

Guide to Greener Electronics

Ranking Criteria Explained

August 2011, v. 17 onwards

Introduction

The latest version of Greenpeace's Guide to Greener Electronics ranks companies from the electronics industry across three areas, Energy & Climate, Greener Products and Sustainable Operations. This raises standards on environmental leadership within the sector which has shown significant improvement since the first Guide to Greener Electronics in 2006.

The new Guide criteria reflect Greenpeace's demands to electronics companies to:

- Reduce emissions of greenhouse gases (GHGs) by implementing a Clean Electricity Plan
- Clean up their products by eliminating hazardous substances;
- Take-back and recycle their products responsibly once they become obsolete,¹ and;
- Stop the use of unsustainable materials in their products and packaging

Previous versions of the Guide ranked companies on Chemicals, E-waste, and Energy criteria. This updated ranking reorganizes the individual criteria under the new headings. In areas where we have seen some progress, we have folded multiple criteria together into one overall criterion, putting the focus on the implementation of previous commitments, for example, through products on the market or take back programmes for e-waste. In places where the industry needs to make further progress, such as energy policy and practice, we have re-written and strengthened the current criteria. Finally, new criteria on the sourcing of paper products and conflict minerals have been added under Sustainable Operations and on product life cycle under Greener Products.

In addition to these structural changes, the scoring system has been changed. Depending on the complexity of the criteria and the focus of Greenpeace campaigns, the maximum points awarded per criteria will vary between 3, 5 and 8 points. There will no longer be double points for any criteria in the new scoring system.

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

Criteria on Energy and Climate

The new criteria that companies will be evaluated on are:

1. Disclosure of GHG emissions based on previous criteria (E2).²
2. Commitment to reduce the company's own Greenhouse Gas (GHG) emissions, with both short term and long term timelines also considering actual verifiable cuts to date (based on previous criterion E2). together with an ambitious target and timeline

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

² The previous five energy criteria were added in the 8th edition and addressed key expectations that Greenpeace had of responsible companies who are serious about tackling climate change. They were:

- E1. Support for global mandatory reduction of greenhouse gas (GHG) emissions;
- E2. Disclosure of the company's own GHG emissions plus emissions from two stages of the supply chain;
- E3. Commitment to reduce the company's own GHG emissions with timelines;
- E4. Amount of renewable energy used; and
- E5. Energy efficiency of new models (double points)

for increasing companies use of Renewable Energy (RE) as a percentage of total electricity use for own operations

3. A Clean Energy Plan to implement these cuts in GHGs, focusing on an Energy Efficiency strategy for companies own operations and the use of Renewable Energy, together with a ambitious target and timeline for increasing its use for own operations

4. Advocacy for a Clean Energy Policy at national and sub-national level.

Criteria on Greener Products

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

1. Energy efficiency of new models of specified products (the percentage of devices exceeding Energy Star standards) based on the previous criterion E5.³
2. Products on the market free from hazardous substances; specifically Poly Vinyl Chloride (PVC or vinyl) plastic, brominated flame retardants (BFRs), antimony, beryllium and phthalates. This criterion is based on two previous criteria – C4 and C5, and also takes into account commitments made to phase out PVC and BFRs in the previous criterion C3.⁴
3. Current use of recycled plastic as a percentage of plastics used in total sales with % used in specific products as examples, based on the previous criterion W5.⁵
4. Product Life Cycle: the extent to which companies consider durability, streamlining of devices, re-usability and ease of repair. New criteria.

Criteria on Sustainable Operations

These criteria examine how companies implement environmental considerations during manufacture in their supply chain through to the end-of-life phase of a product: the reduction of GHG emissions from energy use by suppliers; the use of chemicals and other materials – paper products and conflict minerals - in the supply chain; and the implementation of Producer Responsibility for products at the end of their lives - e-waste.

