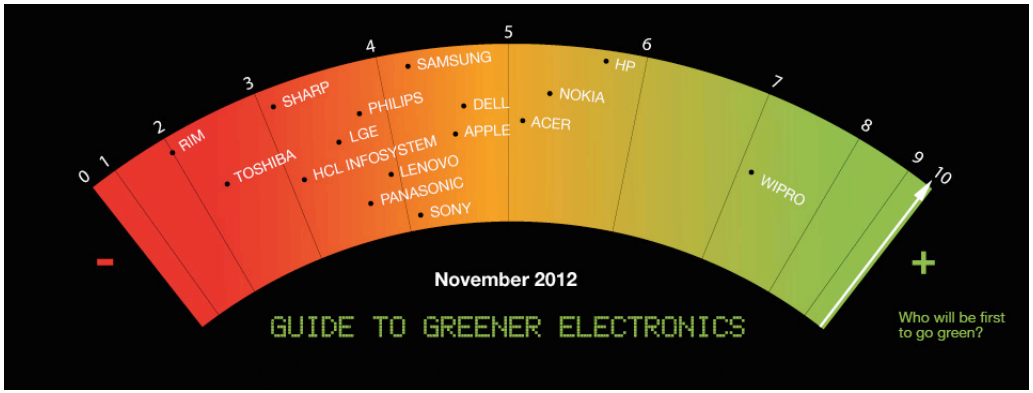

Every day, more people around the world rely on laptops, phones and tablets to make their lives more productive and fun. Electronic gadgets can make our lives better, but the rate at which we purchase and discard these devices is having a serious impact on our planet. Consumers have expressed their desire for greener electronics, and the industry has shown that improvements are possible, but only if leading electronics companies apply the sector's know-how and innovative spirit within the sustainability arena.

This 18th edition of Greenpeace's Guide to Greener Electronics evaluates leading consumer electronics companies based on their commitment and progress in three environmental criteria: Energy and Climate, Greener Products, and Sustainable Operations. The Guide scores companies on overall policies and practices – not on specific products – to provide consumers with a snapshot of the sustainability of the biggest names in the industry. This Guide is not an endorsement for buying products from one company or another.

Remember! The most sustainable devices are the ones you don't actually buy! Work to extend the life of your existing electronic gadgets, buy used products, and only purchase what you truly need.

The Guide to Greener Electronics helps to highlight the competitive, innovative aspects of the consumer electronics sector, and this latest edition profiles a number of new developments. Acer rises in the rankings, thanks in part to ambitious greenhouse gas reduction commitments, both in its own operations and in its supply chain. A number of companies, including HP, Apple and Dell, have improved their performance in identifying and reducing conflict minerals within their supply chain. This edition of the Guide also integrates the evaluation of two Indian companies, HCL Infosystem and Wipro, previously assessed in the Indian edition of our guide. Wipro earns the top spot in the rankings, primarily due to its climate leadership. The company excels in both renewable energy uptake for its operations and more broadly with an excellent greenhouse gas mitigation strategy. Its lobbying for renewable energy policy in India exhibits the type of corporate advocacy leadership needed to drive policy change.

While the industry overall has taken several strides in the right direction, crucial and growing problems remain: more people around the world are gaining access to electronic devices, and while proper electronic take-back programmes proliferate, the speed of collection is not keeping pace with the rate of consumption, creating ever greater amounts of toxic e-waste. Companies have largely left unaddressed the massive quantities of dirty energy embedded in their manufacturing and supply chains, much of it coming from East Asia. In addition, most companies have yet to meaningfully engage in the political process to create the ambitious action we need to make the greenest electronics and prevent the most devastating climate change impacts. With the right consumer pressure placed on these issues, companies can focus attention on these issues of waste and dirty energy and build on the considerable progress already made in greening the sector, innovating beyond what even we think is possible now and creating an electronics market that is leading the economy toward a greener future.

WIPRO
1st position, 7.1/10

Wipro, an Indian electronics company that has previously participated in Indian editions of the Guide, makes its debut in the international version of Greenpeace's Guide to Greener Electronics with 7.1 points – placing it in 1st position.

On the **Energy** criteria Wipro shows leadership in reducing greenhouse gas (GHG) emissions and increasing its use of renewable energy. Wipro is the top scorer for committing to reduce its absolute GHG emissions by 44% by 2015 from a base year of 2008, highest among top Indian and international companies. Wipro provides a detailed action plan to meet its annual reduction targets, including energy efficiency measures and investment in renewable energy through direct generation and purchase. The company sets a goal of achieving 85% of its emissions reduction through renewable energy. Wipro also makes significant efforts in advocating for clean energy and solar policy, and to promote the role of Information and Communication Technology in climate change mitigation through policy documents it has submitted to the Indian government.

On **Products** criteria, Wipro receives maximum points for placing energy efficient products in the market. All of Wipro's new products currently meet latest Energy Star compliance, while 52% of their products exceed ES 5.0 standards. Wipro also does reasonably well at phasing out hazardous chemicals from its products, stating that 80% of its products are free of polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs), though it has missed its goal of being 100% PVC/BFR-free by 2012. Wipro needs to provide updated information on its use of post-consumer recycled plastics and list which products use them. It also needs to provide detailed information about its product life cycle, where it currently scores a zero.

On the **Sustainable Operations** criteria, Wipro continues to receive the maximum score for its effective take-back policy and performance on the collection and recycling of post-consumer e-waste. It provides convenient take-back service to its customers through 17 direct and 300 authorised collection centres, the highest in India by any PC manufacturer. The company also performs reasonably well on its chemical management policy and precautionary principle. Wipro scores additional points for establishing conflict minerals policy and practices. However, the company has not established and implemented a paper procurement policy that avoids sourcing from suppliers involved in deforestation and illegal logging.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		25/32
Disclose and set targets for operational GHG emissions and RE supply	Wipro reports its GHG emissions - Scope 1, Scope 2 and Scope 3 (Employee travel) - under GHG protocol and Corporate Value Chain of Ministry of Corporate Affair, Govt. of India. **More information in the Wipro Annual Report 2011/12**, page 102-03. Wipro is committed to reduce its GHG emissions by 44 % by 2015 from a baseline year of 2008 with year-wise break-up from 2010 onward. **More information.** Wipro states that it achieved an 11% reduction in GHG emission for year 2010 (Year 2010 target was 9%), through improved energy efficiency and the Indian government's new grid emission factor. **More information in the Wipro Annual Report 2011/12**, page 105. Wipro states that its carbon footprint figures have been verified independently by Det Norske Veritas (DNV), which is accordance with the Ministry of Corporate Affairs, Indian government's guideline. **More information.** Wipro also announces its renewable energy uptake increase from 5 million units in year 2010-11 to 56.6 million units in year 2011-12, through combination of renewables purchases and its own generation, accounting for 17% of total office energy consumption with target to increase it by 195 MU of renewable energy by 2014-15 (around four time increase from current uptake). **More information on page 106 of its annual report**.	8/8
Disclose and set targets for supply chain GHG emissions and RE supply	Wipro disclose emission from its supply chain (Scope 3) under GHG protocol Corporate value standard. 6 out of 12 applicable categories under the standard used for this disclosure. Total emissions reported from supply chain for IT and Non-IT are 37, 169 and 422 tons respectively. Wipro states also that business travel and employee commute contribute 20% each to total Wipro's GHG emission. **Information is available on page 105 of Wipro's Annual Report 2011-12**. The disclosure is covered under third-party verification by DNV. **More information.** For more points Wipro needs to cover all applicable categories for its supply chain emission disclosure and set ambitious emission reduction target for reported supply chain.	3/8
Clean Electricity Plan (CEP)	As part of its GHG mitigation strategy for five years, Wipro identified three key elements: energy efficiency, renewable energy purchase and renewable energy generation. It stated that 85% of its emission reduction target will be achieved through use of renewable energy – 80% through purchase of renewable energy and 5% through direction generation from renewable energy sources. 15% of its emission reduction will be achieved through enhanced energy efficiency measures. **More information** on its GHG mitigation strategy is available on page 105 of its Annual Report 2011/12 Further, Wipro showed that it is moving along its path of its stated emission reduction target, as it raised its renewable energy uptake by 11 times in year 2011-12, compared to the previous year, and it is now 17% of its total office energy consumption. Its energy efficiency measures resulted in 20% cumulative energy intensity reduction in year 2011-12.	8/8
Clean Energy Policy Advocacy	Wipro identified clean energy and climate change as one of its focus area for policy advocacy. It states that its approach on policy advocacy is to work though industry platforms like CII and to support research and publications with partners who carry expertise in the above domains. Wipro identified three key policies for advocacy related to climate mitigation and clean energy deployment. It tabled its concerns and challenges in current implementation of India's flagship solar energy programme, "Jawaharlal Nehru National Solar Mission (JNNSM)", and has given suggestions for improvement in its implementation to Ministry of New and Renewable Energy (MNRE). A letter in this regard has been written by Wipro Chairman to the concerned minister in the government of India. Apart from this, Wipro is also member of the global working group convened by CDP to create and publish an ICT sector supplement for CDP Disclosure. On behalf of industry association CII, Wipro also developed a Green procurement guideline for industry to adopt. Other than these, Wipro also lead the Indian Business delegation at COP 17 of UNFCCC in Durban in 2011. **More information** on policy advocacy efforts of Wipro can be found at page 114 of its Annual Report 2011/12.	6/8

Greener Products		10/16
Product energy efficiency	All of Wipro's products are complying with Energy Star rating and compliant with ES 5.0 rating in both sleep and standby mode. 63% of its products exceed ES 5.0 requirement. **List of ES 5.0 certified products in Year 2010-11** Wipro also provides information about its Green Console tool, which helps users identify power savings.	5/5
Avoidance of hazardous substances in products	Wipro has 80% of its total products free from PVC and BFR. **A list of PVC and BFR free products** is provided. Wipro also launched its first products - two desktop models, WSG68F55W7 and WIV68F55 – free from antimony, beryllium and phthalates. These two products constitute 20% of its product range free from these three hazardous chemicals, which is an encouraging development. Wipro commits its timeline to complete phase-out of antimony, beryllium and phthalates from its entire product range by FY-2012. **More information.** To score more points, Wipro needs to phase out all identified hazardous chemicals within the stated timeline.	4/5
Use of recycled plastic in products	Wipro states that almost 25% of the plastics it uses come from recycled plastics, and it had set an ambitious target to achieve 40% recycled plastic content by 2nd quarter 2012. However, Wipro fails to specify the proportion of post-consumer plastics that contributes to these percentages and a target to increase its use of post-consumer recycled plastics in its products. **More information.** To get maximum points, Wipro needs to report on its use of post-consumer recycled plastics, increase its use of such plastic by 5% at least, and provide some examples of products that use post-consumer recycled plastics.	1/3
Product life cycle	Wipro states its products' life span on average is 7 years. It also states to take various measures to extend the life-cycle of its products, which benefits its key customers. There is very limited information provided and Wipro does not give information product warranty and component support.	0/3

Sustainable Operations		11/17
Chemicals management and advocacy	Wipro considers the OSPAR list of chemicals as a primary reference point for identification and elimination of toxic chemicals from its products. It provides a list of 21 chemicals that are banned, restricted, or subject to phase-out from its products. Further, it also states that it refers to national and international legislation and treaties such as the Indian EPA, REACH and EU RoHS as a reference point for identification and elimination of chemicals. **Wipro Chemical Management Policy**. Wipro also provides a list of substances that are already banned or identified for phase out. Its communication with its supply chain on chemicals management issues is not transparent, however, and it needs to specify "no intentional use" of these substances in manufacturing processes as well as in finished products. **More information.** As part of its policy advocacy initiative, Wipro was a member of CII's working group on green procurement, which developed a guideline for green procurement for industry and submitted to PM's council on climate change. Through MAIT, Wipro also advocates for phase-out of certain hazardous substances in line with EU RoHS guideline in the E-waste (handling and management) Rule 2012, implementation of which begins this year. **More information.**	4/5
Policy and practice on sustainable sourcing of fibres for paper	Wipro stresses reduction on paper consumption is a key driver to achieve economical sustainability and reduce its own footprint. To achieve this, Wipro listed out some key initiatives taken at various level to ensure resource efficiency for paper consumption which include HR training and dematerialisation process. **More on paper policy**. Wipro has very weak paper policy now as it removes its earlier target of reducing its paper consumption by 15%. In order to score points, Wipro needs to develop a paper procurement policy that excludes suppliers who are involved in deforestation and illegal logging, and sets specific targets to reduce paper use and increase use of recycled and FSC fibres .	0/3
Policy and practice on avoidance of conflict minerals	Wipro has established communication with its suppliers to not use tin, tungsten and gold sources from conflict areas. It communicated with its supplier to disclose source of their minerals and do not source minerals from conflict zones. Further, as part of its initiative, it started an assessment process for FY 2011-12 for verifying and advising about taking decision on suppliers involved in sourcing conflict metals or do not disclose the source of metals. The assessment process will help it to take corrective decisions about suppliers and in the process it will be able to minimise and finally eliminate the conflict metals from its manufacturing. Wipro is also working with industry association and other partners to develop the consensus to avoid using conflict metals and together to protect human rights and environmental protection. **More information.** Wipro needs to provide evidence on how it is engaging its supply chain to report on the sourcing of conflict minerals.	3/5
Provides effective voluntary take-back where there are no EPR laws	Service with 19 collection centres across India, along with a dedicated, toll-free helpline number and dedicated e-mail helpline. Customers can send their take-back service requests through call or e-mail as well. **More information here** and **here.** Wipro provides detailed information to its customers on its e-waste management process and how to access its take-back services. It also has adedicated website on green computing, which provides information on handling of end-of-life products. Wipro reports its annual recycling rate of 45% in comparison to its sales 7 years ago. For year 2011-12, it reports collection and recycling of 228 tons of e-waste, which is currently highest among all companies operating in India. It provides data on monthly collection and recycling of e-waste. **Detailed information e-waste collection and recycling**.	4/4

HP

2nd position, 5.7/10

HP is still above most companies on the ranking, but has lost its top spot from the most recent edition of the Greenpeace Guide to Greener Electronics, and now sits in 2nd position, with 5.7 points, behind newcomer Wipro.

It scores most of its points, and is the leader, on the **Sustainable Operations** criteria, which includes the management of its supply chain. It scores maximum points for its thorough paper procurement policy, which bans suppliers linked to illegal logging. HP is also a top scorer for its policies and practices on the sourcing of conflict minerals, for publishing its suppliers, and for engaging effectively in the Electronics Industry Citizenship Coalition's conflict-free smelter programme. HP continues to score relatively poorly in e-waste. Although the company has expanded programmes in areas for the first time, there are few details on the extent of that expansion.

HP is also a relatively high scorer on the **Energy** criteria, and has one of the best programmes for measuring and reducing greenhouse gas (GHG) emissions from its suppliers. In 2011, HP reduced its GHG emissions slightly from 2010. This progress, HP's disclosure of externally verified GHG emissions, and setting an emissions reduction target all help HP score well in this criteria. While HP has achieved its previous GHG reduction goals, new more ambitious targets are now needed to reduce emissions further and secure 100% renewable electricity by 2020.

HP scores the least points in the **Products** category. Although it scores comparatively well for its progress on phasing out polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs) from its product range, HP only achieved 67% of its goal to do so. HP must disclose, on its own website, the amount of post-consumer plastics it uses as a percentage of all plastics, the length of warranty and spare parts availability, and provide what percentage of its products meets and exceeds Energy Star standards.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	**Disclose and set targets for operational GHG emissions and RE supply**				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	**Product energy efficiency**				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	**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 there are no EPR laws				

Energy		16/32
Disclose and set targets for operational GHG emissions and RE supply	In 2011, GHG emissions from HP operations (scope 1 & 2) equalled 1.85 million tonnes of carbon dioxide equivalent (CO_2e), down from 1.87 million tonnes in 2010. Emissions intensity has also been reduced, to 15.71 tons CO_2-e per million USD net revenue in 2011, from 15.95 tons in 2010. HP provides **background information and analysis** on the source of its GHG emissions, pages 54 & 71, HP Global Citizenship Report (GCR) 2011. GHG emissions from employee business travel were 461,600 tonnes of CO_2e in 2011, up from 448,800 tonnes in 2010 (p.58 HP GCR) a 3% increase from 2010. Emissions per employee decreased 4% over the same period. HP continues to work to reduce these emissions. HP calculates its GHG emissions according to the GHG Protocol; scope 1, 2, and 3 GHG emissions are reported (p. 55 **HP GCR**). External verification is provided by Bureau Veritas, p175 HP GCR. HP's goal is to reduce absolute GHG emissions from HP-owned and HP-leased facilities by 20% below 2005 levels by 2013. HP reports that this goal was met two years early. It states that "by the end of 2012, we intend to create a new goal for reduction of GHG emissions from operations". HP will re-set its emissions baseline. See p. 53 HP GCR 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.	5/8
Disclose and set targets for supply chain GHG emissions and RE supply	HP reports emissions from its manufacturing at 4,800,000 tonnes CO_2-e. 95% of 1st-tier suppliers (percentage of first-tier supplier spend captured). The proportion of that spend with suppliers that have reduction goals has increased from 67% in 2009 to 88% in 2010. In addition, 54% of these suppliers estimate their own Scope 3 emissions in 2010. Emissions intensity for the same period has decreased. See p. 39, **HP Global Citizenship Report (GCR) 2011** In 2010, HP became a charter member of the BSR Energy Efficiency Partnership (EEP) programme in China, which helps suppliers reduce energy use and associated GHG emissions and lower costs. Throughout 2011, all 12 participating supplier sites developed and submitted action plans for energy management, including a total of 24 new energy-saving projects (see sidebar at right). In 2012, HP will be partnering with the World Wildlife Fund (WWF) to extend the reach of the initiative to a total of 34 suppliers and 50 sites across China. See p. 40, HP GCR HP has a goal to "facilitate supplier environmental performance improvements by tripling the number of HP supplier sites participating in the Energy Efficiency Partnership programme compared with 2011, and sharing energy-saving best practices developed through the programme to date." HP has met its goal for 2011 to report on 95% of its 1st-tier suppliers emissions to have 45% of these reporting on their 2nd-tier, and now needs to set new targets for supply chain reporting and reduction of GHG emissions. See p.77 HP GCR.	4/8
Clean Electricity Plan (CEP)	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." See p.25, HP GCR. HP regularly implements projects to decrease energy use, including consolidating facilities into fewer, more efficient sites, and installing energy-efficient technology and lighting in offices, research labs, and data centers. See p.55 HP GCR. HP completed energy-efficiency initiatives at its data centres that it projects will save approximately 13 million kilowatt hours (kWh) and avoid an estimated 7,200 tonnes of CO_2e emissions on an annual basis. Examples of measures taken at data centres are given, including the Wynyard trade data centre in the UK, which is one of the most efficient general purpose data centres in the world and uses 100% renewable energy. See p. 56 & 57 HP GCR. HP purchased approximately 440 million kWh of renewable energy worldwide in 2011— equivalent to more than 10% of the overall electricity use in its facilities, and a 41% increase since 2010.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. See p.57 HP GCR. HP **has already met its goal** to double voluntary purchases of renewable energy to 8% of electricity use by 2012. See p.79 HP GCR. HP now needs to set new objectives to further increase its use of renewable energy to 100%.	5/8
Clean Energy Policy Advocacy	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. In 2011, it signed up to the 2°C Challenge Communiqué, demonstrating its commitment to global action on climate change. See. p.22 HP GCR. See also **public policy**. Much of HP's other advocacy is older than 1 year and is not counted.	2/8

