not have a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging.

TOSHIBA Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions				
GHG emissions reductions and targets				
Clean Electricity Plan (CEP)				
Clean Energy Policy Advocacy				
Product Energy Efficiency				
Avoidance of Hazardous Substances in Products				
Use of Recycled Plastic in Products				
Product Life-Cycle				
Measure and reduce energy consumption in the supply chain				
Chemicals Management and Advocacy				
Policy and practice on sustainable sourcing of fibres for paper				
Policy and practice on avoidance of conflict minerals				
Provides effective voluntary take-back where no EPR laws				

TOSHIBA Detailed Scoring

Energy

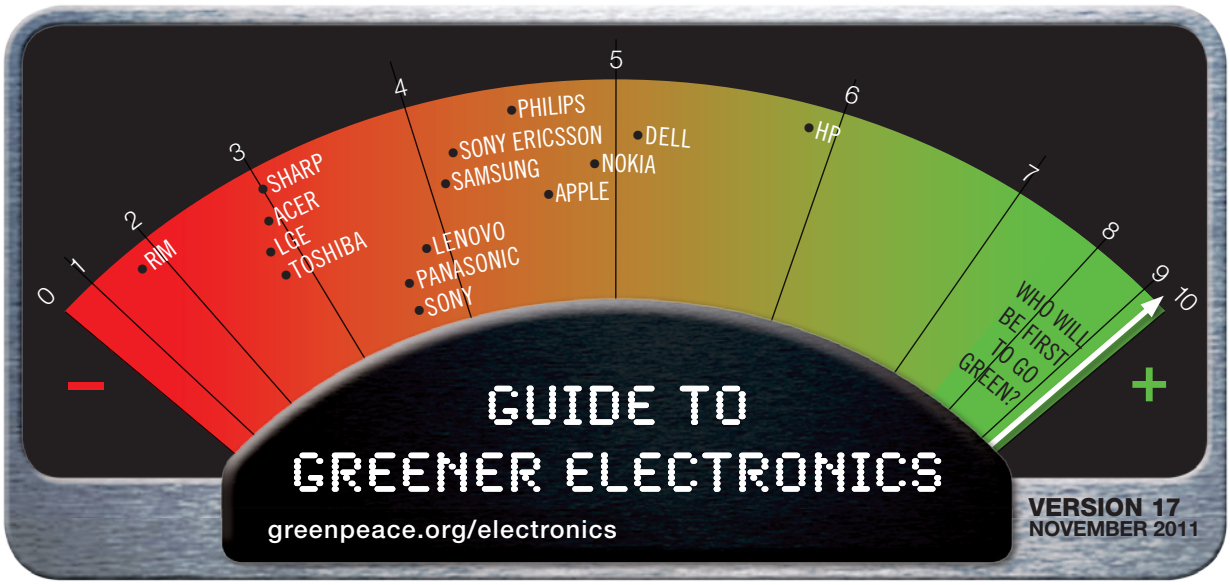
Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
1/3	**1/8**	**1/8**	**0/8**
Toshiba reports its production related GHG emissions (Scope 1 & 2) in 2009 as 2.49 million tons CO_2; emissions of other GHGs were 530,000 tons. Toshiba also reports on its scope 3 emissions for product logistics (58,000 tons CO_2) but not for business travel. Verification of the data is also provided by Bureau Veritas, however, Toshiba scores only one point as verification is for the whole Environment Report, not specifically the GHG emissions, which should be verified to the GHG Protocol ISO standard. However, Toshiba does provide background information and analysis on the source of its GHG emissions. p.19, 20 & 69, **Environmental Report 2010**. For more points Toshiba needs to provide external verification specifically for its GHG emissions and report on its business travel.	Toshiba states that it aims to keep CO_2 emissions below 60% of the FY1990 level. See p.6, **CSR Report 2011**. In FY2009, the Group reduced energy-derived CO_2 emissions by 7.1% over a year earlier and the overall CO_2 emissions per unit production by 47%, achieving the goals for the fiscal year. Toshiba's aim was to reduce energy-derived CO_2 emissions (per production unit) by 45% compared to the 1990 level by FY2010 and by 47% compared to the 1990 level by FY2012. p.19 & 20 **Environmental Report 2010**. Toshiba previously aimed to stop increasing emissions by FY2012. It planned 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. The plan to keep emissions below 60% of the FY1990 level is less ambitious. **More information.** Toshiba needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and dramatically increase renewable electricity use by 2020.	Semiconductor operations accounted for about half of total energy-derived CO_2 emissions, and social infrastructure and liquid crystal display operations represented 21% and 11%, respectively. Toshiba aims to step up its initiatives to reduce energy derived CO_2 emissions mainly in the semiconductor unit, which is expected to see its energy-derived CO_2 emissions grow in the future. These will include using high-efficiency chillers and air-conditioning systems, as well as inverter-controlled compressors and other instruments, effectively utilizing waste heat from factories, installing LED lighting, and introducing renewable energy. In FY2009, the Group used 23,020 MWh's worth of renewable energy. 70% of power consumption for the Toshiba Europe office building is from renewable energy. In addition, Toshiba Corp. has used a green power system since January 2005 and has since entered into an agreement to purchase two million kilowatts of electricity under a green power certificate annually. Toshiba aims to use renewable energy for a wider range of its operations, but has not set a target. p.19 & 20, **Environmental Report 2010**. In Poland TTCE (Toshiba Television Central Europe) completely switched to renewable energy (i.e. hydroelectric power) for its total annual consumption of approximately 3 million kWh of electricity. **More information.**	Toshiba refers to the Japanese government's goal of reducing greenhouse gas emissions by 25% compared to 1990 levels by 2020, but does not specifically state that it supports this. **More information.**