1. Measure and reduce embedded energy in the supply chain. New criteria (though linked to E1 above).
2. Chemicals Management and Advocacy (adapted from the previous chemicals criteria C1 and C2).⁶
3. A paper sourcing policy that prohibits the use of fibre from rainforest sources (new criteria).
4. Supply chain disclosure and enforcement for conflict free minerals. (new criteria)
5. Take-back programmes and information to consumers for end-of-life products, in every country where products are sold (a combination of previous criteria W2, W3 and W4, and implementation of W1).⁷

³ E5. Energy efficiency of new models (double points)

⁴ The relevant previous criteria were as follows:

C3. PVC and BFR phase out and timeline - Commitment to complete PVC and BFR phase-out and reasonable timeline for ALL applications

C4. Phase out of additional substances with timeline 3 named substances and reasonable timelines for all new models

C5. PVC-free and BFR-free (product systems) on the market (double points)

⁵ W5. Use of recycled plastic content across all products and timelines for increasing content

⁶ C1. Precautionary Principle and; C2. Chemicals Management

⁷ W2. Provides effective voluntary take-back where no EPR laws,

W3. Provides info for individual customers on take-back in all countries where sales of product,

W4. Reports on amount of e-waste recycled

W1. Support for Individual Producer Responsibility

Energy criteria in depth

	E1. Disclose own operational GHG emissions	E2. GHG emissions reductions and targets	E3. Clean Electricity Plan (CEP)	E4. Clean Energy Policy Advocacy
Criteria for scoring maximum points	Full marks go to companies with a high level of disclosure of GHG emissions from their own operations (scope 1 & 2) and business travel (scope 3) and have these calculations verified according to ISO 14064.	Full points go to companies that commit to reducing their own GHG emissions by at least 30% by 2015, with ambitious targets for 100% renewable electricity use by 2020. Cuts must be actual and verifiable.	A CEP must include 1.a strategy for energy efficiency which sets targets for reducing GHG ⁸ emissions and 2.a strategy for increasing the use of renewable energy in own operations, Full marks go to companies with an integrated plan to address 100% of expected energy demand without relying on dirty energy sources.	Advocacy for a clean energy policy that companies have engaged in within the preceding 12 months. Company advocacy will be evaluated for the strength, level, and specificity of their clean energy advocacy and policy positions at the national and sub-national level in their countries of direct operations, and where appropriate, countries connected to their supply chain. See policy advocacy priorities, (provided separately).
Maximum number of points for criterion	3	8	8	8

E1. Disclose own operational GHG emissions

This criterion is strongly based on the previous criterion **(E2.) Disclosure of carbon footprint (GHG emissions) of company's own operations and two stages of the product supply chain.**

Companies are scored on their disclosure of greenhouse gas emissions; the method of reporting should be based on the GHG Protocol Corporate Standard at: <http://www.ghgprotocol.org/files/downloads/Publications/ghgprotocolrevised.pdf> to calculate emissions from their own operations (Scope 1 and 2) and emissions from employee travel (scope 3). See p.25 of the GHG Protocol Corporate Standard. Other scope 3 emissions (from the supply chain), are addressed in the criterion under Sustainable Operations: **O1. Measure and reduce energy in the supply chain**, see below.

Full marks in this criterion go to companies who not only disclose GHG emissions from their own operations, but also get the calculations ISO 14064 certified.

E2. GHG emissions reductions and targets

This criterion is based on E3 from the previous version of the Guide – “**Commitment to reduce absolute GHG emissions from a company's own operations with timelines**”, which rates brands on their corporate commitment to reduce GHG emissions from their own operations, using GHG emission data (GHG Protocol Corporate Standard Scope 1 & 2) calculated in E1 as a baseline. The baseline should be GHG emission data from 2008,

⁸ The baseline should typically be GHG emissions data from 2008, 2009 or 2010.

2009 or 2010. Full points go to brands who commit to reducing their own GHG emissions by 30% or more by 2015. New to this criterion is the requirement for an ambitious target for increasing renewable energy use by 2015 and/or a target to increase RE use as a percentage of electricity consumed to 100% by 2020.

E3. Clean Energy Plan

This criterion evaluates the robustness of the company's implementation plan for achieving its GHG commitments through energy efficiency and renewable energy investment and deployment.