Greener Products		8/16
Product energy efficiency	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.44). HP reports that at the end of 2011, HP had more than 400 PC and display products with configurations that are Energy Star qualified with 85% efficient power supplies. HP informs Greenpeace that 81% of HP's PC and display product family portfolio launched in the past year have Energy Star qualified configurations. However, this information is not provided on HP's website. See p.44 **HP GCR.** 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**. By the end of 2011, HP **reduced the energy consumption of its products** by 50% compared with 2005 levels—exceeding its original goal of a 40% decrease. HP needs to provide information on the percentage of its products that are ES qualified in a more transparent and accessible way.	3/5
Avoidance of hazardous substances in products	At the end of 2010, 100% of all new HP notebook products are BFR and PVC-free. HP states that it achieved 67% of its goal to phase out BFR and PVC in newly introduced personal computing products in 2011; 100% of all new notebook products have achieved this BFR- and PVC-free goal. HP will complete its goal to phase-out BFR and PVC where technically feasible in those few remaining new PC products as market demand and customer expectations permit. See p.75 HP GCR. See p.37 **HP GCR**. **Product Eco Declarations**. It will complete its target to phase out the phthalates DEHP, DBP and BBP in newly introduced personal computing products by the end of 2012. HP informs Greenpeace that as of September 2012, 30% of PC products are free of these phthalates. Remaining uses of these three phthalates and in addition the phthalate DIBP and the BFR HBCDD are to be phased out by 2015 (applies to all electronic hardware in the scope of EU RoHS Directive). However, there is no goal to phase-out all phthalates. See p.36, HP GCR, although HP says it "may require additional future restrictions" on other phthalates. 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). If an HP product and component specifications are labeled "BFR/PVC-free", 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. 12, 14, 12, **General Specification for the Environment**.	3/5
Use of recycled plastic in products	HP informs Greenpeace that approximately 3% of the total plastics by weight of shipped volume in 2011 contained in HP's PC and Displays products were from post-consumer recycled content, however, this information isn't available on its website. Previously HP estimated that it had used more than 20,000 tonnes of recycled plastic resin in 760 million ink print cartridges between 2005 and 2009. Its goal was 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. HP also informs Greenpeace that 31% of its PC and Display product portfolio in the US contain greater than 5% post consumer recycled plastic and 25% of its PC and Display product portfolio contain greater than 10% post consumer recycled plastic, **as declared on the EPEAT product registry** (in the US). 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. See p.38, **HP GCR**. For more points HP needs publish the data and percentage of post-consumer plastics it uses as a total of all plastics used and set a new target to increase its use of post-consumer recycled plastics.	1/3
Product life cycle	All product warranty offerings are communicated through the product specifications on www.hp.com. HP offers extended warranties up to 5 years. HP informs Greenpeace that Consumer PCs (1 year or 2 year) warranty terms depend on product and region. Additional examples include, Business PCs (1 year or 3 year) terms depend on product and region. Business displays (3 year). Consumer displays (1 year). **Spare parts are available** to support this 5 year extended warranty. All HP notebook and desk-based computers are **designed to be customer-upgradeable** with an extensive portfolio of upgrade modules and accessories. Over half (65%) 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 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.	1/3

Sustainable Operations		15/21
Chemicals management and advocacy	HP's definition of the Precautionary Principle reflects the need to eliminate potentially harmful chemicals even without full scientific certainty of harm. See p.36 **HP GCR**. 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.** HP gains a point for its lobbying efforts as it describes its evaluation of alternatives to BFRs using a comparative chemicals hazard screening tool known as GreenScreenTM for Safer Chemicals, in a **case study** which is reported on the subsport portal for substitution support. HP states that "integrating the GreenScreen framework into our overall alternatives assessment protocol has enabled HP to more easily select replacement materials with a reduced risk of human health and environmental impacts. We have completed more than 130 assessments since the programme began." See p. 37 HP GCR. 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. See p.63, HP GCR.	4/5
Policy and practice on sustainable sourcing of fibres for paper	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**. See p.27 HP GCR. In 2011, HP achieved its goal of having at least 40% of HP-branded paper be FSC-certified and/or contain at least 30% postconsumer waste (PCW) content. HP's new goal is that 50% or more of its branded papers will meet one or both of these criteria by the end of 2015. HP has been **working to increase the amount of forest certified paper products** across its portfolio, with a preference to FSC products. **HP's FSC and PEFC certified products**. HP's General Specification for the Environment prohibits the use of illegally sourced plant based products. **GSE** p. 14.	3/3
Policy and practice on avoidance of conflict minerals	HP reports that it has made significant progress in 2011 on five fronts (1) conducting due diligence of HP's supply chain, (2) supporting the development of an industry due diligence approach, (3) advancing the Electronic Industry Citizenship Coalition Global e-Sustainability Initiative (GeSI) Conflict-Free Smelter (CFS) programme, (4) supporting an alliance for in-region mineral certification, and (5) influencing policy and legislation. In 2012 HP will continue tracing the smelters in its supply chain, encouraging those smelters to participate in the CFS by giving preference to sourcing from smelters validated as conflict free. See p. 83 & p. 90, **HP GCR**. HP's suppliers have provided the names of several hundred possible smelters and refiners. HP has undertaken a multi-year tracing effort with its suppliers and has published its suppliers online. **More information.** It is one of the leaders in the EICC conflict-free smelter programme; 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's suppliers have provided the names of several hundred possible smelters and refiners. HP has undertaken a multi-year tracing effort with its suppliers and has published its suppliers online. HP participated in the OECD due diligence drafting and has actively reached out to NGOs on conflict minerals. ed 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.	4/5
Provides effective voluntary take-back where there are no EPR laws	HP offers hardware recycling services in 50 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. It is working to to improve local recycling capabilities in new markets including Colombia, Kenya, Mexico, and South Africa. See p. 49 **HP GCR**. More information **here**. HP's consumer take-back programme in India has many collection points in numerous 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 2011 was 15%, compared to 16% in 2010. More information is also needed on how the 16% is calculated. HP recycled approximately 133,900 tonnes of e-waste in 2011; more than 60% of this was returned by consumers. See p.50 HP GCR. 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.**	4/8

NOKIA
3rd position, 5.4/10

Nokia moves up to 3rd position in this edition of the Greenpeace Guide to Greener Electronics.

Even with a stronger performance on the **Energy** criteria, the company stays behind both HP and Wipro. Nokia met a renewable energy target of 40%, a strong number but still below its original 2010 target of 50%. The company falls short in other areas as well, including lacking a robust clean electricity plan, an ambitious greenhouse gas (GHG) emissions reduction target of 30% by 2015, and a renewable energy target of 100% by 2020. However, Nokia does receive top points for disclosing externally verified GHG emissions from its own operations.

Nokia's **Products** scores do not change in the latest edition. Although the company has released new information on warranties, it fails to provide similar data on spare parts to increase the life of its products. Nokia fails to score on the use of recycled plastics, although the Nokia 700 is its first smartphone made with 33% recycled plastics. The company is just shy of maximum points on hazardous substances, do to its lack of a target for eliminating all antimony compounds. It continues to score maximum points for the energy efficiency of its products for setting a new target to reduce no-load power used by its chargers.

Nokia scores highest marks on the **Sustainable Operations** criteria. The company has a comprehensive voluntary take-back programme, which spans 100 countries providing nearly 6,000 collection points for end-of-life mobile phones, with accessible information provided to customers. Nokia was also one of the first global brands to offer a take-back programme in India. However, it fails to score maximum points, as the quantities are still small and are not reported as a percentage of past sales. Nokia needs to improve its chemicals management programme, further developing its policies and programme to address conflict minerals as well as a paper procurement policy that excludes suppliers involved in deforestation and illegal logging.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		15/32
Disclose and set targets for operational GHG emissions and RE supply	Nokia reports that the energy consumption by its facilities resulted in 18,600 tonnes of direct and 197,700 tonnes of indirect GHG emissions in 2011 (p, 125-132 key data, **Sustainability Report 2010**). Nokia provides a detailed breakdown and analysis of its GHG emissions. Verification of the data is provided by PricewaterhouseCoopers (p.98-100). In 2012 Nokia was rated by CDP among the world's top 10 companies (sharing 6th position) in terms of climate change disclosure and performance being also the highest ranked electronics company in **the list**. 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 15% by the end of 2012 and 28% by the end of 2015, 15% by 2012, and 28% by the end of 2015, compared to 2006. In 2011, Nokia facilities' greenhouse gas emissions were 17% lower than in base year 2006, meaning it is on track towards its 2020 target. CO_2 emissions from offices and R&D premises were reduced by 15% CO_2/person, in line with its 2011 target, compared to 2006. On renewable energy, **Nokia aims to maintain the purchase of renewable energy** via grid and via renewable energy certificates at least in the current level of 35-40% as well as study possibilities to increase on-site generation of renewable energy. 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.	5/8
Disclose and set targets for supply chain GHG emissions and RE supply	Nokia reports its supply chain emissions of CO_2-e as 1,870,000 tonnes in 2011, down from 6,880,000 tonnes in 2010. (**Sustainability Report p.125**). Nokia conducts product life cycle analysis which shows that the greatest proportion of GHG emissions from a typical product are from raw materials and component manufacture, at 54%.(p.50). **More information.** Nokia states that it has identified the most energy intensive component types and processes and that suppliers of these components or processes are required to set targets, measure and monitor their energy consumption and GHG emissions. Nokia evaluates whether reduction targets have been set and met. In 2011, 66% of hardware suppliers that account for the highest environmental impact or are strategically important had company-level reduction targets for energy and GHG emissions (which have also been externally verified – see p.98 Sustainability Report). All other direct suppliers are encouraged to monitor and measure their energy and GHG emissions, and many are **already voluntarily reporting**.	5/8
Clean Electricity Plan (CEP)	Concern about the availability of RE is raised by Nokia's CEO introducing its 2011 **Sustainability Report (p.6):** "unfortunately the renewable energy market has developed more slowly than expected. That said, Nokia still showed progress on this front in 2011, installing fuel cells at our facility in Sunnyvale in the US and a small biofuel station in Chennai, India. Nokia has increasingly purchased green electricity since 2006, and altogether, in 2011 our renewable electricity share was equal to 40%, which reduced our CO_2 emissions by 54,500 tonnes." Nokia intends to maintain this level of 35-40% as well as study possibilities to increase on-site generation of renewable energy. However, this is less than its original target of 50%. **Sustainability Report 2010 (p.81)** Nokia's **climate strategy** looks at the energy consumption and greenhouse gas emissions of its products and operations and sets reduction targets accordingly (see targets in E1). Nokia's original ambitious target was 23% reduction of GHG emissions per person working in Nokia offices and R&D for 2012, but this had to be revised due to the new Nokia strategy, which significantly changed the number of sites and employees during 2012. The longer term targets however remain unchanged. It aims 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". Nokia's approach to greener buildings involves a combination of standards, local energy efficiency initiatives and new ways of thinking about how we to use space effectively. Nokia gives examples for its offices, factories and data centres (p.72 – 76) and renewable energy (p.77 – 78). **See Sustainability Report**.	4/8
Clean Energy Policy Advocacy	Nokia, together with Intel, Lenovo and HP, has prepared a report, ICT and Low Carbon Growth in China, and worked on a number of initiatives to demonstrate **the benefits of ICT solutions in greening the society**. 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** – see Industry Co-operation. More specific details about Nokia's advocacy for clean energy are not provided.	1/8

Greener Products		9/16
Product energy efficiency	Five of Nokia's chargers have 5 stars and two have 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%, this percentage will increase with the introduction of new 4 and 5 star chargers. Nokia also has a Solar Power Charging Project as part of its long term research into energy efficiency. Products also feature power saving standby mode and other applications, features and technologies to reduce energy use. **More information.** Nokia is a member of the ICT for energy efficiency forum. **More information.**	5/5
Avoidance of hazardous substances in products	Nokia sits close to maximum points having already phased 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 – see **Phasing out restricted substances.** 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**. **PVC elimination case study**. **Case study on phasing out brominated and chlorinated compounds and antimony trioxide**.	4/5
Use of recycled plastic in products	Nokia has made no progress on it use of post-consumer recycled plastics. Nokia continues to research recycled plastic, working on ways to overcome durability issues. Nokia 700 is the first Nokia smartphone to introduce the use of recycled plastics. See **Sustainable Futures with Innovative Materials.** 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.	0/3
Product life cycle	**Information on limited warranties** within the EU, Iceland, Norway, Switzerland and Turkey is provided: 24 months for the mobile device, 12 months for accessories, 6 months for the consumable parts and accessories: batteries, chargers, desk stands, headsets, cables and covers; and 90 days for the software media. Warranty terms depend on the device and the country of purchase. **Software updates can increase the life-span of a phone.** Nokia provides **eco profiles** for all its products. Nokia needs to publicly disclose the 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.	0/3

Sustainable Operations		13/21
Chemicals management and advocacy	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 does not provide any evidence of advocacy for strong chemicals legislation. Although it has case studies demonstrating the substitution of hazardous chemicals of concern such as chlorinated and brominated substances, this information not been submitted to the Substitution Support Portal (Subsport). **More information.** **New version (2012) 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; see **Supplier Requirements and Assessments**. **Excerpts from the Supplier Requirements** relating to management, human resources and environment are now published. Suppliers are required to "consider environmental aspects in all phases of product development … Choices made during these product development phases shall, whenever possible, reduce or eliminate negative environmental impacts. All reasonable attempts shall be made to reduce or eliminate hazardous constituents from the product …." Preventing emissions of hazardous substances from manufacturing is implied but not specified.	3/5
Policy and practice on sustainable sourcing of fibres for paper	For fibre-based **printing and packaging materials**, Nokia aims to use 100% certified renewable or recycled materials by 2015. Certification by FSC and / or PEFC is acceptable, with priority on the former. Nokia's target is to use at least 70% of recycled fibers on average across all packaging. Nokia states that "More than 95% of our packaging is made from renewable, paper-based materials, of which up to 60% is recycled content". Nokia has a new **Natural Resources Policy**, concerned with the link between the illegal extraction and trade of natural resources and environmental degradation, which states that it does not "tolerate nor by any means profit from, contribute to, assist with or facilitate any activity that …..leads to serious environmental degradation". Nokia needs to create a more robust policy that includes procurement language that prevents buying from companies involved in deforestation.	1/3
Policy and practice on avoidance of conflict minerals	Nokia requires its **suppliers** to follow the principles outlined in its **Natural Resources Policy** and conflict minerals. From 2012, Nokia is using the standardised EICC-GeSI Conflict Minerals Reporting Template to continue mapping and monitoring its suppliers' commitment and activities; the pilot phase of this mapping will continue till the end of 2012. The principles of the policy are incorporated in the contractually binding Nokia Supplier Requirements (NSR) and Nokia works with its suppliers to increase transparency in the supply chain. Nokia supports and contributes to industry initiatives such as the Conflict Free Minerals programme to validate its supplies of metals and has joined Solutions For Hope initiative for sourcing validated tantalum. Also see p.94 & 95**, Sustainability Report**. Nokia is active in the EICC conflict-free smelter programme 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."	3/5
Provides effective voluntary take-back where there are no EPR laws	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**. Details of recycling are provided under each country – the information is currently being localised in product information pages, **see UK for example**. Details of recycling information can also be found in the product user manual, see for example **Nokia 808 page 126**. In India, Nokia started its take-back and recycling activities in 2008 and has since been running over 1400 permanent recycling points at Care and Retail outlets. **60 tons of phones and accessories were collected in 2011**. Nokia provides updates on its recycling programmes in India, China, Brazil, SE Asia, Egypt, Africa, Middle East and North America in its Sustainability Report (p.56-57). Nokia has collected 661 tonnes of e-waste from the market in 2011. This is an increase of 60% compared to the previous year but does not include recycling through other channels, therefore Nokia states it is unable to report the recycling rate as a percentage of sales. See p.54 – 57, p.127, **Sustainability Report 2011**.	6/8

ACER

4th position, 5.1/10

Acer moves up the ranking to 4th position, with a score of 5.1. Acer is showing a larger leadership role in its conversations with suppliers on a range of issues, including greenhouse gas (GHG) emissions and hazardous substances, conflict minerals, and fibre sourcing. This has resulted in increase scoring across the three criteria.

Acer shows greatest improvement on the **Energy** criteria. The company has set new reduction targets for its GHG emissions, aiming to reduce its global GHG emissions by 30% by 2015, relative to a baseline of 2009. Acer's target for 2020 is a 60% reduction between 2009 and 2020. Acer also continues to support cuts of 30% by 2020 for industrialised countries. Additionally, Acer has asked all 1st tier suppliers to adopt more aggressive GHG reduction strategies, setting a deadline of the end of 2012 to provide details.

While Acer's **Products** score improved with progress in energy efficiency, the company continues to score no points on product life cycle for failing to publicly disclose the length of warranty and spare parts availability for its main product lines. Acer's new deadline of eliminating polyvinyl chloride plastic (PVC) and all phlathates by 2012 is fast approaching, and Greenpeace is looking forward to seeing this goal achieved.