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
2/5	**1/5**	**0/3**	**1/3**
Toshiba reports that all note PCs developed since 2009 (as of September, 2010) comply with ENERGY STAR Version 5.0 for all configurations (except no-OS models). No information is provided on the percentage that exceed the standard by 50% or more. It is not clear if this is Toshiba's entire PC range. Most note PCs are equipped with Toshiba's Eco Utility Program, which helps and encourages users to save power; energy saved is displayed as the value of CO_2 reduction. **More information.** Toshiba also refers to its 'power peak shift' technology for PCs and TVs, which detects peak electricity periods and automatically shifts to battery power. **More information.** Up to date information on Energy Star compliance of its TVs is not reported. Previously, Toshiba reported that 23 LCD TV models were compliant with the latest Energy Star 4.1 standard. However, this was not expressed as a percentage of all models. **More information.** For more points Toshiba needs to report on the percentage of its products that meet and exceed ES standards for each product range. However, Toshiba is a member of CEA, an industry association that recently made comments against the battery chargers systems regulation in the California Appliance Efficiency Regulations. It needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	In March 2011 Toshiba released a PC which is 100% PVC and BFR free, the Tecra A11-EV1, on the US market. Other models that have a PVC-free main body and have no BFRs in the case and all plastic parts weighing 10g or more are the Portege R600,R700, R830, the Libretto W100 and the Tecra R840/850. **More information.** Toshiba has confirmed to Greenpeace that in November 2009, it launched a TV (model 55X1), which has no BFRs in the cabinet and no PVC/BFRs in the main control circuit board. Also, **halogen-free hard disk drive**. Toshiba has a new commitment to phase out PVC, BFRs, antimony and compounds, beryllium and compounds and phthalates by FY2015 from ALL its consumer products, if alternatives are available. Previously, Toshiba had a commitment to phase out PVC and BFRs from all its products – not only from their notebook PCs and mobiles - with a timeline of FY 2009; although it now has a PVC/BFR free PC it did not met this commitment for all products. Toshiba also had a commitment to replace phthalates, beryllium and compounds and antimony and compounds by 2012 in all its consumer electronic products, if alternatives are available. **More information.** Toshiba outlines its plan for introducing BFR. The timeline of 2015 in Toshiba's new commitment is unreasonable, however, the fact that it covers all products and a range of hazardous substances is welcome. Toshiba will be rewarded with more points in future versions of the Guide, as more products come onto the market in line with its new objectives.	In FY2009, a total of about 800 tons of post-consumer recycled plastic materials were used for the base plates of washing machines, multifunctional peripherals (MFP), TVs, air conditioners, notebook PCs and other products. Toshiba will use recycled materials for a wider range of products in the future. This compares to about 1,100 tons of recycled plastic in FY2008. **More information.** Toshiba has a **guideline** for every note PC to use recycled plastic. Toshiba previously referred to its 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. However, this is no longer mentioned. **More information.** **Example of recycled plastic parts used in PC case**.	Toshiba has informed Greenpeace that the basic warranty period for PCs is 1 to 2 years, with an extended warranty of 3 to 5 years as an option, which it believes surpasses the industry standard, however, this information is not available publicly. Examples of lengthening product life, which contributes to reduction of additional use of materials are also given, such as -Protection of Hard Disc Drives from accidental shock -Honeycombed rib structure for PC case -Adoption of SSD (Solid State Drive) **More information.** Examples for TVs are: (Japanese) -**Use of LED back light** -**Safety against overturning** (breakdown) features - **software to enable linkage between several products** -**Digital terrestrial tuners for analog TVs** Toshiba needs to publicly disclose the length of warranty and spare parts availability for its main product lines for more points. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