The strength of actions and investments to operationalise an implementation plan to achieve GHG reductions in their own operations will be evaluated in the following order of importance:

- Energy efficiency and avoided emissions;
- Direct installation or investment in renewable energy supply;
- Investments to reduce electricity demand from existing consumers within the load centre of major company electricity infrastructure, offsetting in part/whole its local electricity demand;⁹
- Renewable energy credits should not be used as the primary strategy for increasing renewable energy consumption (max of 25% recognized) and need to be clearly proven to be additional to other sources of renewable energy in the company's electricity supply.

Full points go to companies with proof of a comprehensive clean energy plan, with a goal and strategy to reach 100% of their own operations electricity demand through the use of renewable energy.

The focus will be on renewable electricity sourcing under the clean energy plan criteria but this does not exclude other forms of renewable energy use in companies operations.

E4. Clean Energy Advocacy

This criterion evaluates clean energy policy advocacy that companies have engaged in within the preceding 12 months. Companies will be evaluated for their clean energy advocacy and policy positions at the national and sub-national level in their countries of direct operations, and where appropriate, countries connected to their supply chain.

Top marks will be given for advocacy related to the priority energy policy reform areas defined in Greenpeace's Energy [R]evolution blueprint.¹⁰ These priorities will be reviewed and updated with each new version of the Guide to reflect the most current political realities.

Greener Products criteria in depth

	P1. Product Energy Efficiency	P2. Avoidance of Hazardous Substances in Products	P3. Use of Recycled Plastic in Products	P4. Product Life-Cycle
Criteria for scoring maximum points	All new models of specified products meet the latest Energy Star standard and 30% exceed the Energy Star	All products on the market are free from PVC and BFRs, antimony, beryllium and phthalates. Commitments to	At least 5% of all plastics (as a percentage of all plastics used in products on the market) is post-consumer recycled	Full marks for companies with both of the following: 1. above average length of product warranty for best selling

⁹ This innovative approach could spur deep cuts in the existing baseload and peak electricity demand to help stop new power demand on the grid associated with electronic companies from driving demand for dirty energy. Companies could consider investing in local government or state-sanctioned programmes (such as a revolving loan programme that drives down the cost and speed of building retrofits).

¹⁰ See: <http://www.greenpeace.org/international/en/campaigns/climate-change/energyrevolution/>

	Standard or other specified international standard (by 50% or more in sleep and standby/noload modes, where applicable). Includes an assessment on energy management suggestions/tools during the use phase and evidence of positive support for higher energy efficiency standards.	phase out these substances within a timeline have been implemented.	plastic with a timeline for increasing its use; examples of specific products using post-consumer recycled plastic and its percentage are provided.	products; 2. an example of innovation for life-cycle extension –
Possible penalty points	Penalty points(1-2) will be assessed if company lobbies against stricter product efficiency standards, member of a trade association or other business institution that is undermining political support for stronger energy efficiency standards for products, and the company does not speak in favor the standards or publicly contradict the institution	For backtracking on a previous commitment to phase out the use of PVC, BFRs, antimony, beryllium or phthalates		
Maximum number of points for criterion	5	5	3	3

Greenpeace wants electronics companies to clean up their act and put products on the market that prove it.

P1. Product energy efficiency

This is based on the previous criterion **(E5) Energy efficiency of new models of specified products**, which rates the company’s performance on energy efficiency, using the latest Energy Star standards as a baseline and rating the energy performance of three broad groups of products: computers, monitors and televisions. The Energy Star programme’s definitions of product scope are used. More information at: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.

Full marks on this criterion go to companies which have all new models of PCs, consoles and TVs (where applicable) meeting the latest Energy Star requirements and 30% exceeding these Energy Star requirements by 50% or more in sleep and standby/no-load

modes (where applicable). Companies are asked to provide information on the proportion of new models meeting the latest Energy Star standards.