Acer scores higher in **Sustainable Operations**, mostly due to its more dynamic role with its suppliers. The company continues doing particularly well on chemicals management for its lobbying for restrictions on organo-halogens, and for its precautionary approach to chemicals.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		17/32
Disclose and set targets for operational GHG emissions and RE supply	Acer calculates **GHG emissions of worldwide operations in 2011** at around 53,008 tonnes carbon dioxide equivalents (CO_2-e). The overall figure is adjusted down after verifying a lease relationship with the Acer e-Enabling Data Center's (eDC) data supply and storage services. Taking this into account, emissions have risen from 42,860 tonnes CO_2-e in 2010. The data covers Scope 1,2, and 3; Scope 3 emissions are business travel, which represents 15% of the total. Acer states that the EPA approved certification body in Taiwan has verified the Scope 1 & 2 data in Q3 of 2012, although a copy is not provided. For more points Acer needs to provide evidence of its external verification and more background information and analysis on the source of its GHG emissions (on its website or CR report). Acer has set new reduction targets for its GHG emissions; it aims to reduce its global GHG emission by 30% by 2015, relative to a baseline of 2009; Acer's target for 2020 is a 60% reduction between 2009 and 2020. Acer has not yet set a goal to increase its use of renewable energy but is now planning to **assess the feasibility of investing in projects** to generate or purchase renewable energy to offset our emissions in the future. GHG emissions have risen substantially since 2007 but have reduced slightly from the 2009 level. P.35, CR Report 2010.	6/8
Disclose and set targets for supply chain GHG emissions and RE supply	70% of Acer suppliers participate in the CDP's Supply Chain programme, with over 95% providing a high response rate for three consecutive years from 2008. Acer reports its ODM's GHG emissions for NB, DT, Monitor & Smart Handheld as 169,160 tonnes CO_2-e in 2009 and 170,465 in 2010. . In 2012 Acer requested that its 1st tier suppliers adopt more aggressive reduction targets to conduct carbon reduction activities and also to use renewable energy as one of the reduction programmes. 1st tier suppliers have been requested to **propose long-term reduction targets** by the end of this year, similar to Acer's GHG emissions reduction target, or even more ambitious. Acer also worked with its suppliers in 2010 to calculate the carbon footprint of its AO532H netbook and V193W LCD monitor, and following third party verification, obtained Carbon Footprint labels for these products in cooperation with the Taiwan EPA. Acer provides a **breakdown of carbon emissions** during each stage of the product lifecycle. 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.	6/8
Clean Electricity Plan (CEP)	To reduce GHG emissions, Acer is working to increase the energy efficiency of its operations and set feasible reduction plans, targets and benchmarks. 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". Acer also describes it Clean Energy Plan: (1) its first priority to use renewable energy (RE) in its own facilities if the conditions are suitable; (2) to purchase RE via the grid and advocate to governments if this is not available; (3) to seek suitable regions to build RE facilities worldwide, especially for Acer facilities with higher carbon emissions; and (4) to procure Renewable Energy Certificates (RECs) or Carbon Credits when the previous options are not available. A combined solar and wind power generation system has been installed 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**.	3/8
Clean Energy Policy Advocacy	In Taiwan, Acer Chairman JT Wang "publicly offered advice to President Ma Ying-Jeou to call on the government to pay more attention to climate change risks, to promote renewable energy development, and to plan a green power procurement mechanism. The government highly valued this appeal and instructed the Bureau of Energy and Ministry of Economic Affairs to proceed with green pricing programmes". Acer also participated in the TCSF Climate Change Working Group in 2010 concerning the governments Greenhouse Gas Emission Reduction Act to "provide the government with practical recommendations on setting up framework and regulations that support a more comprehensive policy on energy and climate change". **Other initiatives are also described**. 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. "Acer also backs international initiatives such as in US, Japan, or India to sharply reduce GHG emissions and appeals to all circles worldwide to work together in preventing global GHG from increasing beyond the year 2015". **More information.**	2/8

Greener Products		7/21
Product energy efficiency	100% of notebook PCs comply with the latest Energy Star requirements, and 60% exceed them by 50%. 33% of desktop PCs meet the standard, with 19% exceeding it. 97% of monitors also comply with Energy Star. All external power supply units meet the Level V rating of the International Efficiency Marking Protocol. **Acer focusses** on energy-saving design and using leading energy-saving technologies such as Intel's Display Power Savings Technology (DPST), best feasible power management systems, Acer PowerSmart key, and Acer PowerSmart power supply equipment. Acer designed the Aspire S3 to provide a combination of **energy-saving technologies**, such as Acer Green Instant On, PowerSmart batteries, open cell display technology, and Mg-Al alloy chassis. The carbon reduction of this technology combination is estimated around 17,500 tonnes, roughly 45% of Acer's carbon emission in 2009, based on 5 million units sales forecast.	4/5
Avoidance of hazardous substances in products	Acer makes progress on releasing New BVR/PVC free products that have since 2010 Q3, including: - 23 new models of TravelMate and Gateway notebooks that are BFRs/PVCfree (except external cables) - 6 new monitors. - 5 new desktops - ICONIA SMART is the first BFR/PVC-free Smart Handheld that Acer launched in 2011 Q3 and the smart phone A9 launched in 2012. These add to Acer's existing BFR/PVCfree 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. Acer has informed Greenpeace that the majority of its products will be PVC/BFR free in the near future. 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. Acer needs to bring products to market that are free of these substances. **More information.**	2/3
Use of recycled plastic in products	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 is currently evaluating a newly developed recycled plastic containing more than 50% of post-consumer recycled materials, which will be launched by the end of 2012 and gradually introduced into new products, if it meets quality requirements. **More information.**	1/5
Product life cycle	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.	0/8

Sustainable Operations		11/21
Chemicals management and advocacy	Acer's statement on the precautionary principle recognises the need for preventive action, even if scientific evidence is not conclusive. Acer is changing from a one-way to two-way communication by requesting suppliers to report their agreement on precautionary principle, structure of chemicals management system, and the status of HSF substitution in order to offer systematic management controls to ensure each supplier is able to meet requirements. Acer is proactively supporting a ban on organo - chlorine and bromine substances in the revision of RoHS 2.0; it states that it will keep watching the future development of RoHS recast to ensure early involvement of and work on relevant strategies in time. Acer has proactively lobbied for strong chemicals legislation in Taiwan but has not submitted case studies demonstrating the substitution of hazardous chemicals of concern to the Substitution Support Portal (Subsport). Acer **describes the mechanisms** for identifying future substances of concern and provides details of its position in relation to regulations such as REACH and RoHS. Acer has a Guidance of Restricted Substances in Products, which sets out the substances which it restricts to its suppliers and reflects its commitments on phasing out hazardous substances.	4/5
Policy and practice on sustainable sourcing of fibres for paper	Acer launched a new "Sustainable Paper and Packaging Policy" in 2012, which prohibits all business relationships with suppliers that are involved in deforestation and illegal logging. It outlines the three main principles as: (1) obtaining raw materials from legal sources; (2) maximising the use of eco-friendly paper products in all operations, including the use of recycled content, recyclable, and renewable materials; and (3) minimising the consumption of paper products containing virgin wood fiber. Acer also sets out its **strategy and performance for reducing paper consumption**.	1/3
Policy and practice on avoidance of conflict minerals	Recently, Acer began participating on the EICC/GeSI Conflict-Free Smelter (CFS) assessment programme working group. Acer is contributing to the group by assisting with the scheduling of and participation on smelter visits. The goal of the smelter visits is to introduce the smelters to the CFS programme and to secure participation. Acer lists the expectations it has of its suppliers to avoid the sourcing of conflict minerals which it will validate. Acer also reports on the **results of a survey of its suppliers** that it undertook in 2009. Acer adopted EICC/GeSI Due Diligence Template tool to investigate which companies refine our supply of tantalum, tin, tungsten, and gold in 2011 and publishes the findings. See p,38 **Corporate Responsibility Report 2011** 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 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.	4/5
Provides effective voluntary take-back where there are no EPR laws	Acer promotes voluntary product recycling services throughout several countries in the Asia Pacific region, including Indonesia, Taiwan, Japan, and Malaysia, providing consumers several recycling options such as postal service or drop-off stations. See p. 30 **Corporate Responsibility Report 2011**. Acer also **takes back and recycles for free in India**. Acer has a **recycling programme in America** for all Acer products sold there. Recycling information is provided for EU, Japanese, Taiwanese, US and Canada 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. **More information.** Acer reports a recycling rate of 37.72% in 2011 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. See p. 30 & 31, **Acer Corporate Responsibility Report.**	2/8

DELL

5th position, 4.6/10

Dell drops to 5th position, with 4.6 points. While Dell scores high overall, the company scores poorly on all Products criteria. Dell previously pushed back its commitment to eliminate polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs) from 2010 to 2011. Yet, Dell *still* hasn't removed these chemicals from all of its products as promised, and *still* has no phase-out date for hazardous substances.

Elsewhere in the **Products** criteria, Dell scores poorly on several transparency issues, including failing to disclose its percentage of total post-consumer recycled plastics or a timeline to improve in that area. Dell also lacks transparency on warranty and spare parts information and the percentage of its products that meet and exceed the latest Energy Star standard.

On the **Energy** criteria, Dell scores top marks for both its disclosure of externally verified greenhouse gas (GHG) emissions from its own operations and for committing to reduce global absolute emissions of GHGs from facilities by 40% by 2015, from a baseline year of 2007. The company still needs to set a goal to increase its use of renewable energy to 100% by 2020. The amount of renewable energy used decreased again from 21% in fiscal year 2011, to 19% in fiscal year 2012. Dell's overall energy score could increase with specific examples of advocacy to promote clean energy policy.

Dell performs well on the **Sustainable Operations** criteria, including supply chain management. Dell receives maximum points for paper procurement policy. Dell also scores high for working with 1st-tier suppliers on the issue of conflict minerals. Although Dell has a relatively comprehensive take-back programme, and provides good information to its customers on how to recycle discarded electronics, with the exception of its India customers it no longer provides data on recycling rates based on past sales. Dell must continue working with its suppliers to report and publish data on GHG emissions of all its products.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		13/32
Disclose and set targets for operational GHG emissions and RE supply	The latest FY2012 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.5, 26 -29, **Corporate Responsibility Report 2012**. A breakdown of emissions as well as methodologies and disclosures and procedures is in Dell's GRI Index (EN16 & 17). Third-party verification is by TruCost (at a AA1000AS (2008) Type 2 moderate-level assurance) **see 3.13**. In 2007, Dell announced a goal to reduce its total direct and indirect emissions intensity by 15% 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.11 2012 **Corporate Responsibility Report**. Dell reports that as of FY12, it has reduced its net absolute Scope 1 and Scope 2 emissions by approximately 16% compared to the base year of FY08, which has been adjusted to reflect both acquisitions and divestitures. Its energy intensity has **increased slightly from FY2011**, although it is 14.2% lower compared to FY08. 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.**	4/8
Disclose and set targets for supply chain GHG emissions and RE supply	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.4 **Corporate Responsibility Report 2012**. Dell aims to complete current Scope 3 pilot programmes and assess its capability to measure, report and act on the resulting data. 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; and (3) Set expectations for 2nd-tier 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**. 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.	4/8
Clean Electricity Plan (CEP)	A **breakdown** of Dell's initiatives to reduce greenhouse gas emissions and the reductions already achieved is given in the GRI Index (EN18). Dell states that during FY2012 renewable electricity purchases and on-site solar generation accounted for 19% of the total electricity used (which makes up 88% of energy used by Dell), down from 21% in FY2011. Dell "continues to be committed to using electricity produced from clean, renewable sources like wind, solar and hydro". "Eight of its global facilities use 100% non-fossil fuel, renewable power." Dell is constantly looking for ways to improve its energy efficiency, paying particular attention to reducing electricity use and to data centres that consume much more electricity per area than any other type of building space; techniques such as hot and cold aisle containment to boost cooling efficiency, fresh air cooling (using outside air to cool the IT equipment) and the latest IT equipment configurations are used. Location of new facilities is also considered. Dell aims to measure energy consumption at a more detailed level to achieve further energy efficiency savings and increase the number of Dell facilities purchasing renewably generated electricity from their local utility. See p.24, **2012 Corporate Responsibility Report**. 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.	4/8
Clean Energy Policy Advocacy	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 organisations, communities, and individuals. **More information.**	1/8

Greener Products		5/16
Product energy efficiency	Dell **states** that "the majority of our products can be configured to be Energy Star-certified — including virtually every business system, consumer laptop, and rack and tower server". 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. Product Energy Star data sheets for certified products**. 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% efficient power supply. See p. 14 & 15 of the 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.**	2/5
Avoidance of hazardous substances in products	Dell has BFR/CFR/PVC-free standard offerings of all Latitude notebook and XPS 13 Ultrabook products, and is continually adding others. Dell provides a list of 19 whole product systems that are PVC/BFR free. All removable media storage devices, memory and hard disk drives became BFR/CFR/PVC-free in 2011.Dell made a commitment that by the end of 2011, all newly introduced Dell personal computing products will be BFR/CFR/PVC-free, as acceptable alternatives are identified. However, it no longer commits to removing these substances from all products (just computing ones) as per its previous commitment, and the timeline is unreasonable. Dell states that: "while we have not yet fully achieved our goal of making all newly introduced Dell personal computing products BFR- and PVC-free, we have reduced these materials across all our consumer products and many can be configured to be BFR and PVC-free". Dell has completed its phase out of arsenic and mercury. **More information.** Dell provides a **list of products with reduced hazardous chemicals**, and their date of introduction. 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; DIBP is to be restricted by 2014 (in response to its inclusion on the EU REACH list for authorisation). 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. 12 **Guidance Document on Restricted Materials**.	2/5
Use of recycled plastic in products	Dell used 7.4 million pounds of **recycled-content plastics** in FY2012, in Dell OptiPlex desktops and flat-panel monitors, but gives no information on the percentage of total plastics sourced. The enclosures of the OptiPlex 980 and XE can be configured to include up to 25% post-consumer recycled plastic (up from 10%). The enclosures of numerous flat-panel monitors contain 25% post-consumer recycled plastic. These include the E190S, E170S, G2410H, P2011H, P2211H, P2311H and many more. **More information.** Dell has no public target for increasing use of post consumer recycled plastic.	1/3
Product life cycle	Dell informs Greenpeace that its standard warranty is 1 to 3 years for defects in materials and workmanship, depending on the product type and that extended warranties are available for certain products. 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. 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.**	0/3

Sustainable Operations		14/21
Chemicals management and advocacy	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**. It has not submitted any case studies on substituting phthalates or BFRs to the substitution portal subsport, although there is a **case study on eliminating mercury** in backlighting for LCD; Dell scores a point for this and for its previous positive advocacy on RoHS, which will be important again in the future. 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**.	3/5
Policy and practice on sustainable sourcing of fibres for paper	Dell recognises the need to protect the Earth's forests and takes a four-pronged approach: (1) Reduce the amount of paper it uses; (2) Reduce the use of virgin tree fibre; (3) Increase the use of forest-friendly paper; and (4) 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 recognised 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**.	3/3
Policy and practice on avoidance of conflict minerals	Dell states that it is its policy "to refrain from purchasing from any known conflict sources and we expect that our suppliers adhere to the same standards. We have notified all our suppliers of our policy on conflict minerals and have asked each supplier to provide us with a confirmation of their conflict-free status". **More information.** Dell reports on the Conflict-Free Smelter (CFS) assessment programme that 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.** It **supported the goals of the Conflict Free Minerals Act**. Dell is active in the EICC conflict-free smelter programme 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 organised several outreach panels on conflict minerals.	4/5
Provides effective voluntary take-back where there are no EPR laws	Dell's goal is to increase take-back volume totals to a worldwide cumulative 1 billion pounds of collected equipment by 2014. p.13 CRR 2012. 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 79 countries worldwide (although only 69 appear to be available via its website). P.40 – 47 **Corporate Responsibility Report 2012**. 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**. Dell's US programme**. In FY12, Dell recycled more than 192.3 million pounds of electronics. Globally, an increase of 29% from FY11, see. p.40 **Corporate Responsibility Report 2012**. 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.	4/8

APPLE

6th position, 4.5/10

Apple drops to 6th position, with a score of 4.6. Though one of the high scorers in this edition, Apple misses out on points for lack of transparency on GHG emission reporting, clean energy advocacy, further information on its management of toxic chemicals, and details on post-consumer recycled plastic use.

Apple receives half marks in **Sustainable Operations**. Apple does not score high on the e-waste criteria, losing points for lacking a robust take back programme in India. However it continues to score points for its global take-back programme, reporting that 2010 global recycling exceeded its 70% goal (as a percentage of sales 7 years ago), a level that it is confident it will maintain through 2015. Together with HP, Apple is a top scorer for policies and practices regarding conflict minerals, but fails in developing a paper procurement policy banning suppliers involved in deforestation and illegal logging.

Apple scores poorly on the **Energy** criteria; though Apple states that greenhouse (GHG) emissions data of its operations are externally verified, it has not provided details. Apple continues to lose points for not setting a target to reduce emissions. While 13% of Apple's facility-related electricity consumption comes from renewable sources, the company could increase its score by setting an ambitious goal for boosting its renewable energy use by 2020.