2/5	**3/5**	**0/3**	**2/5**	**5/8**
Toshiba estimates GHG emissions from each stage of a product's lifecycle by using "Easy-LCA", developed by Toshiba in accordance with ISO 14040 and ISO14044. The LCA is performed at procurement, manufacturing, distribution, consumption and waste treatment. Toshiba presents the percentages of CO_2 emissions generated at different stages of the life cycle of Toshiba Group's products. Examples are also given of reducing energy use at certain points of the life cycle for various products; for manufacturing, the example of semiconductors is given. To keep these points, total quantities of CO_2 emissions associated with each life cycle stage need to be provided. **More information.** Also see p.33 **Environmental Report 2010**.	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. However, Toshiba makes no mention of the need for RoHS 2.0 to adopt a ban on organo-chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years), as well as an end-of-life focused methodology for adding future substance restrictions. **More information.** For PC Division, see **Commitment #5**. Toshiba has Green Procurement Guidelines for suppliers and ranks suppliers. For prohibited substances there is "no intentional use" which excludes their use in production processes. **See pdf file**. For Toshiba's PC and Network Company, **see updated guidelines**. **Guidelines for Green Procurement** v.08.02.	Toshiba has a policy on biodiversity which states: "We will promote initiatives for the conservation of biodiversity in supply chains, including the mining of resources." **More information.** Toshiba has internal guidelines for the use of FSC paper, for the printing of its **CSR report** for example. Toshiba Group is also increasing the amount of recycled paper that it uses and reducing the amount of paper used. Toshiba needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.	Toshiba has expressed its support for the use of conflict-free minerals on its website. **More information.** Toshiba has done supplier surveys and joined the EICC in June 2011 but it needs to be an active member of the Extractives Working Group. It has begun tracing but it has not published or publicly mapped smelters or suppliers, as several companies have already done. Toshiba signed up to the Public Private Alliance but has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines. Toshiba did not issue a statement against the Chamber of Commerce lawsuit or join the multi-stakeholder submission to the SEC on conflict minerals. Toshiba did not participate in the OECD due diligence drafting, but has begun engaging Japanese NGOs and companies on conflict minerals.	Voluntary take-back of PCs covering 80% of PC sales is provided in Canada, South Korea, Australia, New Zealand, China, Singapore, Thailand, the Philippines, Vietnam, Malaysia, Indonesia and India. Toshiba's recycling programs don't include other Toshiba products like TVs, which are so problematic at end-of-life. For more points Toshiba needs to expand its TV take-back programme to non-OECD countries. **More information.** Toshiba provides recycling of computers, tablets, TVs and video & electronics and is part of US recycling joint venture MRM. **More information here** and **here.** Comprehensive information to customers on the take-back of used PCs. See for example, **India**. Toshiba provides detailed data on its recycling: in FY2009, in Japan and abroad, Toshiba Group collected about 128,000 tons of end-of-life products, of which it recycled about 99,500 tons. The weight of end-of-life products recycled increased by 217%, exceeding the FY2009 goal. Toshiba reports its ratio of "recycling weight to the sales weight" for "accumulated" products (including TVs, PCs and 3 types of home appliances) based on 2001 sales. For 2010, the recycling rate is 14.4%. Toshiba provides separate global recycling rates for TVs (52.0% in 2010) and PCs (18.2% in 2010 - down from 20.2% in 2009) based on sales 10 and 7 years ago, respectively. Toshiba needs to clarify how it calculates EU recycling rates. **More information.**