To score full points, companies need to report:

- (1) the percentage of new models (of specified products) that meet the latest Energy Star requirements
- (2) the percentage of those models in (1) that exceed Energy Star requirements and specify by what percentage they exceed the Energy Star standard for the particular mode
- (3) list the names and numbers of the models exceeding the latest Energy Star requirements

With external power supplies (EPS) no longer covered by current Energy Star standards, companies should report the percentage of its models achieving Level V rating on the International Efficiency Marking Protocol for External Power Supplies. More information at:

http://www.energystar.gov/ia/partners/prod_development/revisions/downloads/International_Efficiency_Marking_Protocol.pdf

In addition to the previous criteria, companies will be assessed on their energy management suggestions/tools during the use phase. In addition, evidence of positive support for higher energy efficiency standards will be considered.

P2. Avoidance of hazardous substances

Three of the former chemicals criteria are taken into account in this new criterion, which assesses companies' progress in rolling out products free from a range of hazardous substances.

The former criterion 'PVC and BFR free products on the market' (C5) is the basis of this new criterion, which assesses the number of products on the market that are PVC and BFR free. In addition, the number of products free from other hazardous substances (from the previous criterion C4) will be assessed. The additional substances are: (1) all phthalates, (2) beryllium, including alloys and compounds and (3) antimony/antimony compounds. **Full marks (five points) will be given** only for meeting current commitments on time.

The former chemicals criteria (C3), 'Commitment to eliminating PVC and BFR with timeline' and (C4) 'Phase-out of additional substances with timeline(s)' will continue to be monitored as companies make progress towards implementing their commitments to phase out PVC, BFRs, antimony and compounds, beryllium and compounds and phthalates.

Backtracking on any of these previous commitments will continue to receive a penalty point and will be monitored for progress towards meeting their commitment timelines. The implementation of previous commitments within the defined timeline will also be taken into account in the scoring.

Box 1. Greenpeace definition of 'PVC-free' and 'BFR-free'

Greenpeace defines 'PVC-free' as zero use of PVC, with no exceptions and 'BFR-free' as zero use of brominated flame retardants, with no exceptions. The ultimate goal must be zero levels of total chlorine and total bromine, to be achieved by no intentional use of PVC or BFRs. Some recycled plastics presently contain very low trace levels of total chlorine and total bromine. Both chlorine and bromine belong to halogens. For recycled materials, any maximum allowable limit for 'halogen-free' must be demonstrated to be consistent with currently achievable minimum levels and must incorporate stepped decreases in the limit, with a defined timeline towards the ultimate goal of zero. Such a limit should apply to recycled plastics only, not to new or virgin materials, and only where truly halogen-free recycled materials are not available.

Manufacturers must be able to demonstrate that recycled plastics used do not exceed their maximum allowable limit. Various industry association standards use a definition of 'halogen-free' that allows up to 900 ppm (parts per million) of total chlorine and 900 ppm of total bromine, with a maximum total halogen level of 1500 ppm. These standards

include JPCA's (Japan Printed Circuit Association) JPCA-ES-01-1999, IEC's (International Electrotechnical Commission) 61249-2-21 and IPC's (Association Connecting Electronics Industries) 4101B.

Greenpeace does not accept such high levels of halogens in materials that are misleadingly defined as 'halogen-free'. A material containing total bromine below 900 ppm, and described as 'halogen-free', could still contain certain BFRs (e.g. penta-BDE) over 1000 ppm – exceeding the level banned by the European RoHS Directive.

Substituting harmful chemicals in the production of electronics prevents worker exposure to these substances and contamination of communities near production facilities. Eliminating harmful substances also prevents leaching/off-gassing of chemicals such as brominated flame retardants (BFRs) during use, and enables electronic scrap to be more safely recycled. The presence of toxic substances in electronics perpetuates the toxic cycle; they are released during reprocessing of e-waste and lead to contamination of secondary materials which in turn are used to make new products. See Box 1.

The issue of toxicity is overarching. Until the use of toxic substances is eliminated, it is impossible to secure 'safe' recycling. (See Take-Back Programmes under the Sustainable Operations criteria).

Box 2. Hazardous substances used in electronics

PVC is a chlorinated plastic used in some electronic products, including for insulation on wires and cables. PVC is one of the most widely used plastics but its production, use and disposal can create toxic pollution. Chlorinated dioxins and furans are released when PVC is produced or disposed of by incineration (or simply burning). Dioxins and furans are classes of chemical compounds widely recognised as some of the most toxic chemicals ever made by humans and many are toxic even in very low concentrations.