Apple was one of the first companies to sell products free of polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs), but it does not mention plans to phase out antimony or beryllium. Overall, Apple continues to score well on the **Products** criteria. Apple has received public scrutiny for its decision to glue in batteries in its newest Macbook Pro, which creates barriers to easy recycling.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		9/32
Disclose and set targets for operational GHG emissions and RE supply	Apple reports on its GHG emissions in 2011 as 23.1 million metric tons (up from 14.8 million metric tons in 2010, although greenhouse gas emissions per dollar of revenue have decreased by 15.4% since 2008). This divides as follows: for manufacturing (61%), transportation (5%), product use (30%), recycling (2%) and facilities (2%). Facilities accounted for 378,000 metric tons of greenhouse gas emissions. GHG emissions are calculated in accordance with guidelines and requirements as specified by ISO 14040 and ISO 14044. **More information.** The Fraunhofer Institute in Germany **checks the data and life cycle model** used in the tool for quality and accuracy, although a copy of this verification isn't provided, which Apple needs to supply. 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 161,000 metric tons of CO_2e (business air travel generates a significant portion of facilities emissions, though the exact quantity is unspecified). Facilities emissions are verified by Bureau Veritas, although a copy of this verification isn't provided. **More information.** For more points Apple needs to publish its external verification and present the breakdown of its figures as totals as well as per employee. Apple seeks to minimise GHG emissions by a strategy where "the environmental attributes of our products are an integral aspect of all decisions related to the design and manufacture of those products. The same is true of all the environmental decisions for our facilities." However, there are no details of targets. **More information.** Apple refers to its "net zero goal for our corporate facilities" and states "in 2011, we realised dramatic reductions in energy use" in relation to this goal. Graphs show that the metric tonnes of GHG gas emissions per employee are substantially reduced, although exact data isn't provided. Total 2010 energy consumption included 493 million kWh of electricity and 3 million therms of natural gas. **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.	2/8
Disclose and set targets for supply chain GHG emissions and RE supply	Manufacturing - including extraction of raw materials and product assembly - accounts for 61% of Apple's total greenhouse gas emissions in 2011 (compared to 46% in 2010). In 2011 the manufacture of Apple products resulted in 14,096,000 metric tons (up from 6,852,000 metric tons in 2010) of greenhouse gas emissions. **More information.** No details are provided on how this figure breaks down, no targets for future reductions. The data is verified but no copy is provided (see the criterion above). 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.	2/8
Clean Electricity Plan (CEP)	Apple sets out its strategy for reducing its energy consumption at its facilities; (1) Reducing energy consumption; (2) Generating its own clean, renewable energy onsite at its facilities; and (3) to meet its remaining energy needs with clean, renewable energy generated offsite. Apple does not provide targets to increase use of renewable energy or reduce energy consumption through energy efficiency. However, it does report on the steps it has taken to improve energy efficiency and its use of renewable energy, in its facilities report. Apple's data centre in Maiden , North Carolina is exceptionally energy efficient, earning LEED Platinum certification from the US Green Building Council. It is building a large solar array and a fuel cell installation, which will both be the largest of their kind in the US, to power its future needs. **More information on data centres and renewable energy**. Apple's facilities locatedin Cork (Ireland), Munich (Germany), Austin, Texas (US) and Elk Grove, California (US) are already powered with 100% renewable energy resources. Approximately 30 million kilograms of CO_2e emissions were avoided through the use of renewable energy programmes in fiscal year 2011, compared to 27.5 million in fiscal 2010 and 8.3 million kgs in 2008. **More information.**	5/8
Clean Energy Policy Advocacy	No information.	0/8

Greener Products		11/16
Product energy efficiency	All of Apple's products meet and exceed the US EPA'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.**	5/5
Avoidance of hazardous substances in products	Mac and MacBook now ship with PVC-free power cords in the US, Canada, Mexico, Colombia, El Salvador, Guatemala, Panama, Peru, Puerto Rico, the US 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.**	4/5
Use of recycled plastic in products	Apple states that it works with environmentally conscious materials, including recycled plastics, and that millions of speaker assemblies and internal brackets are now made from recycled PC-ABS. However, it provides no information on the quantities of post-consumer recycled plastics used. Apple products are designed using recyclable materials. **More information.** Plastics make up a relatively small proportion of the materials used in Apple products, see **MacBook Air** for example (2.5g).	1/3
Product life cycle	Apple provides information on its product warranties and the replacement of its batteries; iPods, iPhones, iPads and notebooks all have 1 year warranties which include the battery. It offers a battery replacement service for all MacBook, MacBook Air and MacBook Pro notebooks with built-in batteries that make it more difficult for both recyclers and consumer to choose responsible recycling options. **Apple service centres can order battery replacements** for models up to seven years old. 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 1,000 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 all 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.	1/3

Sustainable Operations		11/21
Chemicals management and advocacy	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**. Apple does not provide any evidence of advocacy for strong chemicals legislation or case studies demonstrating the process of substituting hazardous chemicals of concern. 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 now provides more **information on its work with suppliers** to use environmentally friendly manufacturing processes. However, 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.	3/5
Policy and practice on sustainable sourcing of fibres for paper	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 and its product packaging uses recycled materials wherever possible. **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.	0/3
Policy and practice on avoidance of conflict minerals	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**. An **update** on its mapping of suppliers is in this 2012 Supplier Responsibility Report (p. 11). It is also active in the EICC conflict-free smelter programme 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.	4/5
Provides effective voluntary take-back where there are no EPR laws	Apple now operates or participates in recycling programmes in countries where more than 95% of its products are sold. **More information.** Apple has recently added Israel, Qatar, Saudi Arabia, South Africa and UAE to its voluntary take-back programme for Apple-branded e-waste, to add to India, Brazil and Costa Rica. **More information.** Apple also has voluntary take-back of Apple branded e-waste in China, Hong Kong, Malaysia, Singapore, New Zealand, Korea, Taiwan and Australia. **More information. Free recycling** for iPods and 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 programmes in the US, Canada, Europe, Japan, Asia Pacific/Australia and Brazil/ Costa Rica are provided. Apple's original goal for 2010 was to achieve a worldwide recycling rate of 50% (as a percentage of sales 7 years ago). In 2011, Apple global recycling exceeded its 70% 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.**	4/8

SAMSUNG
7th Position, 4.2/10

Samsung moves up to 7th position, with 4.2 points in this year's Greenpeace Guide to Greener Electronics. Samsung is close to achieving a revised goal of eliminating some of the most hazardous substances from its products. Although progress is being made, this revised commitment only covers some product groups; TVs and household appliances are no longer included.

Samsung does reasonably well on other **Products** criteria. The company is one of the leaders on product life cycle, as it provides warranties and spare parts information as well as details of innovations to extend product lifetimes. Samsung is quite close to scoring maximum points on energy efficiency.

Samsung's **Energy** score increased due to progress on reporting greenhouse gas (GHG) emissions information, including supply chain data. Samsung fails to score additional points with its carbon intensity target of 24% by 2015, especially as its intensity emissions grew 9% (by revenue) last year alone. Samsung's renewable energy use stays low at 0.2% of global electricity use. An absolute reduction target of at least 30% by 2015, as well as the ambitious 100% renewable energy by 2020, would earn the company more points. Samsung gets 1 point for supporting GHG emission cuts by industrialised countries of at least 30% as a group by 2020.

Samsung scores most of its points for **Sustainable Operations**, due to its relatively good e-waste take-back programme and information. The company must extend this programme to cover its entire product range. It has extend its reported recycling rate beyond South Korea, starting with India, and this should continue. Samsung's chemicals policy sets ways to identify future substances of concern, but the company continues to lack a restricted substances list for manufacturing. Samsung has pledged to sign a compliance agreement with its suppliers that prohibits the use of conflict minerals, and it needs to publicly map its smelters or suppliers. 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.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		8/32
Disclose and set targets for operational GHG emissions and RE supply	Samsung reports its global scope 1 & 2 CO_2-e emissions of 11,304,000 tons for 2011, up from 10,655,000 tons for 2010. The intensity of emissions reduced to 4.46 CO_2 / KRW 100 million in 2011 from 5.11 tons in 2010. Samsung provides a breakdown by region and by source of emissions. Samsung publishes a **verification certificate** from the Korea Energy Management Corporation, although the certificate could be made more legible. Business travel is reported as 112,597 tons CO_2-e (compared to 101,000 tons in 2009) and is approximately 0.2% in total global GHG emissions (Scope 1, 2 & 3). **Total global GHG emissions** (Scope 1, 2 and 3) are estimated at about 56.8 million tons in 2011. Scope 1 and 2 represent about 20% of this, with the majority (approximately 80%) from indirect GHG emissions (Scope 3). Product use represents the largest proportion at about 57% of total GHG emissions. A further breakdown of GHG emissions data is given in **2012 Sustainability Report**, p.73 & 74. 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 is 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 normalised by sales (metric tonnes of CO_2 per KRW 100 million) by 50% until 2013 based on the level of 2008." The reduction target is for production sites in Korea only, which represents almost 90% of global GHG emissions. **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.	2/8
Disclose and set targets for supply chain GHG emissions and RE supply	Samsung reports its Scope 3 emissions from its supply chain for 4.5 million tons of GHG emissions in 2010. This represents about 8% of global emissions and 63% of primary suppliers based on the company's purchasing costs. In 2010, GHG emissions of 812,000 tons CO_2-e, for the year of 2009, were measured from suppliers representing 40% of purchasing costs. The increased emissions were due to a larger number of suppliers reporting and a 63% rise in purchasing. Samsung aims to increase the numbers of suppliers participating in this survey. To reduce emissions in the supply chain, Samsung has joined the Energy Mentorship programme for SMEs (Small and Medium Enterprises) of the Korea Ministry of Knowledge Economy on April 2012, designed to help suppliers improve management of energy and GHGs. Samsung will work with selected suppliers to build an advanced GHGs emissions inventory and identify GHGs emission reduction opportunities as a pilot project to apply for all our supply chain. **More information.** Samsung is also actively participating in a carbon footprint labelling scheme established by the Ministry of Environment in Korea as well as the carbon footprint scheme established by the Carbon Trust in the UK, to demonstrate and verify GHG emissions from a product's life-cycle. Three products - a LED TV, a Note PC and a memory chip product – received the first Korean carbon footprint reduction label. The Galaxy SII smartphone and Galaxy Note also received a Carbon Footprint Label from the Carbon Trust. However, details of the proportion of emissions at each stage of these products lifecycles are not given. **Sustainability Report 2012**, p. 38	3/8
Clean Electricity Plan (CEP)	Samsung currently uses only small amounts of renewable energy; in 2011, the amount that it purchased was 0.2% of its total global electricity purchases, double the amount that it used in 2010. This is made up of solar power and the purchase of green electricity. Samsung is working to expand its use of renewable energy in its operations. It plans to set up and operate renewable systems with total 2.4 MW capacities by adopting small-hydro power generation systems and roof-top solar generation systems gradually by 2017. There was an increase in overall consumption of electricity (12%) and liquefied natural gas (LNG) (17%) due to additional production lines, however, for existing facilities in Korea 665,324 MWh of electricity and 25,916,536 Nm3 of LNG was saved in 2011 through **various energy efficiency activities**. Samsung needs to set a more ambitious target to increase its use of renewable energy, as a percentage of electricity used.	2/8
Clean Energy Policy Advocacy	**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." 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.**	1/8

Greener Products		9/16
Product energy efficiency	100% of Samsung notebook PC models on the market globally have met the latest Energy Star requirements, and 48% of 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 89 and 98%. In addition, 100% of Samsung mobile phone EPS models on the market globally have met the Level V rating on the International Efficiency Marking Protocol for EPS, with 99% of EPS models having a no-load power consumption that is below 0.15W. Samsung is a member of the Korea e-Standby programme and the China Energy Conservation programme, 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**. Samsung **aims to improve the energy efficiency of its products** by 40% by 2013 (2008 baseline).	4/5
Avoidance of hazardous substances in products	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 1 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. Antimony trioxide has been phased out from new mobile phones developed from January, 2012 and mobile phones and MP3 players launched as of January 2011 are free of beryllium and its compounds (with the exception of beryllium alloys), as well as phthalates. 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 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 set some new targets to eliminate these substances from its whole product portfolio, as well as antimony and compounds. More information **here, here** and **here**. Product information **here**.	2/5
Use of recycled plastic in products	Samsung is increasing the quantities of post-consumer recycled plastic that it uses: in 2011 its use of post-consumer recycled plastics across all products was approximately 2.3%, compared to 0.55% in 2010. Samsung gives some examples of several mobile phones, a refrigerator and a washing machine, as products with post-consumer plastics content. Samsung has almost achieved its target to increase its use of post-consumer plastics to 2.62% by 2013. A longer-term objective is needed. **More information.**	1/3
Product life cycle	Samsung states it believes in “providing reasonable product warranty and service parts availability considering product categories, sales region and legal requirement.” The company 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 7 years for mobile phones and monitors, and for up to 8 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 phones, camcorders 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.	2/3

Sustainable Operations		12/21
Chemicals management and advocacy	Samsung supports and understands the Precautionary Principle. Samsung gains a point for its statement that "the enactment of legislation such as updated EU RoHS Directives will play an important role in addressing problems relating to the elimination of PVC and BFRs use. Through this legislation, the industry-wide replacement of PVC and BFRs could be expedited." For more points, it needs to provide case studies demonstrating the substitution of hazardous chemicals of concern such as chlorinated and brominated substances to the Substitution Support Portal (Subsport). **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.**	3/5
Policy and practice on sustainable sourcing of fibres for paper	Samsung now states that it is encouraging "responsible paper sourcing to prevent deforestation in the supply chain" and that "suppliers are required to verify and report the source of pulps and virgin fibres to ensure that it is legally and responsibly sourced". Samsung is working to increase the proportion of recycled fibre and FSC paper it uses. It reports that "in 2011, the company used mobile phone packaging with 50% recycled paper content. 73% of home appliances (refrigerators, washing machines, etc) manuals were made from FSC (Forest Stewardship Council) 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 requirement for suppliers to avoid products that are involved in deforestation or illegal logging and for its use of FSC paper and its reporting. For more points Samsung needs to set specific targets to reduce paper use and increase use of recycled and FSC fibres. **More information.**	1/3
Policy and practice on avoidance of conflict minerals	Samsung provides an update of its progress in 2011. It identified 36 smelters in use from its supplier, it has analysed its products and components for tin, tantalum/coltan and gold, and will identify which of its products potentially contain conflict minerals. It required approximately 2,000 suppliers to sign a compliance agreement that prohibits the use of conflict minerals, and required suppliers to complete the EICC/GeSI reporting template. **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.	2/5
Provides effective voluntary take-back where there are no EPR laws	Samsung offers diverse take-back programmes in 60 countries. In 2011, Samsung expanded the Samsung Recycling Direct (SRD) drop-off to 1,151 locations in 50 US states. It set up a voluntary recycling programme in India with 235 fixed drop-off locations for small mobile devices and 291 locations for larger consumer electronic products and an online information point. It established 16 drop-off locations in Canada and plans to set up a recycling system in Australia for the collection and recycling of mobile phones, TV, PCs and printers in May 2012. See **Sustainability Report** p.102 – 103. 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 locations here**. Samsung's r**ecycling 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.103).	6/8

SONY
8th position, 4.1/10

Sony moves up to 8th position, with 4.1 points. Sony was a top scorer in last year's Greenpeace Guide to Greener Electronics; it has lost significant points for not continuing its energy policy advocacy work for tougher greenhouse gas (GHG) reduction targets.

On other **Energy** criteria, Sony gets maximum points for third-party verified disclosure of its reducing GHG emissions, and for its progress reducing them. Sony aims to reduce GHG emissions by an absolute value of 30% from the fiscal year 2000 level by 2015. Having already met this goal, it should now set a secondary goal. Sony has not set a target for renewable energy use. Sony's strategy for reducing GHG emissions includes energy efficiency and increasing its use of renewable energy, which currently accounts for 10% of the total amount of electricity that Sony purchases globally each year.

On **Products**, Sony receives top marks for energy efficiency, with all of its TVs meeting or exceeding the latest Energy Star standards. The company uses approximately 8,500 tonnes of post-consumer recycled plastic annually, and has a goal to "reduce utilisation ratio of virgin oil-based plastics in products by 5% from the fiscal 2008 level" by 2015. Sony fails to 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 frame retardants (BFRs) is limited.

Sony's performance on **Sustainable Operations** has improved since last year. Sony escapes a penalty point for instituting a global paper procurement policy, citing the importance of forest conservation in purchasing decisions. Sony should immediately and publicly commit to stop sourcing any paper or packaging from Asia Pulp and Paper. Sony 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. Sony bases its chemicals management on the precautionary principle, but its programme does not fully implement the principle in practice. Sony's inheritance of Sony Ericsson's mobile recycling programme greatly improves its take-back programme. Sony reports on its compliance with India's new e-waste rule, and provides data on the quantities of e-waste collected.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	**Disclose and set targets for operational GHG emissions and RE supply**				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	**Product energy efficiency**				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	**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 there are no EPR laws				

Energy		12/32
Disclose and set targets for operational GHG emissions and RE supply	Sony discloses total GHG emissions for FY2011 from its own operations (scope 1 &2) as 1,500,918 tons CO_2-e. Scope 3 emissions from business travel are disclosed as 93,000 CO_2-e. Sony also provides data on Scope 3 GHG emissions from the electricity consumed during product use (22,970,000t-CO_2) and emissions from product shipment (468,000t-CO_2). Sony provides background information and analysis on the source of its GHG emissions and gives details of emissions in each year from FY2000. **More information. Verification** is provided by Bureau Veritas. Sony has set itself the objective of a "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 and GHG emission are down by 32% in FY2011. It also aims to reduce CO_2 emissions from logistics by 14% from the fiscal 2008 level – emissions are down 22% in FY2011. **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.**	4/8
Disclose and set targets for supply chain GHG emissions and RE supply	Sony estimates the quantity of GHG emissions from its main OEM/ODM suppliers in fiscal year 2010 (calculated in fiscal year 2011) at approximately 1.23 million tons. **In future** it aims to include other suppliers and examine the methods it uses to ascertain greenhouse GHG emissions throughout its supply chain. Sony outlines its targets in its Green Management Plan (2015) for Procurement are to: (1) Establish a mechanism for determining suppliers' greenhouse gas emissions; and (2) Contribute to the development of a common industry-wide reporting format, and reports that it "essentially completed the establishment of a mechanism for collecting data from our principal OEM/ODM*1 suppliers". **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). **More information.**	3/8
Clean Electricity Plan (CEP)	One of Sony's climate change targets to achieve a "zero environmental footprint" and it states that: "In seeking to lower energy consumption at sites, Sony is prioritising efforts to improve energy efficiency and cut emissions of greenhouse gases used and is thus focusing on the use of renewable energy." **More information.** Sony reports that approximately 10% of the total amount of electricity that it purchases worldwide each year is renewable energy (a reduction in CO_2 emissions of approximately 123,000 tons). This is made up of Green Power Certificates and solar power generation systems. In Japan, Sony is the largest purchaser of both Green Power Certificates, equivalent to around 3.45% of the Group's total power use in Japan and Green Heat certificates from biomass heat production. Sony gives details of all of its Green Power contracts in Japan. **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. 74% of the electricity consumed at Sony Electronics sites in the US is offset by certified renewable energy. Renewable energy is also used by other Sony Group companies in the US. Sony sites around the world implement a variety of measures aimed at increasing the efficiency of energy used in their various operations; **examples of energy efficiency measures** that have been take in Malaysia and China are given. **More information.**	4/8
Clean Energy Policy Advocacy	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. **More information.** Sony is also a member of the World Wildlife Fund's (WWF) Climate Savers programme, working to establish ambitious targets to voluntarily reduce CO_2 emissions. 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.**	1/8