RIM, 15th position, 1.6/10

RIM makes its first appearance in the Guide in last place, with 1.6 points. On **Energy** it discloses its greenhouse gas (GHG) emissions for its operations and business travel to the Carbon Disclosure Project; however, it does not have external verification for its data. It also scores for its examples of energy efficiency and renewable energy use, but it does not yet have a clean electricity plan or a target to increase use of renewable energy. RIM does not yet have a target for reducing its GHG emissions; it should set ambitious targets to reduce its own GHG emissions by at least 30 percent by 2015 for its operations and use 100 percent renewable electricity by 2020.

For **Products** it only scores points for the energy efficiency of its products, for reporting that its Blackberry charger gets the European Commission IPP 4-star rating, although it does not report on the energy efficiency of its chargers as a percentage of all its external power devices. It also risks a **penalty point** in future Guide editions as it is a member of a trade association that has commented against stringent energy efficiency standards; it needs to distance itself from such regressive positions with a strong statement. For hazardous substances, RIM should set timelines to phase out their use in all of its products. It needs to publicly disclose the length of warranty and spare parts availability for its main product lines to score points on the product life cycle criteria.

It scores most points on Sustainable **Operations** and is one of the better scorers on conflict minerals, as it does not directly purchase these materials from any source and has sought written assurances from its tantalum capacitor suppliers that they are not using tantalum made from conflict minerals, although it has not yet mapped its smelters and suppliers publicly. It also scores a point for its Paper Procurement Policy; it aims to source its fibre from sustainably managed forests and specifically excludes suppliers that engage in illegal logging or source from countries that have been engaged in systemic illegal logging. It needs to also exclude suppliers that are involved in deforestation. RIM also earns a point for its mail-back programme for e-waste in the US, and for adopting a Restricted Substances List under chemicals management. It fails to score on management of GHG emissions from its supply chain.

RIM Overall Score

	ZERO	LOW	MEDIUM	HIGH
Disclose own operational GHG emissions			■	
GHG emissions reductions and targets	■			
Clean Electricity Plan (CEP)		■		
Clean Energy Policy Advocacy	■			
Product Energy Efficiency		■		
Avoidance of Hazardous Substances in Products	■			
Use of Recycled Plastic in Products	■			
Product Life-Cycle	■			
Measure and reduce energy consumption in the supply chain	■			
Chemicals Management and Advocacy		■		
Policy and practice on sustainable sourcing of fibres for paper		■		
Policy and practice on avoidance of conflict minerals			■	
Provides effective voluntary take-back where no EPR laws		■		