BFRs are used in circuit boards, plastic casings and other plastic materials. Many do not break down easily and can build up in the environment. Some BFRs can bio-accumulate. Long-term exposure to certain BFRs, particularly in the womb, has been linked with abnormal brain development in animals, with the potential for impaired learning and memory functions. Some BFRs also interfere with thyroid and oestrogen hormone systems. TBBPA, a type of BFR used in circuit boards, has been linked to neurotoxicity.

The presence of BFRs in electronic products has the potential to generate brominated dioxins and furans, when the electronic waste comes to be smelted, incinerated or burnt in the open. Such dioxins and furans are classes of chemical compounds widely recognised as some of the most toxic chemicals ever made by humans and many are toxic even in very low concentrations.

Phthalates are not necessary in electronics. Their major use is as softeners in flexible PVC plastic. So by switching from PVC to other materials, manufacturers should also be able to eliminate the use of most phthalates. Other uses of phthalates in electronics are as a constituent of some glues. The phthalate mixtures that Greenpeace has found when analysing laptops and a mobile phone were generally dominated by di-isononylphthalate (DiNP) and di-isodecylphthalate (DiDP), with lesser amounts of diethylhexylphthalate (DEHP). These chemicals are able to migrate out of the plastic materials over time, and there is evidence for the toxicity of these phthalates, especially DEHP, which is classified as 'toxic to reproduction' within Europe.

Antimony is often used to enhance BFR formulations, primarily as antimony trioxide. There are substantial concerns regarding the toxicity and carcinogenicity of this form of antimony. Exposure to high levels in the workplace, as dusts or fumes, can lead to severe skin problems and other health effects. Antimony trioxide is recognised as a possible human carcinogen.

Beryllium is used in electrical equipment, typically in the form of a copper-beryllium alloy containing 2% beryllium. The processing of such alloys, including through recycling processes, can produce dusts and fumes of beryllium and beryllium oxide. Exposure to

these, even at very low levels and for short periods of time, can cause beryllium sensitisation that can lead to chronic beryllium disease (CBD), an incurable debilitating lung disease. Beryllium and beryllium compounds are recognised as known human carcinogens.

P3. Use of Recycled Plastic

This criterion is similar to the former e-waste criterion (**W5) Use of recycled plastic content across all products and timelines for increasing content, which** scored companies on the recycled plastic sourced as a proportion of the total plastic used for manufacture of a company's whole product portfolio. Whereas the previous criterion specified recycled plastic from both post-industrial and post-consumer sources, the new criterion evaluates the use of post-consumer recycled plastic only. Post-consumer recycled plastic means using material that has completed its original life cycle and has been recycled into another part or product rather than having been disposed of as solid waste.

Top marks in this criterion go to companies who source at least 5% of all plastics from recycled plastic streams (net). A new requirement of the criterion is for companies to provide information on products that have post-consumer recycled plastics content, with details of the percentage of recycled plastics used in the products. Companies are also expected to provide a plan and timeline for increasing use of post-consumer recycled plastic to 15% of total plastics used by 2020 (net).

P4. Product life-cycle

Many of the environmental impacts associated with electronics are exacerbated by the increasingly short life cycles of products. For example, shorter life-cycles lead to larger quantities of e-waste as consumers update their systems for the latest technological innovations. The manufacturing stage, including GHG emissions from the energy used in manufacturing as well as increased use of chemicals and raw materials, makes up a substantial part of a product's impact on the environment. Shorter life cycles for electronics products increase these impacts; the energy impacts could be partly offset by the greater energy efficiency of new devices during use. Coupled with shorter life cycles is the manufacture of numerous devices which perform similar functions, such as power adapters for mobile phones, other small electronic devices and computers.