Greener Products		7/16
Product energy efficiency	Sony **states** that it actively promotes the meeting of Energy Star standards. 100% of new models of PCs (14 series) launched in FY2011 comply with Energy Star 5.2 requirements; of those models, 6 series (approximately 42%) exceeded the 5.2 requirements by a margin of 50% or more. In addition, all new AC adapters sold from FY 2009 have achieved Level V rating described in International Efficiency Marking Protocol for External Power Supplies. **77% of models** launched in the US and Canada in 2012 comply with Energy Star 5.3, while 100% of models achieved the sleep mode power consumption requirements by a margin of 50% or more. **Sony describes its energy management tools for TVs** and **for PCs**. Sony aims to reduce annual per-product energy consumption by 30% from the fiscal 2008 level; emissions are down 32% in FY2011. **More information.**	5/5
Avoidance of hazardous substances in products	As of March 2012, Sony has phased out the use of PVC (defined as "packaging materials, casings, sheets/laminates of speaker housings, contactless IC cards and carrying bags/cases for products") 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. Information on Sony Mobile Communications AB is based on Sony Ericsson's 2011 sustainability report (reporting period: January 1 - December 31, 2011: all SE products are PVC and BFR free). For Xperia series mobile phones and accessories, PVC has been eliminated for plastic components. For other products, PVC has been eliminated for casings and cables for internal wiring (excluding accessories). BFR has been eliminated for PWBs, casings and cables in Xperia mobile phones. For other products, BFR has been eliminated for casings and main PWBs of products (excluding accessories). **More information. Further details on the phase out of hazardous substances** in Sony Mobile Communications (formerly Sony Ericsson) products are provided. Sony provides an extensive list of products (including model numbers) that are "PVC/BFR-free", including personal computers, VAIO laptops,MP3 players, Walkman, and 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 **Eleventh Edition of Standard SS-00259 for General Use** (p9 & 10). Sony plans to ban the use of another BFR, HBCDD, in 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 plasticisers in cables and cords beginning in 2014, but not all phthalates are banned and the deadline is unreasonable. Sony has succeeded in eliminating 6 phthalates from Xperia series mobile phones and has eliminated the use of phthalates in the bodies of PSP units and AC adapters shipped to Europe. 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 an 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. However, this phase out date is not reflected in its 11th SEC standard. **More information.**	1/5
Use of recycled plastic in products	Sony states that it actively introduces post-consumer recycled plastics into its products; post-consumer recycled plastic accounted for approximately 2.7% in FY2011. For more points, Sony should set short-term future goals and drive the percentage of post-consumer recycled plastic above 3%. For example, the KDL-32BX350 BRAVIA LCD television uses approximately 10% recycled plastics in the form of post-consumer styrene foam and beverage containers for parts such as its rear cover. The Sony Group currently uses more than 17,000 tons of recycled plastics annually in various products, including televisions, recording media, audio products, PCs and digital video cameras; 50% of this is post-consumer recycled plastics. Sony also has a goal to "reduce utilisation ratio of virgin oil-based plastics in products by 5% from the fiscal 2008 level" by 2015. It has developed a technology, **SoRPlas**, which is 99% recycled polycarbonate plastics (both post-consumer and post-industrial, for use in LCD TVs and in future, cameras and mobile phones. Sony's use of virgin plastic in fiscal year 2011 was 2.4% lower than in fiscal year 2008, owing to the progress of efforts to expand the use of recycled plastics, particularly in televisions and cameras, as well as to the steadily expanding use of recycled plastics in other product categories. **More information.**	1/3
Product life cycle	Sony has design, manufacturing and parts related initiatives aimed at improving the quality, safety and long-term reliability of products. Sony has created institutional mechanisms to develop and manufacture products for long term use. **More information.** Sony provides **details on innovations for extending product life**, including battery care functions and software updates. Sony **does not provide information on the average length of product warranties**, apart from some information on a tourist limited warranty. 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.	0/3

Sustainable Operations		9/21
Chemicals management and advocacy	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 does not provide any evidence of advocacy for strong chemicals legislation. It has not submitted case studies demonstrating the substitution of hazardous chemicals of concern to the Substitution Support Portal (Subsport). **More information.** Sony provides **information** in SS-00259 (11th edition, March 2012) 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. There is also inconsistency with its stated objectives for 2015 to "eliminate environment-related Substances to be Controlled which are of very high concern … brominated flame retardants (BFRs) in certain specified applications". However, this phase out date and specific details about which applications it applies to are not reflected in its 11th SEC standard. **More information here** and **here.** 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.**	2/5
Policy and practice on sustainable sourcing of fibres for paper	Sony **states** that it "recognises the impact of illegal logging on biodiversity and considers responsible procurement to be an important part of fulfilling its responsibility to society as a corporate citizen". Sony has formulated a **paper and printed material purchasing policy** covering the entire Sony Group to promote the environmentally conscious use of paper in order to ensure the efficient use of resources, including the conservation of forests and preservation of biodiversity. This policy is being implemented gradually worldwide. It includes the principle that "wood as raw material for paper shall be produced in compliance with the regulatory requirements of the country where the wood is logged". Priority of purchase it to be given to recycled paper or paper that is third party certified to be from wood under environmentally appropriate forest management. Sony is taking measures to reduce its use of paper: The volume of paper used in fiscal year 2011 was 11% below the fiscal year 2010 level. **More information.**	1/3
Policy and practice on avoidance of conflict minerals	Sony states that in August 2011, it "initiated a traceability of certain product categories using the EICC/GeSI and conflict minerals reporting template, as well as joint conflict-free smelter certification programmes, as part of its on-going development of systems and measures to implement its policy against conflict minerals". The EICC/GeSI's Smelter List includes part of minerals' smelters identified through Sony's traceability processes. Sony supports and contributes to industry initiatives such as the traceability project for tin launched in 2010 by ITRI, a tin industry organisation, to validate that the metals used in its products are not contributing to conflict and come from sustainable sources. Sony is participating in Stakeholder Engagement on Conflict Minerals and is promoting industry initiatives within the EICC and JEITA (Japan Electronics Information Technology industries Association) as part of its **effort to address CSR issues relating to mineral procurement**. 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.	3/5
Provides effective voluntary take-back where there are no EPR laws	Sony began its firsts free-of-charge recycling programme in Latin America when it launched "**Proyecto Ambiente**," in Columbia in April 2011. The programme applies to audio and video equipment, televisions, cellular phones and all other Sony-branded products. Sony Mobile Communications has free-take back of its mobile phones in about several non-OECD countries where no legislation exists (Brazil, Columbia, India, Israel, Malaysia, Philippines, Sinapore, Thailand, China, Taiwan, HK). Sony has a nationwide recycling programme in the US, together with WM Recycle America, the Green Glove Programme for returning TVs to retailers and the GreenFill initiative for recycling small electronics via retailers. It has launched a new website through which consumers may search for the optimal method of returning and recycling used electronics products (including non-Sony products). **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. In 2011, locations were increased from 25 to 58 non-retail locations which accept all Sony products for recycling at no charge. **More information.** Sony reports on its compliance with India's new e-waste rule and provides data on the quantities of e-waste collected. The collection of used mobile phones is also being promoted by Sony Mobile Communications (formerly Sony Ericsson), that has operation collection in India since 2008 and has **5000 collection points**. In fiscal 2009, Sony recovered 120,000 tons of end-of-life products, a decline from fiscal year 2010, attributable to the end of Japanese eco points scheme for the recycling of home appliances. Figures are 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 108% based on their average lifespan. But this figure is only for Japan and there is no differentiation for TVs and PCs. **More information.**	3/8

LENOVO
9th position, 3.9/10

Lenovo drops to 9th place in this edition of the Guide. Lenovo made progress by releasing products free of polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs) since the last Guide, but did not reach its extended goal of eliminating these chemicals from all its products by the end of 2011.

On other **Products** criteria, Lenovo scores well for its use of recycled plastics. A slightly higher percentage of post-consumer plastics use would earn Lenovo maximum points. Lenovo receives additional points for disclosing information on warranties, spare parts, and increasing the number of products that meet or exceed Energy Star standards.

Lenovo increases its score on the **Energy** criteria. After achieving its targets for fiscal year 2011, Lenovo aims to establish new targets to reduce its GHG emissions by the end of 2012. To increase its score, Lenovo needs to set ambitious targets to reduce its own GHG emissions by at least 30% by 2015 for its operations and dramatically increase renewable electricity use by 2020. For additional points on this criteria, Lenovo needs a detailed clean electricity plan and political advocacy beyond its support for a 30% reduction in emissions from developed countries by 2020.

Lenovo's best score on **Sustainable Operations** is for its take-back programme in India, but still has work to do to ensure there is a programme in every area where its products can be purchased. Lenovo also has work to do on its policy on hazardous substances. In regards to conflict-free minerals, Lenovo is lagging behind its competitors; it must publish mapped smelters and suppliers. Lenovo also scores points for its take-back programme in India, but has work to do to ensure there is a programme in every area where its products can be purchased. While other companies are announcing responsible paper fibre sourcing policies, Lenovo specifies the use of "environmentally friendly packaging" but fails to publish a policy banning deforestation and illegal logging, or specify that its recycled fibres should be FSC certified.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	**Disclose and set targets for operational GHG emissions and RE supply**				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	**Product energy efficiency**				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	**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 there are no EPR laws				

Energy		10/32
Disclose and set targets for operational GHG emissions and RE supply	**Lenovo reports** GHG emissions of 91,592 metric tons CO_2-e from global operations in 2011/12, increased from 73,241 tons in 20109/11. Scope 3 emissions for business travel have also increased from 24,316 in 2010/11 to 31,588 in 2011/12. The increases were "due to organic growth and the acquisition of Lenovo Mobile Communication Technology Incorporated. However, Lenovo's emissions intensity improved when measured against total revenue, employee population, and unit of production." Lenovo provides verification, for its 2009/10 and 2010/11 data, by Bureau Veritias, according to ISO 14064. **More information.** Lenovo needs to provide more background information and analysis on the source of its GHG emissions (on its website or CR report). Lenovo has a target to eliminate or offset Scope 1 GHG emissions. It states that it will evaluate this target on an annual basis. Lenovo "carbon balanced" its Scope 1 emissions during each of the past two years and is committed to doing so again this year. It also has targets to achieve absolute reductions in scope 2 emissions, with progressive targets up to 20% by 31 March 2020, relative to 2008/09. Although there was an increase in absolute emissions during FY 2011/12, Lenovo states that it is "on track" to achieve its 13% reduction by 31 March 2013. Some portion of this reduction will have to be achieved through the purchase of carbon offsets or renewable energy certificates. There are no specific targets for increasing use of renewable energy. Lenovo aims to reduce emissions associated with business travel, and although it aimed to establish reduction targets by 3/31/2012, its target is to "monitor and report GHG emissions associated with employee business travel, and employee commuting during FY 2012/13". 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.**	4/8
Disclose and set targets for supply chain GHG emissions and RE supply	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 1st-tier suppliers. Based on received 2010 suppliers' Scope 1 and 2 GHG emissions it was estimated that Lenovo's 19 key suppliers representing almost 80% of direct spend accounted for over 900,000 MT CO_2e allocated emissions. Lenovo plans to engage with its key suppliers on carbon emission reductions opportunities. 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 continues to work on quantifying the lifetime impact of its products which will help identify life cycle areas where GHG emissions can be effectively reduced. An internal product carbon footprint calculation guidance has been developed. 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, for example the PCF China Standard Project in cooperation with the Ministry of Industry and Information Technology of the PR of China. Lenovo's targets for its supply chain include establishing PCF for selected products during 2012/13, finalising the PCF methodology for other product categories and increasing the number of suppliers reporting via EICC reporting tool. **Lenovo states** that "due to the opportunities for inconsistencies in reporting that are presented by the current broadly defined methodologies we have not set PCF reduction targets at this time." In FY 2012/2013, **Lenovo states** it "will be conducting several initiatives to drive transparency in direct procurement spend, including the development of metrics to estimate Lenovo-related absolute and per-unit emissions to establish baselines, quantitative reduction goals, and measure improvements. In addition, Lenovo will request periodic reporting on goals and progress towards meeting these goals, while communicating with all suppliers to share best practices and reduction goals".	3/8
Clean Electricity Plan (CEP)	Lenovo summarises its strategy as follows: "The energy and emissions project hierarchy that Lenovo uses to establish these plans favors energy efficiency first, use of renewable energy second and finally the purchase of renewable energy credits or carbon offsets. Over 50 energy efficiency and renewable energy projects were implemented during the past three years. Purchase of renewable energy credits and carbon offsets was used to meet reduction goals. In 2011/12 Lenovo has implemented seven new energy efficiency projects that will reduce energy consumption by 950 MWh annually. It has committed to install local renewable energy generation sources where technically and economically feasible; for example, solar panels at its manufacturing site in Shanghai have the capacity to generate 520 MWh per year, representing between 10-15% of site's annual electricity consumption. Lenovo has also purchased renewable energy certificates in the US, equivalent to greater than 15% of the carbon emissions associated with Lenovo's total direct and indirect emissions during FY 2011/12. **More information.** Lenovo provides **certificates** for its purchase of RECs.	2/8
Clean Energy Policy Advocacy	Lenovo supports the conclusions as presented by the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC), 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 Labelling programme, Energy Saving Work Association of Chinese Institute of Electronics, and China Energy Conservation Programme. **More information.**	1/8

Greener Products		9/16
Product energy efficiency	Lenovo reports that approximately 98% of all notebook platforms, 71% of all desktop platforms, 92% of all workstation platforms, 50% of all server platforms and 96% 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 programme, etc.) and WW (EU ErP, Australia MEPS, etc.) energy efficiency requirements and achieve Level V rating on the International Efficiency Marking Protocol for External Power Supplies. 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. Lenovo PCs come with built-in energy-efficient tools and eco-friendly features**. Lenovo has **a target to ensure 100% of relevant product offerings** (desktop, notebook, workstation, visuals) are Energy Star qualified by 31 March 2013.	4/5
Avoidance of hazardous substances in products	In 2012 Lenovo has eliminated most PVC and BFR from ThinkPad notebooks. PVC is only used in power cords and cables. BFRs are used in power cords, cables, AC adapters, battery packs, planar ASMs, subcards, connectors, and some modular parts (color sensors, finger print modules, etc.) – although there are many products that are free from various combinations of the above parts (see Lenovo's list). Lenovo made significant progress in 2011 releasing high volume products that meet the iNEMI definition of low halogen (excluding certain battery and power related parts), including the top selling ThinkPad T420 notebook, the ThinkCentre M90p low halogen small form factor desktop, the Zhao yang K47 (China) notebook and ThinkPad X1, T520, W520, T420, X220, and X220t notebooks and the LT2452p monitor which meets the iNEMI definition of low halogen with the exception of the external cables. Lenovo has publically disclosed its low halogen products since 2008. Lenovo continues to add low halogen commodity categories, including all plastic enclosures; most components and connectors (with the exception of printed board laminates); all mechanical plastic parts. More information **here** and **here**. Lenovo's original timeline for eliminating PVC and BFRs in all products shifted from end of 2009, to 2010 and then again to 2011. While progress towards complete phase out is evident, the removal of BFRs from all components of all products is still to be achieved, so that all new products are completely PVC/BFR free, Lenovo states that it is "continuing to work with its supply chain to drive its low halogen transition across all commodities and product families". Antimony and beryllium and their compounds have a phase-out target date of 2012. Three phthalates, DEHP, DBP and BBP are listed as restricted. Other 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. 22 - 24**.	2/5
Use of recycled plastic in products	Lenovo reports its net Post-Consumer Content plastics (PCC) in 2010 as 4.3% of the total plastics used. However, Lenovo needs to report the equivalent percentage of PCC used in 2011 and 2012. Many of Lenovo's products have some PCC, for example, currently, all ThinkPad Edge notebooks contain at least 10% PCCt. Many Lenovo commercial desktops use significant amounts of PCC, including the ThinkCentre M92p Tiny (39%), the ThinkCentre M92p and M82 Tower (42%), and the ThinkCentre M92p and M82 Small Form Factors (36%). In the first half 2012 alone, Lenovo has used net PCC of over 4.9 million pounds and aims to incorporate some amount of PCC into every PC product released by the end of fiscal year (March 2012). It has a target to increase each business units use of PCC by 20% year to year. New targets for 2012/2013 are: "100% of products released after March 31, 2013, will contain at least 5% PCC relative to total plastics weight." "Increase the percentage of PCC (relative to total plastics weight) by 10% for all new products released after March 31, 2013 (relative to the previous generation of the product). **More information. More details on Lenovo's programme** to increase use of PCC.	2/3
Product life cycle	Lenovo states that it "designs its products to maximise their product lifecycle and offers three year standard warranties and five years of replacement parts availability on many of our top selling commercial products to support this extended lifecycle. Three year warranties are offered as the base warranty on many top selling Think branded products, including all commercial monitors, T series notebooks, M series desktops, and many others. In addition, customers can purchase warranty upgrades to extend the base warranty by one or two years for many products." **Design features in Lenovo products** to extend product life include Longevity Battery Technology which extends notebook battery cycle life through key technologies.	1/3

Sustainable Operations		8/21
Chemicals management and advocacy	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 provide any evidence of advocacy for strong chemicals legislation and has not submitted case studies demonstrating the substitution of hazardous chemicals of concern to the Substitution Support Portal (Subsport). **More information.** 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.	3/5
Policy and practice on sustainable sourcing of fibres for paper	Lenovo states that it "is committed to offering environmentally preferable packaging for its products. Over the past several years, Lenovo has had a strong focus on increasing the use of recycled and recyclable materials in packaging, reducing the size of packaging, and expanding the use of bulk and reusable packaging solutions. Since 2008, Lenovo has totally eliminated over 1,000 tons of packaging consumption by weight through design optimisation and refinement across all Lenovo product shipments." **More information.** **Lenovo's goal** is " to drive to 100% environmentally sustainable materials, and expand use of 100% post-consumer packaging material globally". **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.	0/3
Policy and practice on avoidance of conflict minerals	Lenovo **reports** on its plans for 2012, including: (1) the further development of the Conflict-Free Smelter Validation Programme; (2) a common industry approach to implementation of US Securities & Exchange Commission (SEC) requirements on disclosure and due diligence; (3) supporting the implementation of a verifiable traceability scheme for the DRC and neighbouring countries for conflict-free minerals; and (4) communicating with stakeholders on its positions and initiatives related to metals derived from conflict minerals. Lenovo now has a **conflict mineral policy** which sets out its policy and the actions it is taking to inform and educate its suppliers. It states that it "is working to drive supply chain transparency through participation in multi-industry, multi-level collaborative efforts to address this topic". 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.**	1/5
Provides effective voluntary take-back where there are no EPR laws	Take-back is offered in 51 countries (of which 21 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. Lenovo gives **details of its compliance** with the new India e-waste regulation, where it is collaborating with Sims Recycling and has 76 take-back points. During 2011, this programme collected and recycled 2.12 metric tons of customer returned equipment. **Details of take-back 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 calendar year 2011, Lenovo financed or managed the processing of more than 12,700 metric tons of customer returned computer equipment. This performance represents a 32.7% increase over the previous calendar year and continues to grow annually. This equates to 5.8 % of the weight of products shipped in 2007. See p. 48 & 49, **FY2010 Sustainability Report**.	4/8

PHILIPS
10th Position, 3.8/10

Philips moves down to 10th position in the Greenpeace Guide to Greener Electronics, with 3.8 points.

It scores well in the **Energy** criteria for third-party verified disclosure of greenhouse gas (GHG) emissions of its own operations, and for progress to reduce its GHG emissions. Its short-term targets to increase energy efficiency by 25% and increase use of renewable energy to the level needed to achieve its 2% carbon footprint reduction target end this year. New longer-term targets beyond 2012 – GHG reduction by a further 30% by 2015, and to use 100% renewable electricity by 2020 – are needed. The company loses much of its previous advocacy score, as it has been relatively silent on climate advocacy in the past twelve months.