RIM Detailed Scoring

Energy

Disclose own operational GHG emissions	GHG emissions reductions and targets	Clean Electricity Plan (CEP)	Clean Energy Policy Advocacy
2/3	**0/8**	**1/8**	**0/8**
RIM reports its GHG emissions to the CDP for 2010 as 13688 metric tonnes CO_2-e for Scope 1 and 50180 metric tonnes CO_2-e for Scope 2 (compared to 9313 for Scope 1 and 27620 for Scope 2 in their base year of 2008). Scope 3 emissions for business travel are reported as 17,135 metric tonnes CO_2-e. The data is not verified or assured. **See CDP**, search RIM – registration required. See questions 8.1 – 8.3a, 8.7 and 15.1 – 15.2. For more points the data needs to have external verification. RIM also needs to present this data on its own company website and provide background information and analysis on the source of its GHG emissions.	RIM has no target for reducing GHG emissions. RIM reports to the CDP that "overall, RIM has been undergoing rapid organic growth with the expansion of all business lines internationally. Notably, Scope 1 emissions have increased markedly year-over-year (from 9,505 tCO_2e in 2009 to 13,688 tCO_2e in 2010)". Emissions intensity has also increased. **See CDP**, search RIM – registration required See 3.1 and 13.1 – 13.3 RIM needs to set ambitious targets and aim to reduce its own GHG emissions by at least 30% by 2015 for its operations and use 100% renewable electricity by 2020.	RIM reports on its emissions reduction activities to the CDP, which are energy efficiency measures such as energy audits at its buildings. It also intends to implement renewable energy to limit the growth of its absolute GHG emissions. RIM needs to develop these initial steps into a Clean Electricity Plan. **See CDP**, search RIM – registration required See 3.1a – 3.3a. RIM gives some examples of renewable energy and energy efficiency: as of 2010, six buildings on RIM's Waterloo Campus operate with 100% renewable energy from Bullfrog Power. At its manufacturing facility, 32 ideas were identified for savings and using energy-efficient technologies. See p. 27, 2011 **Corporate Responsibility Report**.	RIM reports to the CDP that it engages with policy makers on climate change, in connection with the use of its products for climate change mitigation. However, there's no information on its activities in relation to the reduction of GHG emissions. **See CDP**, search RIM – registration required. See 2.3 – 2.3a.

Greener Products

Product Energy Efficiency	Avoidance of Hazardous Substances in Products	Use of Recycled Plastic in Products	Product Life-Cycle
2/5	**0/5**	**0/3**	**0/3**
RIM reports that its new BlackBerry Charger features improved energy efficiency (increased from 63.6% to 68.3% efficiency) and no-load power consumption (European Commission IPP 4-star rating). When connected, the smartphone stops drawing power from the charger once it is fully charged. RIM does not report on the energy efficiency of its chargers as a percentage of all external power devices. See pp. 26, 31 2011 **Corporate Responsibility Report**. **Product details**. RIM provides **power saving advice**. RIM needs to set objectives to continue to improve the energy efficiency of its products, to aim for a greater percentage of energy efficiency improvements, as well as report on the energy efficiency of its chargers as a percentage. However, RIM is a member of CEA, an industry association that recently made comments against the battery chargers systems regulation in the California Appliance Efficiency Regulations. It needs to reiterate its support wherever possible for more stringent energy efficiency standards for all electronic products. It needs to distance itself from such regressive positions or risk incurring a penalty point in future editions of the Guide.	RIM has no products that are free from hazardous substances such as BFRs, PVC, phthalates, antimony/antimony compounds and beryllium/beryllium compounds. RIM lists the use of three phthalates on its Restricted Substances List as 'mandatory' and is continuing its initiative to "eliminate them from all BlackBerry smartphones, tablets and accessories, including travel chargers, USB cables and headsets." PVC, BFRs, antimony & compounds and beryllium & compounds are 'reportable' substances to be reported by its suppliers so that RIM can prepare for future regulations. See pp. 24, 37, 2011 **Corporate Responsibility Report**. RIM needs to set timelines to phase out the use of these substances in all of its products.	RIM states that it is "continually investigating alternative and more sustainable materials that have higher recycled content or that are more easily recyclable", however, it does not provide any data or examples of its use of post-consumer recycled plastic. See p. 24, 2011 **Corporate Responsibility Report**.	Users can effectively maximize battery life by modifying settings for the smartphone screen backlight, browser, media, camera and network connections. See p. 26, 2011 **Corporate Responsibility Report**. **Battery power saving tips.** There is no overall information on the average length of warranty or availability of product replacement parts. RIM needs to publicly disclose the length of warranty and spare parts availability for its main product lines. For maximum points it also needs to show some innovative measures that increase lifespan and durability of whole product systems, rather than only individual parts.