This new criterion addresses the average length of product warranty for a company's best selling products or product groups by volume (ie. mobile phones, desktop PCs, laptop PCs, netbooks, TVs, or other consumer electronic products), with points awarded for above average length of product warranty. Companies will be required to publicly report on their websites the average length of product warranty for their three best selling products or product groups, as well as the length of time of replacement parts availability. In addition companies will be awarded points for examples of innovation for life-cycle extension – for example, the active use of universal chargers for mobile phones, extended battery life and replaceable parts that will enable longer life-cycles and the possibility of easily updating components and/or software.

Sustainable Operations criteria in depth

	O1. Measure and reduce energy consumption in the supply	O2. Chemicals Management and Advocacy	O3. Policy and practice on sustainable sourcing of fibres for	O4. Policy and practice on avoidance of conflict metals	O5. Provides effective voluntary take-back where no EPR laws
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	chain		paper.		
Criteria for scoring maximum points	Full marks require both: 1. reporting verified GHG emissions by the production supply chain (to at least 80% of energy used in the supply chain), and 2. targets to reduce these emissions with identified measures.	In addition to a comprehensive chemicals management programme, companies must be actively identifying new chemicals for elimination/restriction to operationalise the precautionary principle in their own operations and advocate for strong chemicals legislation across the industry.	Companies must have a public paper procurement policy which excludes suppliers that are involved in deforestation ¹¹ and illegal logging and includes a plan with targets and timelines to (1) reduce paper use (2) increase use of both recycled and FSC fibre and (3) report on progress towards these targets.	Companies have taken the following steps to resolve the conflict minerals problem 1) traced and published their smelters; ¹² 2) audited suppliers of minerals; 3) have been active to develop in-region tracing, monitoring, and certification processes for conflict minerals; 4) have supported relevant legislation; and 5) have actively engaged stakeholders in their work on conflict minerals. ¹³	Full marks require the following: (1) free, easy and GLOBAL take-back for ALL products in all countries where products are sold (2) clear info on what individual customers can do with e-waste accessible to customers in every country where products are sold and (3) reporting of the quantities of e-waste recycled, as a percentage of past sales.
Possible Penalty Point					If a company is found to be lobbying against the principle of Individual Producer Responsibility.
Maximum number of points for criterion	5	5	3	5	8

This new category gathers together existing and new criteria that address the impact of a company’s wider operations, from sustainable supply chain management through to programmes to deal with end-of-life branded products.

O1. Measure and reduce energy in the supply chain

Greenhouse gas emissions from the external supply chain (Scope 3) contribute a significant portion of consumer electronics overall energy footprint. Companies should publish verified Scope 3 emissions from their supply chain, to whichever stage or rung represents at least 80% of energy used in the production of the company’s consumer products. The relevant stages of the supply chain should be fully described with respect to the exact operations taking place e.g. details of manufacture of specific component or subassembly including processing steps. Top marks go to companies that report verified emissions up to or exceeding 80% of the embedded energy in their supply chain.

¹¹ For example: Asia Pulp and Paper
¹² the key chokepoint in the conflict minerals - electronics supply chain
¹³ Scores based on Enough project scores plus updated public information.

Companies should showcase any efficiency targets or existing efficiency work within their suppliers to establish energy reduction in their supply chain.

02. Chemicals Management and Advocacy

Definition: Companies make lists of restricted/banned substances publicly accessible and describe how these requirements are enforced along their supply chain and provide lists of substances being considered for future restriction or elimination. They must also provide information explaining the factors they consider when making these lists. Top marks are only given to those companies who also publicly advocate for strong chemicals legislation across the sector, for example, publicly advocating for inclusion of additional substances under RoHS¹⁴.

This criterion examines how companies manage their supply chain, in order to ensure that suppliers do not continue to use substances that are banned or restricted. Companies need to describe what systems they have in place to implement the phase-out of harmful substances (such as PVC and BFRs) in their products and thus be in a position to meet their commitments. The management of chemicals in the supply chain is not limited to the content of hazardous substances in a product; this new criterion now specifically includes the need to implement bans and restrictions on the use and discharge/emission of hazardous substances in manufacturing, in order to fully implement the Precautionary Principle.