On **Products**, Philips has a number of products free from polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs), as well as six phthalates and antimony. Although Philips no longer sells TVs, it was the first company to release a PVC/BFR-free TV, the Econova LED TV. It needs to commit to phase out exempted uses of beryllium and all phthalates. Philips needs to specify post-consumer recycled plastic, and to report the percentage it currently uses. Philips fails to score points on product life cycle, as it does not publicly disclose the warranty and spare parts availability for its main product lines.

Philips scores the best in the **Sustainable Operations** criteria, for its policy and practice on conflict minerals, and has disclosed mapped smelters or suppliers. There is room for improvement in its chemicals policy and management with advocacy on restrictions of hazardous substances. Philips' take-back and recycling programme must expand beyond the pilot project stage, in particular to countries where e-waste legislation is not in place. The company also lacks a sustainable paper procurement policy.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		11/32
Disclose and set targets for operational GHG emissions and RE supply	Philips discloses its CO_2 equivalent emissions to be 1,771 kt in 2011 (reduced from 1,808 kt in 2010) in its **2011 Annual 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 **recognised as a leader** in carbon disclosure and performance for its reporting of GHG emissions in 2011 by the Carbon Disclosure Project (CDP) with a top score of 99 (out of 100) for Carbon Disclosure and an 'A' for our overall Carbon Performance. 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 programme, 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%. 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.	4/8
Disclose and set targets for supply chain GHG emissions and RE supply	In 2011, Philips engaged with the Carbon Disclosure Project and Trucost, an environmental data and insight company specialising in supply chain CO_2 reporting, to quantify the carbon emissions in its supply chain. The emissions were estimated at approximately 5.6 million tons, which is almost 6 times its scope 1 and 2 emissions. The study also unveiled the "hotspots" in its supply chain; **Philips aims** to focus its energy efficiency improvement and carbon reduction activities with its suppliers. Philips needs to set a target to cut GHG emissions by its supply chain and develop a strategy to achieve this.	2/8
Clean Electricity Plan (CEP)	Accounting for 40% of the GHG emissions (see E1), **total CO_2 emissions from manufacturing** decreased 8% due to continued energy efficiency improvement programmes, changing industrial footprint and the further increase of the share of purchased electricity from renewable sources to 44% of total purchased electricity. Increasing the share of purchased renewable energy also contributed to a 2% reduction in GHG emissions from offices and warehouses. In addition, **operational energy efficiency improved** 4%, from 1.29 terajoules per million euro sales in 2010 to 1.24 terajoules per million euro sales in 2011. Total energy use in manufacturing was 13,982 terajoules in 2011, down by 3% compared to 2010. A breakdown of energy use by product sector is provided; lighting makes up 80%. See p.189 **Annual Report**. 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.	4/8
Clean Energy Policy Advocacy	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.** Much of Philips' previous climate advocacy, including work the UN Climate Change conferences, and calling upon the EU to adopt a 30% reduction target by 2020, occurred more than one year ago and will not be counted in this version of the Guide.	1/8

Greener Products		7/16
Product energy efficiency	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 its total product portfolio **improved slightly** (some 2% in 2011 and 8% compared to 2009). Philips believes in a level playing of minimum energy efficiency standards for products. **More information.** Philips no longer manufactures TVs and **does not report** on whether its EPS' meet or exceed the Energy Star or International Efficiency Marking Protocol standards.	3/5
Avoidance of hazardous substances in products	Philips continues making progress on its **commitment to phase out PVC/BFR from products**. The company has launched new shavers and grooming products, among others, free of these substances. Philips was the first company to introduce a PVC and BFR-free TV; the Econova LED-TV.. From July 2010 new adapters for consumer lifestyle products have also been PVC and BFR-free. Additionally, 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) and antimony trioxide are being phased out from new products. 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). 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. **More information on Philips' commitment to eliminating PVC/BFR**. **News release** announcing Econova TV. 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**.	3/5
Use of recycled plastic in products	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.** In 2011, Philips introduced the **SENSEO Viva Café Eco**, the first product in its category to be made from 50% recycled plastics.	1/3
Product life cycle	Philips **StyliD Performance and LuxSpace Accent accent lighting** for supermarkets and fashion retailers have a long system lifetime. The Philips EcoDesign process aims to create products that have significantly less impact on the environment during their whole life cycle - 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 gives examples of four products with warranties of 2 years, although it is not known if these are its four best-selling products. Spare parts availability is not provided. Example **1, 2, 3** and **4**. Philips needs to publicly disclose the length of warranty and spare parts availability for its best selling products. 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.	0/3

Sustainable Operations		8/21
Chemicals management and advocacy	Philips' definition of the Precautionary Principle identifies the need to take preventative measures without full scientific certainty. **More information.** Philips does not provide any evidence of advocacy for strong chemicals legislation. It has not submitted case studies demonstrating the substitution of hazardous chemicals of concern to the Substitution Support Portal (Subsport). **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**). 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.** 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.** **BOMcheck List of Restricted and Declarable Substances, August 2012.**	3/5
Policy and practice on sustainable sourcing of fibres for paper	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.22, **Sustainability Section, Annual Report 2011.** **Philips gives an example of 90% recycled cardboard packaging. (Green Products and Green Innovation).** 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.	0/3
Policy and practice on avoidance of conflict minerals	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.	4/5
Provides effective voluntary take-back where there are no EPR laws	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 and provides three phone numbers for televisions, mobile phones and monitors. **More information.** Pilot projects have started in Brazil and Argentina but have not been expanded further. Philips is helping with the development of a national WEEE programme in Thailand and for lamps in South Africa. It is Philips intention to help establish **global collection and recycling systems**, 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 and contacts for recyclers in the EU. Philips needs to institutionalise the pilot projects and expand its take-back programme to other countries. **Background** about the calculation of recycling data in Europe. The amount of collection and recycling for 2010 was calculated at 35,000 tons; there was a decrease in recycled lighting products. Philips no longer reports its recycling rate as a percentage of past sales. (**Closing the material loop**).	1/8

PANASONIC
11th position, 3.6/10

Panasonic falls back to 11th position in this edition of the Greenpeace Guide to Greener Electronics, with 3.6 points.

Panasonic scores low on the **Energy** criteria. The company fails to provide a comprehensive greenhouse gas (GHG) emissions reduction and clean energy strategy. For more points, Panasonic must aim to achieve a 30% emissions reduction by 2015, and increase its renewable energy use to 100% by 2020. Panasonic receives points for making progress in reducing its GHG emissions and energy efficiency, and its use, however small, of renewable energy. Panasonic reports its GHG emissions from its own operations, which are externally verified, but does not report on business travel.

Panasonic scores slightly above average on **Products**. The company provides information about its warranties and replacement parts, as well as many examples of innovation to make its products last longer. Panasonic has many products that are free from polyvinyl chloride plastic (PVC), though it did not meet its goal to eliminate PVC and brominated frame retardants (BFRs) from its notebooks and mobile phones by the end of 2011, citing technical difficulty. Panasonic increased its reporting and score on recycled plastic, though it still needs to publish a long-term goal. It scores maximum points for the energy efficiency of its products.

For **Sustainable Operations**, Panasonic's take-back programmes for obsolete products do not exist globally and do not yet cover all Panasonic's product groups, although there is good coverage for its PCs. Panasonic has a detailed chemicals management programme, although there are some inconsistencies when compared to its commitments. The company has improved its conflict minerals policy and requests its primary component and material suppliers to verify the sources of minerals. Panasonic's paper procurement policy falls short for not excluding suppliers that are involved in deforestation and illegal logging.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		7/32
Disclose and set targets for operational GHG emissions and RE supply	Panasonic gives an overview of its global emissions from the whole life cycle of its products (apart from its suppliers). **More information.** Emissions of GHGs from production activities were 3.56 million tons CO_2-e in 2012, down from 4 million tons in 2011. **Panasonic achieved reductions** of 2.5 million tonnes CO_2-e in 2012 and aims to achieve reductions of 2.55 million tonnes CO_2-e in 2013. Absolute quantities of GHG emissions reduced from 4.59 million tons in 2006 to 3.56 million tons in 2012. Emissions from GHGs other than CO_2 were 12,000 tons. **More information.** Emissions of GHG from non-manufacturing sites were 180,000 tons CO_2-e in 2012. **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 40.37 million tons in fiscal 2012. 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'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.	2/8
Disclose and set targets for supply chain GHG emissions and RE supply	Panasonic manufactures many of its products in its own factories and emissions from these are reported above. Panasonic surveyed some its suppliers, selected according to provisional calculations of the GHG emissions of products. The total GHG emissions were calculated as 2.83 million tonnes, based on replies from 84 consenting suppliers. The calculations also included emissions from the supply of raw materials and components as well as logistics. Panasonic intends to identify total CO_2 emissions from the entire supply chain in the future. Panasonic also has an ongoing programme (ECO-VC) to identify energy and resource savings by suppliers. In the future, this will be implemented throughout its supply chain. **More information.** Panasonic has **green procurement standards** that include a request to suppliers to promote the reduction of their GHG emissions.	2/8
Clean Electricity Plan (CEP)	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 2012 it was 2,960,000 kWh. Previously it reported that the renewable energy consumed in Japan in fiscal 2011 was 2,190,000 KWh, up from 173,000 KWh in fiscal 2010. 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. In fiscal 2012, Panasonic utilized model factories to identify that energy savings of 20 to 30% higher than expected were possible; these processes will be extended to its global factories to achieve substantial energy savings. **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 1 July 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.**	2/8
Clean Energy Policy Advocacy	Panasonic is actively engaged in various partnerships and communications with governments, through direct communication and participation in concrete projects. Some examples: **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.** Panasonic says its supports the feed-in tariff (FIT) for renewable energy, started 1 July 2012 by the Japanese government, intended to encourage Japan to expand the use of renewable energy, and is making proposals to the Japanese government through industrial organisations to enhance/improve the programme. It should make this support more public.	1/8

Greener Products		10/16
Product energy efficiency	Panasonic exceeded its target to reduce GHG emissions through energy saving products by 32 million tons in fiscal 2012 by achieving savings of 35.05 million tons, largely due to the Japanese government's eco-point incentive programme and the Chinese government initiative to promote the replacement of used home appliances. It aims to reduce GHG emissons through energy saving products by 34.85 million tonnes in fiscal 2013 (previously this was 45 million tons). In fiscal 2011, Panasonic achieved reductions of 31.17 million tons. **More information.** TVs: 76% (down from 100% in 2011) of 2012 TV models (41 models), including 100% of 2012 LCD-TV models (21 models) meet Energy Star requirements (ver. 5.3) for both on-mode and standby power. 36 models exceed the standby power requirement by 80% and the remaining 5 models exceed by 70%. PCs: All (100%) of 39 notebook series currently available qualify for Energy Star requirements (ver. 5.2). (ENERGY STAR qualification based upon Total Energy Consumption (TEC) calculations in kilowatt hours per year (kWh)) **Panasonic notebook computers** are approx. 25% better than Energy Star TEC requirements on average. TVs have other power saving functions. **More information.** PCs have a peak load time control system. **More information.**	5/5
Avoidance of hazardous substances in products	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 more 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 – and 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 (its original timeline was the end of 2011) globally, but notes that there are technical issues to do with the development of PVC-free AC cords. Panasonic has launched a BFR-free notebook (CF-B10) and mobile phone (P-02D), apart from accessories. Panasonic intended to eliminate BFRs from notebooks and mobile phones by the end of 2011 and now intends to do so as soon as it identifies successful alternatives. 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. 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. This leaves out other applications of phthalates e.g. in adhesives. Likewise, use of antimony trioxide will be reduced as BFRs are eliminated. No timelines are given. Panasonic states that is does not use beryllium oxide and that it has not identified a substitute for beryllium copper alloy **More information.**	2/5
Use of recycled plastic in products	Panasonic used a total quantity of 35,786 tons of plastics in fiscal 2012, in washing machines and refrigerators; this included 4,392 tons of post-consumer recycled plastics. It aims to use more than 6,000 tons of recycled plastics mainly in home appliance products in fiscal 2013. **More information.** The use of recycled plastics is part of Panasonic's "**Recycling-oriented Manufacturing concept**" which sets targets to minimise the amount of total resources used and maximise the amount of recycled resources. Panasonic gives **some examples** where recycled plastics are used in products, for example vacuum insulation in refrigerators. Panasonic needs to provide a long-term target and timeline specifically for increasing use of post-consumer recycled plastic.	1/3
Product life cycle	Spare parts are available for 8 years for TVs and 6 years for PCs. Warranties are 1 year. Panasonic does not disclose information about its warranties or spare parts for mobile phones, since failure and repair are dealt with by service providers. **More information** (in Japanese). 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.** The **Toughbook PC, CF-31** has the ability to withstand shock and vibration during the use and let consumers use the product for a longer period of time. As an evidence to show the "solid" performance, it passed a 120 cm free-fall test. 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.	2/3

Sustainable Operations		8/21
Chemicals management and advocacy	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 does not provide any evidence of advocacy for strong chemicals legislation or case studies demonstrating the process of substituting hazardous chemicals of concern. **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.**	2/5
Policy and practice on sustainable sourcing of fibres for paper	In 2008 Panasonic agreed a policy with WWF to use FSC certified paper, with the aim of using 100 tons by 2010; 138 tons was used. Panasonic's **green purchasing policy** resulted in 100% of paper purchases for its offices in Japan being green purchases. 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.	1/3
Policy and practice on avoidance of conflict minerals	Panasonic has updated its position and activities on conflict minerals since September 2011. It **states** that it has; identified products and business areas and selected suppliers subject to conflict-related minerals due diligence; inspected and analysed existing suppliers for risks related to conflict-related minerals; and established a policy, management system, and process to start a full-scale due diligence programme beginning the next fiscal year. 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.**	3/5
Provides effective voluntary take-back where there are no EPR laws	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 audio and video with over 1500 collections sites nationwide, and a goal to achieve 1600 sites by the end of fiscal 2013. 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 were due to come into effect in July 2012 which aims to increase recycling rates of televisions and computers to more than 80% by 2020-21. In India it has set up a scheme with 76 collection points in 10 cities and provides a toll-free number for customers to recycle Panasonic's end-of-life products. Panasonic needs to continue to expand its take-back to more non- OECD countries and product groups. **More information here** and **here** 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. 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.	2/8

LGE

12th position, 3.5/10

LGE scores 3.5 points and moves up to 12th place. LGE receives points on a strong precautionary principle policy, but lacks sufficient advocacy follow up.

All of LGE's mobile phones are free of polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs), and free of phthalates, antimony trioxide and beryllium oxide. While TVs and notebooks have many PVC/BFR-free parts, LGE has not publicly disclosed information on its movement to phase these substances out from TV monitors and PCs by 2012, and household appliances by 2014. In other **Products** categories, LGE retains points for its strong statement in support of more stringent Energy Star verification standards, and gains a point for more detailed information about warranties and replacement parts.

LGE scores modest points on the **Energy** criteria. It sets a weak target of a 10% reduction in greenhouse gas (GHG) emissions from its operations by 2020 – the company should aim for a more ambitious target of at least 30% by 2015. LGE has achieved a yearly GHG reduction of approximately 20,000 tonnes through various energy efficiency measures. LGE's low carbon strategy now includes renewable energy use, but it needs an ambitious target to dramatically increase renewable electricity use by 2020 and an implementation strategy of how to do this without over-reliance on renewable energy credits. It earns a point for its support for mandatory emissions cuts of at least 30% in industrialised countries by 2020. LGE also reports on its GHG emissions for its operations and business travel. Although LGE has verified its emissions from a third party in Korea, it is still awaiting third party verification for its global emissions.

LGE scores best in **Sustainable Operations**, but still has plenty of room for improvement. It provides a take-back programme in 52 countries for obsolete mobile phones, 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 chemicals policy 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 in the process of addressing conflict minerals, but has not publicly mapped smelters or suppliers, and does not yet have a policy. It improves its score for paper sourcing by pledging to no longer buy from Asia Pulp and Paper, until the company no longer practices illegal logging and deforestation in Indonesia. LGE should expand that stance into a more comprehensive paper policy that excludes purchasing from other companies practising deforestation.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	**Disclose and set targets for operational GHG emissions and RE supply**				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	**Product energy efficiency**				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	**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 there are no EPR laws				

Energy		9/32
Disclose and set targets for operational GHG emissions and RE supply	LGE reports global GHG emission data (Scope 1,2 &3) for 2009 - 2012. The data includes 14 Korean operations and 30 overseas manufacturing operations. Emissions from business travel are also reported. LGE provides third party verification for Scope 1, 2 & 3 (business travel) by DNV for GHG emissions data from 2007 – 2011 in Korea, and up to 2010 for overseas. **More information.** LGE has set a target to reduce absolute emissions of GHG's by 10% by 2020, compared to a baseline of 2008. Emissions in 2011 have decreased to 1,361mt CO_2e compared to from 1,463mt CO_2e in 2008, however, they have increased compared to 2009 and 2010. **More information.** 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.	3/8
Disclose and set targets for supply chain GHG emissions and RE supply	LGE estimates that emissions from its supply chain were 13 million tonnes CO_2e in 2011.LG Electronics states that it is implementing a "low carbon supply chain management" strategy for suppliers to actively participate in the GHG reduction. We plan to purchase over KRW 50 trillion of components annually by the year 2020 from the companies conducting sustainable GHG reduction plans. We are supporting suppliers for reducing GHG emissions such as education, consulting etc. Additionally, we plan to facilitate suppliers' voluntary reduction of GHG emissions by creating low carbon management guidelines specified for the electronics industry and making them available to all our suppliers." **More information.** LGE has carbon footprint labels that are third party certified for 24 of its products and six components, from the Korea Environmental Industry and Technology Institute. See p. 36, **Sustainability Report 2011-2012** LGE **lists the life cycle emissions for its main product groups**.	2/8
Clean Electricity Plan (CEP)	LGE "understands renewable energy is the one of the most important sources to reduce GHG emissions in our global sites and plans to increase its voluntary use". **In the US**, purchases of wind and biomass energy will make up 8% of electricity purchases by 2013, with the aim of cutting GHG emissions by 50% by 2020 (compared to 2007). 24% of electricity consumption in Europe was renewable energy purchases. However, details of REC purchases aren't provided. **As of 2011**, solar power generating systems with a total capacity of 126KW are in operation at the production sites at Gumi, Changwon in Korea and also in Thailand. LGE sets out its low carbon strategy on its website and in its Sustainability Report (p.43). It aims to achieve its GHG reduction targets through activities such as production process innovation, facility/operation efficiency improvement and renewable energy use. It reduced 30,000 tons of GHG emissions in 2011 by investing in high efficiency equipment such as automatic building energy control systems, small capacity boilers and high efficiency turbo air compressors However, it also includes the purchase of steam from a municipal waste incinerator as one of its sources of renewable energy; however, incineration can't be considered as renewable energy and can release toxic substances. Solar power is LGE's new energy business. See p. 42,43 & 44, **Sustainability Report 2011-2012**	2/8
Clean Energy Policy Advocacy	"In November 2011**, LGE officially supported the 2°C Challenge Communique** proposed by the Corporate Leaders Network For Climate Action and clearly expressed its strong commitment towards GHG reductions and expanding renewable energy use. The communique urges governments and businesses around the world to participate in the effort to stabilize global warming to under 2°C and was conveyed to international leaders at the 17th Conference of the Parties (COP 17)."	2/8

