



## LGE, = 13th position, 2.8/10

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

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

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

## LG ELECTRONICS Overall Score

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

# LG ELECTRONICS Detailed Scoring

## Energy

| Disclose own operational GHG emissions  | GHG emissions reductions and targets   | Clean Electricity Plan (CEP)   | Clean Energy Policy Advocacy  |
|---|--|--|---|
| <b>2/3</b>  | <b>1/8</b>   | <b>1/8</b>   | <b>1/8</b>  |
| <p>LGE reports global GHG emission data (Scope 1,2 &amp;3) for 2008 – 2010. The data includes 12 Korean operations and 29 overseas manufacturing operations. Emissions from business travel are also reported, although business travel of employees outside Korea is not yet included. LGE provides third-party validation for its 13 manufacturing sites in China, although the certificates are not legible. LGE is in the process of obtaining third party verification for all the data, as it notes that the data may vary slightly after verification. <b>More information.</b></p> <p>See also p.44 <b>Sustainability Report 2010, Environment.</b></p> <p>For more points LGE needs to provide external verification for all its data and more background information and analysis on the source of its GHG emissions (on its website or CR report).</p> | <p>LGE aims to reduce GHG emissions from manufacturing by 5% (75,000 tons) below the 2008 level (of 1,529,000 tons CO<sub>2</sub>-e) by 2012 and by 10% (150,000 tons) by 2020. LGE set a target to reduce 100 kilo tons in production levels of GHG in 2010 compared to 2008 and achieved a 160 kilo tons GHG reduction through diverse activities. The difference between the manufacturing level objective and the production level objective isn't clear. <b>More information.</b></p> <p>See also pp.43 &amp; 44 <b>Sustainability Report 2010, Environment.</b></p> <p>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.</p> | <p>LGE sets out its low carbon strategy on its website and in its Sustainability Report (p.43). LGE achieved a yearly GHG gas reduction of approximately 20,000 tons by improving the energy efficiency of compressors and air handling units, respectively used in the manufacturing facilities of air conditioners as well as household appliances and mobile phones. LGE also reports on yearly reduction of 10,000 tons of GHG emission and KRW 3.1 billion of energy consumption of GHG emissions from a new incineration system compared to the previous LNG system; however, incineration can't be considered as renewable energy and can release toxic substances.</p> <p>Solar power is LGE's new energy business. It has installed its solar modules at the Gumi 1 Site, which provide up to 20-30% of electricity used in the administration offices. LGE plans to expand its solar power production to 330MW in 2011. It also aims to increase production capacity and research and development in its solar power business, to achieve a revenue goal of KRW 300 million by 2015. However, Renewable energy isn't part of LGE's low carbon strategy. See pp.43, 44 &amp; 46 <b>Sustainability Report 2010, Environment.</b></p> <p><b>More information.</b></p> | <p>LG Electronics is actively participating in activities developed by international organizations, including the UN and the Electronics Industry Citizenship Coalition. LGE supports that global GHG emissions are to peak by 2015 and the need for global mandatory cuts of GHG emissions proposed by the UN and others, specifically to "reduce CO<sub>2</sub> emissions by at least 50 percent below 1990 levels by 2050..." as well as mandatory cuts of at least 30% in industrialised countries by 2020.</p> <p><b>More information.</b></p> |