Sustainable Operations

Measure and reduce energy consumption in the supply chain	Chemicals Management and Advocacy	Policy and practice on sustainable sourcing of fibres for paper	Policy and practice on avoidance of conflict minerals	Provides effective voluntary take-back where no EPR laws
0/5	**1/5**	**1/3**	**3/5**	**1/8**
RIM does not refer to assessing GHG emissions from its supply chain. It adopted a new Supplier Code of Conduct in fiscal 2011, and supply chain is one of five key areas for corporate responsibility in 2011. See pp. 8, 11 & 25, 2011 **Corporate Responsibility Report**.	RIM states that it "is continually investigating alternative and more sustainable materials" but it does not spell out a policy on chemicals, which would need to be based on the precautionary principle. It earns one point for adopting a Restricted Substances List, however there is no information on its chemicals management programme for products or manufacturing, or the criteria it uses for identifying new chemicals for elimination/restriction. In addition, there is no evidence of advocacy for strong chemicals legislation. See pp. 24, 37, 2011 **Corporate Responsibility Report**.	RIM has published a recently updated Paper Procurement Policy, in support of sourcing its fibre from sustainably managed forests and specifically excludes suppliers that engage in illegal logging or source from countries that have been engaged in systemic illegal logging. Certification by the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC) is required. Preference is also given to suppliers that use renewable energy and advanced techniques such as EECF and TCF bleaching. It will also give preference to recycled paper and paper fibre from post-consumer waste. **More information.** RIM outlines the measures it's taking to reduce the volume of its packaging. See pp. 25-26, 2011 **Corporate Responsibility Report**. For more points, RIM needs develop its paper procurement policy to also exclude suppliers that are involved in deforestation and establish mid and long-term targets to increase its use of recycled and FSC fibre and further reduce paper use.	RIM states that it "does not support the use of illegally mined "conflict minerals" that originated in the DRC and other countries, or metals derived from them, including tantalum, tin, tungsten and gold. RIM does not directly purchase these materials from any source and has sought written assurances from its tantalum capacitor suppliers that it is not using tantalum made from conflict minerals. See pp. 25-26, 2011 **Corporate Responsibility Report**. RIM is active in the EICC conflict-free smelter program but has not yet published smelters or suppliers, as several companies have already done. It is active in the EICC smelter audit process but does not have an internal policy for suppliers on conflict minerals. RIM has signed up to the Public Private Alliance and publicly committed to implement the OECD due diligence guidelines. However, it has yet to make statements on the need for a multi-stakeholder certification process. RIM did support the legislation before it passed, but did not issue a statement against the Chamber of Commerce lawsuit nor did it join the multi-stakeholder submission to the SEC on conflict minerals. It participated in the OECD due diligence drafting and has actively reached out to NGOs.	In early 2011 RIM launched the BlackBerry recycling programme, a mail back programme in the US (with the exception of Maine, Connecticut and Washington). This is for the **recycling of Blackberry products** only. RIM also participates in the Rechargeable Battery Recycling Corporation's (RBRC) Call2RecycleR programme for customers located in Canada and the US and the Recycle My Cell program which raises awareness of where customers in Canada can drop off mobile devices to be recycled. See p. 6, 2011 **Corporate Responsibility Report**. RIM has no take-back programmes outside of North America and does not report on the quantities of e-waste it collects and recycles. It needs to set targets to increase its take-back and recycling activities.

Ranking Criteria Explained

Version 17, released in November 2011, of the Greenpeace Guide to Greener Electronics ranks companies in the electronics industry under three headings, Energy & Climate, Greener Products and Sustainable Operations.

The criteria used in version 17 of the Guide to evaluate the companies reflect Greenpeace's demands to electronics companies to:

- Reduce emissions of greenhouse gases (GHGs) with energy efficiency and renewable energy
- Clean up their products by eliminating hazardous substances;
- Take-back and recycle their products responsibly once they become obsolete,[1] and;
- Stop the use of unsustainable materials in their products and packaging

Previous versions of the Guide ranked companies on the following criteria: Chemicals, E-waste, and Energy. The ranking in version 17 sees a major change as it reorganizes the individual criteria under new headings (Energy & Climate, Greener Products and Sustainable Operations).

In areas where Greenpeace has seen some progress, multiple criteria have been folded together into one overall criterion, putting the focus on the implementation of previous commitments. In places where the industry needs to make further progress, such as energy policy and practice, we have re-written and strengthened the current criteria. Finally, new criteria on the sourcing of paper products and conflict minerals have been added under Sustainable Operations and on product life cycle under Greener Products.