Greener Products		6/16
Product energy efficiency	LGE last reported on the percentage of its products that comply with Energy Star in August 2010. At that time, 78% of its TVs comply with Energy Star 4.1. However, it continues to supplies a list of all its Energy Star qualified products (TVs, monitors, notebooks/tablets). **More information.** LGE now makes a strong statement in support of more stringent ES verification Standards. **More information.** LGE's strategy for improving products' energy efficiency is by formulating a five-year Technology Roadmap (TRM) for each product line, and then achieving the detailed goals. LGE has already met ERP (Energy-related Products) regulation and has **set goals** to reduce energy consumption and standby power.	3/5
Avoidance of hazardous substances in products	LGE backtracked on its commitment to eliminate PVC and BFRs in all its products by 2010. New information on the company's progress towards new goals or the percentage of products that are now PVC/BFR free have been provided. All LGE mobile phones are free from PVC and BFRs, as of 2010. Other substances include phthalates and antimony trioxide from January 2011 and beryllium oxide from 2002. Other products are partly PVC/BFR free, for example, monitors (mechanical plastic parts), LCD TVs, laptops, steam cleaners and vacuum cleaners. All Optical Disk Drives are PVC/BFR free from 2009. PVC and BFRs will now be banned from TVs, monitors and PCs by 2012. PVC and BFRs will be totally banned from use in household appliance models by 2014. The use of phthalates and antimony will be prohibited for all new TVs, monitors, PCs by 2012 and all new household appliances by 2014. As of yet, only 3 types of phthalates have been phased out and antimony is not mentioned. 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.**	1/5
Use of recycled plastic in products	LGE is trying to increase its use of post-consumer recycled plastic aiming for use across all products. The amount of post-consumer recycled plastics is 3,298 tons in 2011, which has increased from 989 tons in 2009 and 2,014 tons in 2010. LGE gives examples of products containing post-consumer recycled plastics, including a refrigerator, a washing machine, an air conditioner, mobile phones and monitors. LGE **does not currently have a clear target with defined milestones** to increase its use of post-consumer recycled plastic.	1/3
Product life cycle	LGE is making efforts to minimise e-waste by prolonging product life; as part of this, it has warranty and parts holding periods as follows: (1) Mobile phones – 1-2 years warranty and 3-5 years parts; (2) TV – 1-3 years warranty; (3) Air conditioner – 1.5 years; and (4) Washing machine, refrigerator etc. 1-3 years. It also provides 7 years spare parts availability for these 3 product lines. LGE also needs to provide this information specifically for its best-selling products within these categories. See p. 40, **Sustainability Report 2011-2012** LGE also gives **some examples of life cycle improvements**.	1/3

Sustainable Operations		9/21
Chemicals management and advocacy	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 does not provide any evidence of advocacy for strong chemicals legislation or case studies demonstrating the process of substituting hazardous chemicals of concern. 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 referring to its presence in the final product; this also needs to apply to the use of its listed substances in production processes. **More information here** and **here.**	3/5
Policy and practice on sustainable sourcing of fibres for paper	LGE reports on a 'Eco packaging development' which encourages suppliers to use FSC or PEFC sources of fibre and stipulates minimum recycled content of 50% for boxes and 80% for packaging paper. It also specifically excludes illegal sources of fibre. LGE still needs develop this policy further, in particular to set specific targets to reduce paper use and increase use of recycled and FSC fibres. PEFC sources are not acceptable. **More information.** LGE investigated the sourcing of its paper for catalogues in response to evidence that fibres from APP (responsible for illegal logging and deforestation in Indonesia) had been used. It could not be verified, however, LGE has now officially instructed its office supplies vendor to cease purchasing paper products made from APP materials as well as any paper derived from illegal logging sources and is also notifying all suppliers likewise. To keep these points, LGE must make announce this policy public.	2/3
Policy and practice on avoidance of conflict minerals	LGE has joined the EICC initiative and has publicly mapped smelters or suppliers.It has also joined the EICC audit process and has a internal audit policy on conflict minerals. LGE 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. LGE provides details on its website on its approach on conflict minerals and the measures it takes to show due diligence to prevent their use. **More information.**	2/5
Provides effective voluntary take-back where there are no EPR laws	LGE **aims to establish a global take-back programme**. 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. LGE has a nationwide recycling programme in the US for LGE, Zenith and GoldStar brands of TVs, computer monitors and other consumer electronics products. **More information here** and **here.** **US mobile phones.** 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 2007 to 2011. Data by country and by product type is also provided. However, LGE no longer reports its recycling rates as a percentage of past sales It has provided data on e-waste collected in India and details of compliance with India's new e-waste law to Greenpeace in India. **More information.**	2/8

HCL Infosystems

Joint 13th position, 3.1/10

HCL Infosystems (HCL) is included in the global release of the 18th edition of the Greenpeace Guide to Greener Electronics for the first time, having only been included in Indian editions previously. With a score of 3.1, HCL shares 13th position with Sharp.

On the **Energy** criteria, HCL scores well on the disclosure of greenhouse gas (GHG) emissions from its entire operation. HCL discloses its direct (scope 1 and 2) GHG emissions, although the company fails to provide information about its employees' travel (under scope 3 emissions). It also fails to set an ambitious target for renewable energy use. HCL performs reasonably well by committing to reduce its absolute GHG emissions by 20% by the year 2014. Its clean energy policy to mitigate its emissions lacks clarity. HCL's advocacy scores were reduced in this edition due to lack of public support for renewable energy policy in India. It scores 1 point for initiating the process with suppliers for measurement of GHG emissions in its supply chain.

On the **Products** criteria, HCL scores half marks for its energy efficient products. HCL hasn't updated information regarding ES 5.0 standards, citing numbers from 2010. The company continues to state that 29% of its products are free of polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs). HCL has pushed back its deadline to eliminate these chemicals from 2011 to December 2012 without mentioning a deadline to eliminate antimony and beryllium. HCL scores poorly on newly introduced criteria on the product life cycle because it provides little information on product warranty and innovation tools that would extend the life of its products. It fails to score on the use of recycled plastic in its products.

On the **Sustainable Operations** criteria, HCL – similarly to Wipro – scores well for providing convenient information to its customers in India to enable them to access its take-back service, which is available through 24 collection centres and via web registration. HCL also scores a point for its letter written to its supplier on avoidance of conflict metals in the products. HCL performs well on its chemical management policy and for its use of the precautionary principle, but missed out on a top score due to lack of clarity on chemical use. HCL did not disclose information about its sustainable paper sourcing policy; it needs to specifically set goals for recycled and Forest Stewardship Council certified supply, as well as to detail a policy that refuses to buy from companies engaging in deforestation and illegal logging.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		7/32
Disclose and set targets for operational GHG emissions and RE supply	HCL reports its GHG emissions under Scope 1(direct generation of electricity) and scope 2 (purchase of electricity from Grid) of the GHG protocol for year 2010-2011 using year 2007-08 as its base year. HCL sets a target of 20% reduction in its GHG emission by year 2014 from base year of 2007-08. The company provides a roadmap for achieving this target which primarily focuses on energy efficiency measures along with small initiatives on Renewable energy use. HCL claims that it reduces its carbon emission by 13.34% from its base year of year 2008-09 on absolute basis. **More information.** HCL provided external **verification certificate from Ernst & Young** (E&Y) for its emission disclosure. However, the certification is for the period of April-2009 to March-2010 and did not include updated disclosure period. To score more points, HCL needs to include scope 3 (business travel by its employees) in its GHG emissions disclosure and provide latest certificate from third party on its emission disclosure.	3/8
Disclose and set targets for supply chain GHG emissions and RE supply	HCL shares publicly its letter to 80% of its major suppliers and 2% of minor suppliers requesting information about their GHG emissions. Suppliers are also asked to disclose emissions from their own supply chain. However, there is no information disclosed on GHG emissions from its supply chain. Letter to Supplier and **more information.** To score more points, HCL needs to compile carbon emissions from its top suppliers and disclose it publicly.	2/8
Clean Electricity Plan (CEP)	There are limited details about HCL's Clean Electricity Plan in response to its emission reduction target of 20 % by 2014. The company outlines a few energy efficiency measures in the form of a roadmap to achieve the target. However, its current use of renewable energy is 0.23% of its total electricity use and its target of tripling solar energy use of 0.13 % by year 2012-13 is also very small. **More information** on emission reduction performance. **Renewable energy target.**	1/8
Clean Energy Policy Advocacy	HCL advocates for energy efficiency regulations and states that it works with government and industry stakeholders on this issue. However, its commitment for energy efficiency regulation lacks any detail plan for advocacy in this regard. Further, HCL did not make its position clear with regard to Renewable energy policy or regulation in India which is its base country of operation. **More information.** To score more points, HCL needs to take a public position on a national target for renewable energy in India and direct its advocacy efforts in this direction.	1/8

Greener Products		6/16
Product energy efficiency	55% of HCL's computer models are Energy Star 5.0 compliant. Following the launch of India's own product energy efficiency standard BEE-STAR, HCL's ME Series 54 product became its first BEE-STAR compliant product. 100% of HCL's laptop range complies with BEE-Star and HCL are in the process of rolling out BEE-star compliant HCL desktops. **More information.** **List of Energy Star 5.0 products.** However, there is no information / tools available for consumers on its website regarding energy management of products during use-phase.	3/5
Avoidance of hazardous substances in products	HCL has 29% of its product-line free from PVC and BFR. HCL has changed its PVC/BFR phase timeline from December 2011 to December 2012. This new timeline does not mention Berylium, antimony. 98% of HCL notebooks from series 40, 44 and, 54 ranges (accept the power-cord) models are PVC/BFR free. The Infiniti M A330 Pro is HCL's first PVC-BFR free Desktop computer. 21% of its products are already free from antimony and beryllium. As well as being PVC/BFR free, the HCL ME series 54 laptop is also free of antimony and beryllium. HCL did not show any further progress on its commitment of PVC and BFR phase-out from its all products. **More information.** HCL needs to follow through with its commitments and phase out PVC, BFR, antimony, beryllium and phthalates from all products.	2/5
Use of recycled plastic in products	It is encouraging that HCL has set a target for the use of recycled plastic in its products of up to 15%. However, this target in absence of any clear timeline does not score. In addition, HCL needs to specify the proportion of post-consumer plastics included in this target. **More information.** HCL also **wrote to its suppliers seeking information** on their use of post-industrial and post-consumer recycled plastic in the products.	0/3
Product life cycle	HCL offers 2 to 5 years as product warranty for its best selling products whereas standard warranty period is 1 year. Information about its warranties is published on its website. It also provides some information on product upgradability particularly on chips, RAM and internal memory. However, there is little information. **More information on Product life cycle**.	1/3

Sustainable Operations		7/17
Chemicals management and advocacy	HCL has a strong precautionary principle with a commitment to identify and eliminate all harmful and dangerous chemicals if reasonable scientific evidence suggests that they are harmful to human health and environment, even if full scientific evidence is not available. **More on precautionary principle.** HCL identifies 37 substances under two Classes for complete elimination or restricted use. Class A has 7 Substances which are already banned while 30 substances in Class B are regulated or have been targeted for phase out, some of which are being evaluated for phase out within a stated timeline. HCL shows good communication with its supply chain to implement its chemicals restrictions requirements. HCL also needs to specify "no intentional use" of its restricted substances to ensure that they are also eliminated during manufacturing and not only in the final product. **More on Chemical management policy.**	3/5
Policy and practice on sustainable sourcing of fibres for paper	HCL provides some information about its policy for use of recycle paper and its current consumption. HCL currently sources 54 % of its total paper consumption as "eco-friendly" paper. Further, it states that it partners with paper recyclers for recycling of its used paper. However, HCL does not provide any detail policy on its paper use. It also does not detail about whether its sourcing of eco-friendly papers are FSC certified paper. Also it statement on paper policy does not mention about any target for FSC paper usage. **More information.** To score points here, HCL 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.	0/3
Policy and practice on avoidance of conflict materials	HCL is committed to make its supply chains conflict-free and more transparent in the process. It has initiated the process to engage with its suppliers on the procurement of their minerals. **More information on conflict mineral policy**. To score more points, HCL needs to develop detail policy on its mineral procurement and its management that does not promote conflict in any region.	1/5
Provides effective voluntary take-back where there are no EPR laws	HCL offers a free take-back and recycling service to all of its customers and along with web registration, it has set up 28 collection centres across the country. **Help desk for e-waste collection.** A **FAQ** on detailed information about the ECOSafe programme and contact details for its collection centres, which are also provided with all product packaging. HCL reports amount of e-waste collected and recycled since 2005-06 to 2011-12. Current rate of recycling reported by the company is 6.23 % of past sale with absolute collection of 74.49 tonnes for year 2011-12. Its collection has increase almost 100% from previous year. Further, the company has set target of 100% e-waste collection based on 7 years past sales figures. **E-waste collection and recycling figure**.	3/4

SHARP
Joint 13th position, 3.1/10

Sharp falls back to joint 13th position with HCL, with a score of 3.1. Surprisingly, this solar power manufacturer does not have a renewable energy or energy efficiency target, and it only powers 0.5% of its electricity worldwide with solar. Sharp needs to aim to dramatically increase renewable electricity use by 2020.

On the other **Energy** criteria it scores points for a clean energy policy that advocates that the Japanese government expands its use of renewable energy, and stresses the importance of setting a strong feed-in tariff. Sharp receives points for disclosing greenhouse gas (GHG) emissions, but lacks a clear absolute GHG emissions reduction target. The company needs to set ambitious targets to reduce emissions by at least 30% by 2015 for its operations.

Sharp 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% exceeding the requirements for sleep mode. Sharp has many products that are free from polyvinyl chloride plastic (PVC) but looks to be backtracking on this commitment. Sharp's internal green products certification standards no longer include the requirement "uses no halogenated flame retardants, uses polyvinyl chloride substitutes". Sharp needs to communicate the dates when new products will be free of PVC, phthalates, brominated frame retardants (BFRs) and antimony. The company reports on use of recycled plastics, stating 8% of its plastic is used and has set a new target of using 2,000 tonnes by fiscal year 2015. Sharp 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. Sharp is the only company that supports a 20% collection target under Indian e-waste rules, among all global companies. Sharp needs to expand its take-back programme beyond OECD countries, especially where e-waste recycling legislation is not likely, or it risks losing additional points on this criteria in the future. Sharp lacks significant initiatives in implementing a chemicals management programme, disclosing commitments to phase out hazardous substances, and excluding suppliers involved in deforestation and illegal logging.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		10/32
Disclose and set targets for operational GHG emissions and RE supply	Total GHG emissions from Sharps operations are reported as 1,180 thousand tonnes CO_2-e in fiscal 2011 (down from 1,634); the data is subdivided into emissions from Sharps plants in Japan, overseas plants, offices in Japan and overseas and PFCs. **More information.** A combined total (1.41 million tons CO_2) for all GHG emissions and comparison with previous years **is provided**. Scope 3 emissions for business travel are now **reported**. **Verification is provided by KPMG**. Sharp provides background information and analysis on the source of its GHG emissions. **Total greenhouse gas emissions** for the Sharp Group in fiscal 2011 decreased by 13.5% compared to the previous fiscal year (with CO_2 emissions for Sharp's 10 factories in Japan reduced by 12.9% compared to the previous fiscal year. In fiscal 2011, Sharp met its 2012 goal 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. However, the proportion of emissions reduction from operations that makes up this objective is not explained. **More information.** Sharp's global long term target for 2015 is to reduce CO_2 emissions by 3% (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 2011**. 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.	2/8
Disclose and set targets for supply chain GHG emissions and RE supply	Sharp reports GHG emissions of 5,240 thousand tons CO_2 from the manufacture of materials procured for the main products and devices1 that the Sharp Group sold in 2011, out of a total of 8,442 thousand tons CO_2 scope 3 emissions. Sharp states that by 2020, GHG emissions reduction through Sharp's solar power-related business will be at least equal to the GHG emissions from Sharp business activities, including those in the supply chain and the use of Sharp products, but there is no absolute target to reduce supply chain emissions. Sharp's objectives for absolute cuts are focused on its 11 main plants in Japan. It also **lists** many plants, subsidiaries and affiliated companies outside Japan. Each site has a detailed environmental report which includes GHG emissions, energy efficiency measures and use of renewable energy.	3/8
Clean Electricity Plan (CEP)	Sharp has installed photovoltaic power systems at all of its domestic production sites; the electricity generated by renewable energy was approximately 0.55% of the electricity Sharp used worldwide in fiscal 2011. 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 by awarding "Green Factory" and "Super Green Factory" status, and provides **detailed case studies**. **Energy conservation case studies in offices**. Sharp aims to become a total solutions business for solar-generated electric power and will continue to pioneer an era of renewable energy through efforts in solar power generation. **More information.** However, there are no specific mid or long term targets for increasing use of renewable energy or reducing emissions through energy efficiency.	2/8
Clean Energy Policy Advocacy	On 26 August 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.** Several of Sharp's top managers have given lectures and promoted renewable energy, for example at the Government joint session of the 23rd International Energy Agency (IEA). 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.	3/8

Greener Products		8/16
Product energy efficiency	More than 90% of Sharp TVs meet the Energy Star requirements (ver. 5.3), which went into effect 30 September 2011. Almost 90% of them are at least 50% more energy efficient than the Energy Star baseline requires in Sleep mode, and over 30% of them are at least 30% more energy efficient in ON mode. A full 100% of Sharp MFPs (111 models) qualify under the version of the Energy Star requirements for imaging equipment (ver. 1.1). Although the Energy Star requirements have been changed since 1 July 2009, 34% 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.**	5/5
Avoidance of hazardous substances in products	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, the numbers of PVC free and part BFR free products that have come on the market in 2011 are less than in 2010. Sharp lists the products put on the market in 2011 that are free from PVC and phthalates (except accessories), including LCD TVs, solar modules, LED lighting, small household appliances, mobile phones, calculators, electronic dictionaries. BFR and antimony free products are listed as: LED Lighting, and water purifier. All other products listed (including. LCD TVs, blue-ray recorders players, video projectors, copiers/MFPs, mobile phones) only have the casings free from BFRs; products that were previously listed as BFR/antimony-free, such as Theatre Racks, Home Video System and electronic dictionaries are also now only BFR free in casings. 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. Even 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. It also needs to provide the percentage of each product line that is free from each specified substance, to demonstrate progress towards elimination. 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 no longer include the requirement "uses no halogenated flame retardants, uses polyvinyl chloride substitutes". (See p.037 **CSR Report**)	1/5
Use of recycled plastic in products	Sharp has developed recycling technology for repeatedly recovering plastic from used consumer electronics and reusing it in parts of new consumer electronics. The volume of recycled and reused plastic reached 1,410 tons in fiscal 2011. **Sharp plans to expand this amount** to 2,000 tons in fiscal 2015 (which Sharp has informed Greenpeace is comparable to about 8% of total plastics in the products concerned). **Recycling of bioplastics**, p. 036. **Examples of products** with environmental attributes, including the use of recycled plastics. P039 Sharp also needs to present its post-consumer plastics use and targets as a percentage of total plastics used.	1/3
Product life cycle	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.4-6) 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.	1/3