## Greener Products

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

## Sustainable Operations

| Measure and reduce energy consumption in the supply chain  | Chemicals Management and Advocacy  | Policy and practice on sustainable sourcing of fibres for paper   | Policy and practice on avoidance of conflict minerals  | Provides effective voluntary take-back where no EPR laws  |
|--|--|---|--|---|
| 1/5  | 3/5  | 0/3   | 1/5  | 3/8   |
| <p>LG Electronics states that it "is planning to construct a low carbon supply chain by implementing low-carbon procurement from suppliers who actively participate in the GHG reduction. The low carbon purchase is intended for selection of preferred suppliers who have the GHG reduction objectives, and the purchase volume will reach KRW 50 trillion in 2020. We will gradually provide suppliers with GHG inventory and monitoring system setup, third party validation, GHG reduction know-how consulting and training services to support their low-carbon green management."</p> <p><b>More information.</b><br/>LGE has carbon footprint labels that are third party certified for 12 of its products. It plans to extend this to its other products such as TVs and refrigerators. Based on the carbon footprint, LGE makes efforts to reduce the GHG emission in each required step. However, the data does not appear to be available.<br/>See p.45, <b>Sustainability Report 2010, Environment.</b></p> | <p>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.</p> <p><b>More information.</b><br/>However, LGE makes no mention of the need for RoHS 2.0 to adopt a ban on organo- chlorine and bromine compounds (at least PVC, CFRs, and BFRs within 3-5 years) as well as an end-of-life focused methodology for adding future substance restrictions.<br/>LGE's product specs in the updated (6th edition) "LG Electronics manual of the hazardous substance management in the parts and models" reflects its plans to phase out hazardous substances and also identifies the phase out of future substances to be reduced, such as musk xylene by 2014 from all products. Chlorinated flame retardants have also been phased out from mobile phones. LGE requires 'non-use certification' for its parts and products; this also needs to apply to the use of its listed substances in production processes.<br/><b>More information here and here.</b></p> | <p>LGE does not have a policy on the sourcing of fibres from sustainable forestry or the use of recycled paper. LGE states that "we try to improve packaging as well as products in an ecofriendly manner. We have invented various types of packaging methods to store and deliver products safely using less harmful resource and fewer materials. We also adjust the size and way of packaging to increase the transportation efficiency."</p> <p><b>More information.</b><br/>LGE needs to develop a paper procurement policy which excludes suppliers that are involved in deforestation and illegal logging and sets specific targets to reduce paper use and increase use of recycled and FSC fibres.<br/>However, LGE is listed as a client of Asia Pulp &amp; Paper (APP), which is responsible for illegal logging and deforestation in Indonesia. LGE should immediately and publicly commit to stop sourcing any paper or packaging needs from APP or risk being penalised in future versions of the Guide.</p> | <p>LG has joined the EICC initiative but has not publicly mapped smelters or suppliers, as several companies have already done.<br/>It has also joined the EICC audit process but does not have an internal audit policy on conflict minerals. LG has not signed up to the Public Private Alliance; it has not made statements on the need for a multi-stakeholder certification process or publicly committed to implement the OECD due diligence guidelines.<br/>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.<br/>In addition, no details of its policy or programme on conflict minerals are available on its website.<br/><b>More information.</b></p> | <p>LGE aims to establish a global take-back programme.<br/>See p.41, 42, <b>Sustainability Report 2010, Environment.</b><br/>LGE provides take-back of its discarded mobile phones in some 50 countries with 392 drop off points globally. About half of these countries represent voluntary take-back. However, large gaps still exist in Africa, Middle East and Latin America. However, LGE no longer links to this programme from its recycling home page.<br/><b>More information.</b><br/>The <b>previous website</b> is still current.<br/>LGE has a nationwide recycling program in the US for LG, Zenith and GoldStar brands of TVs, computer monitors and other consumer electronics products.<br/><b>More information here and here.</b><br/>LGE is now offering take-back of its products in India, in addition to mobile phone take-back.<br/><b>More information.</b><br/>For more points, LGE needs to provide voluntary take-back of more product types and in more non-OECD countries.<br/>LGE reports the total quantities recycled in Europe, Korea, Japan and North America from 2006 to 2010. Data by country and by product type is also provided. However, LGE no longer reports its recycling rates as a percentage of past sales. <b>More information.</b><br/>LGE reports this data in its Sustainability Report and provides details on WEEE recycling in Europe.<br/>See p. 42, <b>Sustainability Report 2010, Environment.</b></p> |

# Ranking Criteria Explained

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

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

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

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

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

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

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

## Criteria on Energy and Climate

The criteria that companies will be evaluated on are:

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

## Criteria on Greener Products

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

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

## Criteria on Sustainable Operations

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

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

## Company scores

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

## Disclaimer

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

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

## Changes in ranking guide

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

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

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

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

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

**For the latest version, see [www.greenpeace.org/rankingguide](http://www.greenpeace.org/rankingguide)**

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

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

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

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

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