In addition to these structural changes, the scoring system has also been changed. Depending on the complexity of the criteria the maximum points awarded per criteria will vary between 3, 5 and 8 points. There will no longer be double points for any criteria in the new scoring system. The maximum score is 69, which is converted into a score out of 10.

Given the urgency of tackling climate change, Greenpeace has re-focused and updated its energy criteria to encourage electronics companies to improve their corporate policies and practices with respect to Energy and Climate.

Criteria on Energy and Climate

The criteria that companies will be evaluated on are:

1. Disclosure of Greenhouse Gas (GHG) emissions
2. Commitment to reduce the company's own short term and long term GHG emissions
3. A Clean Energy Plan which includes increasing use of Renewable Energy (RE) and energy efficiency measures to implement cuts in GHGs
4. Advocacy for a Clean Energy Policy at national and sub-national level

Criteria on Greener Products

These criteria focus on the environmental performance of consumer electronics, across a number of different issues:

1. Energy efficiency of new models of specified products
2. Products on the market free from hazardous substances
3. Use of post-consumer recycled plastics in products
4. Product life cycle

Criteria on Sustainable Operations

These criteria examine how companies implement environmental considerations during manufacture in their supply chain through to the end-of-life phase of a product:

1. Reduction of supply chain GHG emissions by major suppliers
2. Policy, practice and advocacy on chemicals management
3. Policy and practice on sustainable sourcing of fibres for paper
4. Policy and practice on avoidance of conflict minerals
5. Producer responsibility for voluntary take-back of e-waste

Company scores

Companies have the opportunity to improve their score, as the Guide will be periodically updated. 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 e-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 electronic products.

Changes in ranking guide

We first released our 'Guide to Greener Electronics' in August 2006, which ranked the 14 top manufacturers of personal computers and mobile phones according to their policies on toxic chemicals and recycling.

In the sixth issue of the Guide, we added the leading manufacturers of TVs – namely, Philips and Sharp – and the game console producers Nintendo and Microsoft. The other market leaders for TVs and game consoles are already included in the Guide.

In the eighth edition, we sharpened some of the existing ranking criteria on toxic chemicals and e-waste and added a criterion on each issue. We also added five new energy criteria. In the fourteenth edition the criteria for the Precautionary Principle criteria was made more challenging.

The 17th edition has been re-organised, to reflect campaign priorities and to provide a more comprehensive assessment of the areas where electronics companies impact the environment, under the three headings Energy & Climate, Greener Products and Sustainable Operations. Many elements of the previous criteria remain but they have been re-arranged and updated, with a greater focus on implementation rather than commitment.

It now ranks 15 top manufacturers of personal computers, TVs and mobile phones; Fujitsu, games console producers Nintendo and Microsoft are no longer included and the mobile phone manufacturer Motorola has been replaced with RIM.

For the latest version, see www.greenpeace.org/rankingguide

Sony is issued with a penalty point on its total score as it has made comments in opposition to energy efficiency standards in California, (specifically on the CA Title20 Battery chargers systems and the SB 454: Enforcement of energy efficiency appliance standards).

Sony and LGE are listed as clients of Asia Pulp and Paper (APP), which is responsible for illegal logging and deforestation in Indonesia. Sony and LGE should immediately and publicly commit to stop sourcing any paper or packaging needs from APP or risk being penalised in future versions of the Guide.

Companies that are members of the trade associations ITI and CEA are warned that they risk incurring a penalty point in future editions of the Guide; this affects all companies apart from Sony Ericsson, LGE and Acer. These industry associations have recently made comments against stricter energy efficiency standards in the scope of the California Appliance Efficiency Regulations (a. the inclusion of computers and servers; b. comments against battery chargers systems regulation, respectively). Companies need to distance themselves from such regressive positions and reiterate their support wherever possible for more stringent energy efficiency standards for all electronic products.

Penalty points previously imposed on Toshiba, Samsung, LGE, Dell and Lenovo for backtracking on their commitments to phase out vinyl plastic (PVC) and brominated flame retardants (BFRs) have been lifted as a result of progress made in bringing PVC/BFR-free products onto the market.

[1]. The two issues are connected: the use of harmful chemicals in electronic products prevents their safe recycling once the products are discarded.