Sustainable Operations		3/21
Chemicals management and advocacy	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.8 & 12. **Green Procurement Guidelines** (new version, May 2012).	0/5
Policy and practice on sustainable sourcing of fibres for paper	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, May 2012), pp. 11 & 18. In a backwards step, its **Green Office Certification Standards no longer** 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.	0/3
Policy and practice on avoidance of conflict minerals	In response to a survey, over 80% of suppliers from whom Sharp purchases relevant parts and products responded that they do not use minerals from the DRC or adjoining countries. For suppliers that responded that they are uncertain whether or not they are using minerals from prohibited countries, Sharp is continuing to request that they refrain from using illegally mined minerals. Sharp states that it "will take swift and appropriate action against this problem by participating in the Responsible Minerals Trade Working Group of the Japan Electronics and Information Technology Industries Association (JEITA) as well as through other forums". **See p.4.** 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.	1/5
Provides effective voluntary take-back where there are no EPR laws	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, the US, the UK and New Zealand, and mobiles (Mobile Muster) in Australia. Sharp has worked with not-for-profit company PSA and the Australian government to devise a regulatory framework for end-of-life recycling of all TVs in Australia; compulsory take-back regulation for TVs came into force in July 2012. In India, Sharp has partnered with SIMS recycling which has two recycling facilities and 27 collection points to implement the new e-waste rule which came into force in May 2012. Sharp supports a 20% collection target under the current e-waste rule. 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 and Thailand, 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 and washing machines (by wt) from 2006 (41.9%) to 2010 (81.4%), based on sales 10 years ago. **More information.** It provides a breakdown of the quantities and recycling rates for these 4 product categories. **More information. Further details of its recycling technologies.**	2/8

TOSHIBA
15th position, 2.3/10

Toshiba drops to 15th position with 2.3 points. Toshiba has, as of March 2012, removed polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs) from most parts of its products. External cabling is not included, and not all wiring boards are BFR-free. It had previously released a PVC and BFR-free PC in March 2011. After having a penalty point imposed in 2010, Toshiba made a new commitment to phase out PVC, BFRs, antimony and compounds, beryllium and compounds, and phthalates by FY 2015 from all its consumer products. This timeline is too slow compared to its competitors, but the fact that Toshiba's commitment covers all products and a range of hazardous substances is welcome.

Toshiba also scores poorly on other **Products** criteria. The company does not publish information on its warranties and availability of spare parts. Toshiba has a new target, set for fiscal year 2012, to increase the ratio of recycled plastics used for products to 3% in fiscal year 2015. It also needs to report on the percentage of its products that meet and exceed Energy Star standards for each product range.

It also scores poorly on **Energy** criteria. Toshiba has reduced its emissions of CO_2 in line with its previous targets, and aims to keep CO_2 emissions below 60% of the fiscal year 1990 level. The presentation of these objectives is confusing and difficult to compare with the need to reduce its GHG emissions by at least 30% by 2015 for its own operations. Toshiba uses pre-Fukushima electricity emission co-efficients for the Japanese energy mix, which is misleading. Toshiba gives some examples of energy efficiency measures and use of renewable energy, but does not have a clean energy strategy. Toshiba 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 and use political opportunities like the draft Feed-In Tariff (FIT) law in Japan to advocate for more access to renewable energy. It reports its greenhouse gas (GHG) emissions for its operations, but not for business travel and does not provide third-partyverification for this data.

Toshiba scores relatively better on **Sustainable Operations**, though it has made little progress since the last edition. The company provides data on its global recycling rates for TVs and PCs, together with a detailed breakdown, though it has no substantial information on its India programme. Toshiba still needs to expand its take-back programme to non-OECD countries for its TVs. On conflict minerals, Toshiba has carried out supplier surveys and begun tracing, but has not yet publicly mapped its smelters and suppliers. Toshiba has a detailed chemicals management programme that is based on the precautionary principle. Toshiba fails to score on paper sourcing as it does not have a paper procurement policy that excludes suppliers who are involved in deforestation and illegal logging.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		5/32
Disclose and set targets for operational GHG emissions and RE supply	Toshiba discloses its GHG emissions (Scopes 1 & 2) in accordance with GHG Protocol, on page 21 in its Environmental Report 2012. In FY2011, Toshiba reduced 320,000 tons of GHG emissions by using power-saving measures and reorganisation of business and production sites, but total emissions increased to 80,000 tons due to the deterioration of CO_2 emission coefficient for electricity by 36% as a result of the Great East Japan Earthquake in 2011. See **p.21, Environmental Report 2012**. Toshiba Group's GHG emissions have decreased since FY2007 (and are 40% lower than those in FY1990). Toshiba Group expects that in FY2012 GHG emissions will be reduced by 25% (3.43 million tons) compared to the previous plan, down from 3.93 million tons in **FY2007.** Toshiba aims for its total GHG emissions (compared to FY1990 levels) to be 3.45 M ton (51%) by 2012 and 4.39 M tons by 2015, a reduction of 35% compared to 1990 levels (although this is an increase of 9% compared to 2007). Emissions are expected to reduce slightly after this date. It has **set a target** to reduce total energy-derived CO_2 emissions per unit production by 10% compared to FY2010 levels. 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.	1/8
Disclose and set targets for supply chain GHG emissions and RE supply	Toshiba **estimates its Scope 3 emissions** from its supply chain (defined as purchased products and services) as 742 m tons CO_2-e, or 8% of total emissions, including product use, which are 9,177 m tons CO_2-e. Toshiba estimates GHG emissions from each stage of a product's life cycle 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. Total quantities of CO_2 emissions associated with each life cycle stage need to be provided. **More information.**	2/8
Clean Electricity Plan (CEP)	Toshiba states that it is continuously striving to use renewable energy for a wider range of its operations. In FY2011, it used 35,695 MWh's worth of renewable energy, which is about 0.8% of total energy use. This resulted in a reduction of about 17,000 tons of CO_2 emissions. Toshiba Corp has been purchasing two million kWh of electricity under a green power certificate annually since January 2005. Though the amount of renewable energy is very limited in Japan (and companies are constrained in their construction of dedicated green power facilities), Toshiba aims to increase its use of renewable energy, and has set a target of more than 1%. See p.22, Environmental Report 2012. Toshiba has also set a target to improve its energy efficiency by 10% in FY2015 compared to the FY2010 level to reduce CO_2 emissions. (See **5th Environmental Action Plan**). 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 utilising 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.) 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. Immediately after the 3.11 Earthquake, Toshiba Group implemented every possible measure to save power, including removing some fluorescent lamps and reducing the use of air conditioning at operating sites, stopping some elevators, and shifting production from daytime to nighttime. **More information.**	2/8
Clean Energy Policy Advocacy	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.**	0/8

Greener Products		4/16
Product energy efficiency	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). Toshiba informs Greenpeace that 88% of the above products exceed more than 30% of the standard. For LCD TVs, 49.2% comply with latest Energy Star Version 5.3. Toshiba reports to Greenpeace that two of its TV models (55L6200U, 47L6200U) have received "Energy Star Most Efficient 2012". 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.** Toshiba's home IT system "**Feminity**" monitors and controls energy consumption in the home. For more points Toshiba needs to report information on its website on the percentage of its products that meet and exceed ES standards for each product range.	2/5
Avoidance of hazardous substances in products	In March 2011 Toshiba released a PC that 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 a 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 meet 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.** Although the timeline of 2015 is unreasonable, the fact that the commitment 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. The plan for phasing out PVC and BFRs is also now in Toshiba's **Fifth Environmental Action Plan**, where it is specified that PVC and BFRs will be abolished in 20 product groups by 2012 and 80 product groups by 2015. The other hazardous substances are not mentioned.	1/5
Use of recycled plastic in products	Toshiba reports that its use of post-consumer recycled plastics from end-of-life products in FY2011 was about 1300 tons. This was used in the base plates of TVs, notebook PCs, washing machines, refrigerators, and some other products. Several products, such as LCD TV (TL 963 series, RL933 series) and washing machine (TW-Z9100, TW-Z9200) use a ratio of 15% recycled plastics. Toshiba aims to apply these production technologies to other products in order to achieve its new target in its 5th Environmental Action Plan (see below). See **p. 41, Environmental Report 2012.** A new target has been set in FY2012 to increase the ratio of recycled plastics used for products to 3% in FY2015 in Toshiba Group's 5th Environmental Action Plan. Toshiba has **a guideline** for every note PC to use recycled plastic. **Case studies** showing the use of recycled plastics.	0/3
Product life cycle	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, a summary of this information needs to be available publicly. **Warranty information** for products is provided. 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 **use of LED back light**, **safety against overturning (breakdown) features**, **software to enable linkage between several products**, **digital terrestrial tuners for analog TVs**. Toshiba produces the **SCiB rechargeable battery,** which is designed to guarantee safety and a long life. Toshiba is also manufacturing **energy efficient LED bulbs**. 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.	1/3

Sustainable Operations		7/21
Chemicals management and advocacy	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 does not provide any evidence of advocacy for strong chemicals legislation or case studies demonstrating the process of substituting hazardous chemicals of concern **More information.** 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 Digital Products and Services Company, **see Guidelines for Green Procurement** v.08.02.	3/5
Policy and practice on sustainable sourcing of fibres for paper	Toshiba is promoting the reduction of the amount of paper used and procurement of recycled papers. In FY2011, the amount of paper used was 75% of the FY2010 level. **In FY2011**, approximately 192 tons of FSC-certified paper was used for printed materials (such as CSR Report) in Japan. Toshiba has internal guidelines for the use of FSC paper, for the printing of its **CSR report** for example. 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.	0/3
Policy and practice on avoidance of conflict materials	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.	2/5
Provides effective voluntary take-back where there are no EPR laws	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 programmes 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 now provides **technical details** of TV recycling and is co-operating with a recycling company in Japan to increase recycling, however, there are no plans to extend this and no contact details are given. Toshiba provides recycling of computers, tablets, TVs and video and 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. Toshiba reports to Greenpeace that quantities of used products recycled in India are still small. See for example, **India**. Toshiba has been involved in a **WEEE recycling project in Thailand**. Toshiba provides detailed data on its recycling. The overall volume of WEEE recycled was 130,000 t in 2011. 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 past sales. For 2010, the recycling rate is 15.3%. Toshiba provides separate global recycling rates for TVs (45% in 2011) and PCs (22.3% in 2011) based on sales 10 and 7 years ago, respectively. Toshiba needs to clarify how it calculates EU recycling rates. **More information.**	2/8

RIM

16th position, 2.0/10

RIM continues to score low in the Greenpeace Guide to Greener Electronic, with 2.0 points. It remains in the 16th and lowest position of the companies evaluated.

RIM scores poorly on the **Energy** criteria. The company does receive points for basic disclosure of its greenhouse gas (GHG) emissions for its operations and business travel to the Carbon Disclosure Project, but without externally verified data, it fails to score additional points. RIM lacks both a comprehensive clean electricity plan and a target to increase renewable energy. The company must also set ambitious targets to reduce its own GHG emissions by at least 30% by 2015 for its operations, and use 100% renewable electricity by 2020. It currently has no target.

RIM's **Products** score increased in this edition, as it made significant progress in its products' energy efficiency. All of RIM's chargers meet or exceed Energy Star standards and achieve Level V for International Energy Efficiency Mark. The company also provides energy saving advice. RIM states all smartphones are free of brominated and chlorinate substances and aims to eliminate polyvinyl chloride plastic (PVC) and brominated frame retardants (BFRs) from all new products, although there is currently no timeline. RIM fails to score on the use of post-consumer recycled plastics and life cycle criteria.

RIM scores most points on **Sustainable Operations**, and is one of the better scorers on conflict minerals. RIM surveys its suppliers on their sourcing, and has joined efforts to provide conflict-free minerals from the Democratic Republic of Congo (DRC). The company's paper procurement policy aims to source its fibre from sustainably managed forests, and specifically excludes suppliers who engage in illegal logging or source from countries that have been engaged in systemic illegal logging. For a higher score, RIM needs to also exclude suppliers who are involved in deforestation. RIM has slightly expanded its take-back programme for e-waste to outside the US. The company continues to score points for adopting a Restricted Substances List as a part of its chemicals management.

		ZERO	LOW	MEDIUM	HIGH
ENERGY	Disclose and set targets for operational GHG emissions and RE supply				
	Disclose and set targets for supply chain GHG emissions and RE supply				
	Clean Electricity Plan (CEP)				
	Clean Energy Policy Advocacy				
PRODUCTS	Product energy efficiency				
	Avoidance of hazardous substances in products				
	Use of recycled plastic in products				
	Product life cycle				
OPERATIONS	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 there are no EPR laws				

Energy		2/32
Disclose and set targets for operational GHG emissions and RE supply	RIM reports its GHG emissions to the CDP for 2011 as 14572 metric tonnes CO_2-e for Scope 1 and 79039 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). The intensity of emissions has also increased by 9.3% compared to 2011. Scope 3 emissions for business travel are reported as 35644 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, 13.2 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 **and states** (3.1e): "RIM is in the process of developing emissions tracking and data management processes. The GHG assessment of RIM operations is used as an internal benchmark of its operations so it can measure GHG improvements and changes from year to year. Recommendations for reduction targets are expected to be established as a result of these processes". RIM **states on its website** that "it is working to develop GHG reduction targets as a result of the ISO 14001 utility management programme. RIM is working to develop GHG emission reduction targets as a result of the ISO 14001 utility management programme. 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.	1/8
Disclose and set targets for supply chain GHG emissions and RE supply	RIM states that it "is participating in the EICC's carbon reporting system. Through this system we will survey many of our direct suppliers of materials, which will give us insight into the carbon emissions associated with RIM's supply chain. It will help us to identify areas for improvement and opportunities to work with suppliers on projects to reduce carbon emissions. It will also help to raise awareness within our supply chain of the impact of carbon emissions on the environment and the benefits that can be gained through reduction programmes". 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. RIM has also conducted **life cycle analysis** on two of its products, the Blackberry Torch 9810 and the "Playbook" Tablet and identified that about half of the GHG emissions over the lifecycle of these products were from manufacturing.	1/8
Clean Electricity Plan (CEP)	RIM gives details of REC certificates it has retired (11.2, 11.2a) and states (5.1b): "In order to limit the absolute growth and decrease the intensity of GHG emissions, RIM is actively engaged in initiatives to increase the energy efficiency of our products, data centres and buildings. RIM has also established a number of internal committees to review our energy usage and emissions. RIM needs to develop these initial steps into a Clean Electricity Plan, while not relying on REC certificates as a cornerstone of a GHG mitigation plan. See CDP, **search RIM** – registration required. See 3.1a – 3.3a.	0/8
Clean Energy Policy Advocacy	RIM reports to the CDP that it engages with policy makers on climate change, climate change mitigation, and adaptation, and that it "works with leading organisations to promote sustainability". The company has not offered examples of climate advocacy.	0/8

Greener Products		5/16
Product energy efficiency	RIM **states** that all of its chargers meet or exceed the Energy Star requirements and achieve a level V rating under the International Energy Efficiency Mark. 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.	4/5
Avoidance of hazardous substances in products	Definitely some progress here – all smartphones now halogen free (but not certified to the industry standard by the looks of it. Its unclear if there's a timeline for PVC/BFR phase out (only for industry certification of homogenous materials?), could ask clarification on this. Could give maybe 2 points to encourage & for the smartphones. RIM **states** that currently all of its Blackberry smartphones are free from brominated and chlorinated substances down to 0.1%, including PVC, BFRs and chlorinated flame retardants; by the end of 2013 RIM aims to be reduce the use of all homogenous materials in all new products, consistent with the JEDEC industry standard on halogen-free. RIM states that it is working to find responsible alternatives to PVC and BFRs in all new products, but it is not clear if the timeline for this is 2013. Beryllium has been banned from all new products and accessories since December 2011 and a number of phthalates have also been eliminated from all blackberry products and accessories. It does not refer to the status of antimony and its compounds. RIM provides a **Restricted Substances List** that lists four phthalates as "mandatory"; antimony and compounds is listed as "reportable", along with other phthalates, beryllium, PVC and BFRs other than PBBs or PBDEs. RIM needs to set timelines to phase out the use of these substances in all of its products.	1/5
Use of recycled plastic in products	No new information. 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.	0/3
Product life cycle	The latest operating system introduced **two new ways to maximise battery life**; the Blackberry Application Resource Monitor is designed to help extend battery life on smartphones by closing applications that are using intensive resources; the Battery Saving Mode extends remaining battery by automatically adjusting battery settings. 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	0/3

Sustainable Operations		7/21
Chemicals management and advocacy	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 states that "it is upgrading its internal substance management system which will enhance our ability to track what goes into our Blackberry smartphones".	1/5
Policy and practice on sustainable sourcing of fibres for paper	RIM has a 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. RIM provides **data on the amount of paper it recycles**. 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. 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.	1/3
Policy and practice on avoidance of conflict materials	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**. In early 2012, RIM sent a request to more than **170 direct suppliers of materials** to provide information regarding their mineral sourcing policy. In fiscal 2012 RIM joined the "Solutions for Hope" project which aims to create a process to deliver conflict free tantalum from the DRC in accordance with OECD due diligence. RIM published a "**Responsible Minerals Policy**" in December 2011. RIM is active in the EICC conflict-free smelter programme 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.	4/5
Provides effective voluntary take-back where there are no EPR laws	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 now has a **Blackberry Trade-up programme**, where customers can mail back their used devices and receive credit on a new smartphone. Devices returned in good condition are refurbished. The programme is currently available in the US, Canada, Mexico, the UK, Germany, Australia, the Philippines, Indonesia and the Cayman Islands. Efforts are ongoing to include more countries. RIM also participates in the **Rechargeable Battery Recycling Corporation's (RBRC) Call2RecycleR** for customers located in Canada and the US and the Recycle My Cell programme, which raises awareness of where customers in Canada can drop off mobile devices to be recycled. RIM 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.	1/8