A chemicals policy embracing the Precautionary Principle¹⁵ needs, at minimum, a system for collecting information on new evidence about suspect chemicals and mechanisms for triggering corporate action to phase out these chemicals and begin looking for safer substitutes. Certain substances are already being considered for future elimination by both governments and companies. These include other halogenated chemicals, in addition to PVC and BFRs, such as PFOS (perfluorooctane sulphonate) and related compounds, many of which have known hazardous properties. PFOS, for example, is a persistent, bio-accumulative and toxic substance. Other substances under consideration are antimony and beryllium compounds. As stated above, companies need to work towards the elimination of all hazardous substances, based on the Precautionary Principle.

Companies need to make their lists of restricted/banned substances in products and manufacturing publicly accessible and describe how these requirements are enforced along their supply chain. In addition, companies need to provide lists of substances being considered for future restriction or elimination.¹⁶ They must also provide information explaining the factors they consider when making these lists.

03. Policy and practice on sustainable sourcing of fibres for paper.

Greenpeace actively campaigns on Forest issues in the effort to prevent deforestation and to promote sustainable and responsible forest management. This includes identifying suppliers that are involved in deforestation, such as Asia Pulp and Paper and asking major users of paper products to avoid using fibre from such sources.

¹⁴ EU Directive on Restriction of Hazardous Substances (RoHS). Companies need to proactively support a revised EU RoHS Directive that includes an end-of-life focused methodology for adding new groups of substances and a ban on organohalogens. Passive support for this stricter RoHS 2.0 means a public statement in support of strengthening the RoHS Directive to be reflected on the corporate website.

¹⁵ The Precautionary Principle is not a new idea. It has been adopted by a number of international environmental treaties, conventions and political declarations. A chemicals policy underpinned by the Precautionary Principle means that companies would take action to substitute/eliminate a suspect chemical or group of chemicals, even if the scientific jury is still out on whether these chemicals are definitely causing environmental harm. Implementing a precautionary chemicals policy requires a system for collecting information on new suspect chemicals, and mechanisms for triggering corporate action to phase them out and begin looking for safer substitutes. The Precautionary Principle needs to be prominently defined on corporate websites and include taking action to substitute a chemical or group of chemicals despite scientific uncertainty (e.g. 'potential' effects) of environmental and health effects.

¹⁶ Candidate chemicals for precautionary action are those whose intrinsic properties include carcinogenicity, mutagenicity or reproductive toxicity, chemicals that are persistent, bio-accumulative and toxic (PBTs) and those that are very persistent and very bio-accumulative (vPvBs). They can also include substances identified as having serious and irreversible effects to humans and the environment, for example certain endocrine-disrupting substances (substances disturbing the body's hormone system).

This new criteria in the Guide asks companies to examine the source of fibre used in their supply chain (including packaging) and to develop a paper procurement policy to prevent the sourcing of paper from suppliers involved in deforestation. Companies should also set targets for reducing paper use and increasing the percentage of recycled fibre used, as well as FSC certified virgin fibre when appropriate. Other aspects of a policy should include commitments to third party verification and reporting, not using paper from high conservation value forest areas, and a ban on conflict timber.

04. Conflict free minerals

Greenpeace believes the growing social and environmental dangers around the sourcing of what is commonly known as conflict minerals must be identified and mitigated by the electronics industry. This criterion expects companies to take the following steps to resolve the conflict minerals problem; trace from where the minerals used in their products are sourced, audit their supply chain, and support legislation that incentivizes the sourcing of minerals in regions where conflict is not escalated due to mineral sourcing. Reasonable timelines are needed to successfully achieve these actions.

Minerals extracted from eastern Congo—the ores that produce tin, tantalum, tungsten, or the 3Ts, and gold—are essential to the electronics devices we use and depend on every day. Tin is used as solder on circuit boards in every electronic device we use; tantalum stores electricity and is essential to portable electronics and high-speed processing devices; tungsten enables cell phone vibration alerts and is in LCD screens; and gold is not only made into jewellery, but is also used in the wiring of electronic devices.

Greenpeace is partnering with the Enough Project to include this criterion in the updated Guide to Greener Electronics, basing scores on the Enough Project score card and updated public information provided by companies. The Enough Project scored electronics companies on actions in five categories in December 2010 that have significant impact on the conflict minerals trade: tracing, auditing, certification, legislative support, and stakeholder engagement. The survey focused on the electronics industry because it is the main combined end-user of the four conflict minerals from eastern Congo: the 3Ts and gold.

05. Provides effective voluntary take-back where no EPR laws

Greenpeace expects companies to take financial responsibility for dealing with the e-waste generated by their products, to take back discarded products in all countries where their products are sold and to re-use or recycle them responsibly. Because of the end-of-life costs of treating discarded electronic products, Individual Producer Responsibility (IPR)¹⁷ provides a feedback loop to the product designers and thus an incentive to design out those costs.

This criterion is a combination of three previous criteria that addressed programmes for the take-back of e-waste globally: **W2. Provides voluntary take-back of e-waste in countries not legally required to do so** and **W3. Provides information for individual customers on take-back**; in addition, elements of the former criterion **W4. Reports on amount of e-waste recycled**¹⁸ are also included, to show implementation of e-waste programmes through the quantities of e-waste collected and recycled.

This criterion scores companies on their voluntary take-back and recycling programmes in countries/states where there are no laws requiring them to do so. The EU has the WEEE Directive (Waste from Electrical and Electronic Equipment), which requires producers to take back and recycle their waste. Likewise, Japan has the Household Appliance Recycling Law, which makes producers responsible for recycling waste from household appliances and computers. Taiwan and South Korea also have EPR

¹⁷

It is important for a company to support and demand Individual Producer Responsibility (IPR) as this shows positive action in getting its own-branded products back for re-use and recycling, to be able to profit from product eco-design. Companies supporting IPR believe that their product design innovations should be rewarded. Greenpeace expects responsible companies to support, at minimum, financial responsibility for their own-branded end-of-life products. Physical responsibility is not always feasible and could result in duplicated infrastructures e.g. for e-waste collection.

¹⁸ Reporting is targeted at specific product groups: **mobile phones, PCs, TVs and game consoles** (depending on brand portfolio), for which companies need to report the global recycling rate

programmes for large household appliances and PCs. A growing number of States in the US and Provinces in Canada have take-back legislation. Most recently, India has agreed national take-back legislation.

Companies are also scored on the information they provide to individual customers on what to do with their discarded electronics products, e.g. free postal service, collection depots etc.

Top marks (8 points) in this criterion go to companies who provide free, easy and global take-back and recycling services for all their discarded products, both for business and individual customers, in every country where their products are sold and who also provide easily accessible information to individual customers on what to do with their branded discarded electronics in every country where their products are sold. Companies also need to publish data showing the quantities of e-waste recycled on a regular basis (at least annually), which should show the global¹⁹ amount recycled as % of past sales by **product type**; over 25% recycling rate needs to be achieved for at least one specified product group. Because the support for Individual Producer Responsibility (previously ranked in the Guide – W1) is a crucial part in the development of legislation that implements this principle, any company which is lobbying against this principle will receive a penalty point.²⁰

Company scores

Companies have the opportunity to improve their score, as the Guide will be periodically updated. However, penalty points will be deducted from overall scores if Greenpeace finds a company lying, practicing double standards or other corporate misconduct.

Disclaimer

Greenpeace's 'Guide to Greener Electronics' aims to clean up the electronics sector and get manufacturers to take responsibility for the full life cycle of their products, including the e-waste that their products generate and the energy used by their products and operations.

The Guide does not rank companies on labour standards, social responsibility or any other issues, but recognises that these are important in the production and use of electronic products.

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

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¹⁹ Global means using recycling figures from at least 3 regions: eg. EU, North America and Japan/Korea.

²⁰ For example, companies opposing IPR, (or even the principle of Extended Producer Responsibility) and calling for collective producer responsibility or for consumers to pay recycling fees are driven by wanting the costs of treating their end-of-life products to be carried by taxpayers/consumers and/or cross-subsidised by the other companies on the market