

# A Case Study of Environmental Performances of Electronic Companies in India

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## Abstract

India is the second fastest growing economy of the world. The rapid growth and development in industry, trade and services owes its success to the technological adoption and advancements. But this is drastically affecting the environment and in turn the quality of life. India has been ranked 155 out of 178 countries on the 2014 Environmental Performance Index (EPI). The gigantic business houses which are earning and prospering due to gaining huge business from society have an ethical and moral responsibility to take care of society in return. Since, pollution is a drastically growing crisis; it needs to be handled urgently. The government has been laying down rules and regulations from time to time but there have been some flaws in adoption and reporting of the green practices of the companies since long. Keeping in view the above problems, this paper evaluates the developments in the adoption of green marketing concept and reporting practices among top five electronic companies in India and a few other popular Indian electronic companies. For the purpose, six major areas of operations namely, environmental policy, manufacturing process, green house gas emissions and carbon foot printing, energy efficacy initiatives and e- waste management have been investigated. On the basis of content analysis and comparative study of the efforts, the results have been discussed and some pragmatic suggestions have been made towards the end of the paper so that the efforts by the companies become more robust and effective.

**Keywords:** Greener electronics, green initiatives, environmental reporting.

Rural Infrastructure, PMGSY, Bharat Nirman, RIDF

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## Introduction

With the advent of globalisation and liberalisation, the world is turning into a global village. There has been exponential growth and development in developing economies like India with a multiplier impact on the standard of living of the people. But the fruits of such a development are not all the way sweet. There are some bitter and thorny realities which are emerging parallel to the success stories, like dualism, westernisation, heavier competition, depreciating human ethos and values and environmental degradation. India has been ranked 155 out of 178 countries on the 2014 Environmental Performance **Index (EPI)**. With the masses getting well off and products becoming economical and easily accessible, they are provoked to buy more and more of consumer durables nowadays.

In a popular report by Corporate Catalyst India published in 2013,

“Demand for Consumer Durables is poised for growth as the disposable incomes grow. Also, the electrification of rural sector will augment demand. The electronic sector attracted demand even during recession”.

Thus, Indian markets are highly growing markets.

Due to this reason the repercussions in the Indian markets are bound to bring about desired changes in global products and markets. The growing problems of pollution and environmental degradation have increased the markets for eco friendly products manifold.

The technological transfers from the developed nations and e-wastes generated there from is a major cause of environmental trouble in developing nations; India being one amongst them. This progressive degradation in the quantity and quality of the environmental resources has encouraged societies to consider their responsibility in current environmental problems. Companies, governments, and consumers should be responsible for these environmental conditions and must take initiatives to attain sustainable development (Andrés, Salinas, Vallejo, 2009). Also as resources are limited and human wants are unlimited, it is important for the marketers to utilize the resources efficiently without waste as well as to achieve the organization's objective. As a result of this, green marketing has emerged, which speaks for growing market for sustainable and socially responsible products and services.

But the problem of green wash has engulfed the

trust of common man in the corporate green efforts. Thus, this paper is an endeavour to resolve this dilemma of green adoption among electronic companies in India.

### **Objective of the study**

The objective of the study is to trace out the developments in the adoption of green marketing concept and reporting practices in electronic companies in India.

### **Methodology of the study**

The objective of the study required qualitative approach but it required analysis on some common parameters also so that the adoption of green concept and performances could be evaluated and compared. Thus, through content analysis on various websites of the electronic rating agencies and electronic companies a few parameters i.e. Environmental policy, manufacturing process, green house gas emissions and carbon foot printing, energy efficacy initiatives and e waste management were identified and then further the data related to these parameters was collected from official websites of the companies under study and also through in depth interviews with the branch managers and dealers of the electronic companies.

### **Analysis and findings**

According to a report released by Greenpeace International, global electronic companies must do more to end the use of climate changing dirty energy in their manufacturing and supply chains. The 18th edition of Greenpeace Guide to Greener Electronics evaluated leading consumer electronics companies based on their commitment and progress in three environmental criteria: Energy and Climate, Greener Products, and Sustainable Operations. The Guide scored companies on overall policies and practices to provide consumers with a snapshot of the sustainability of the biggest names in the industry.

The Indian company Wipro topped the rankings in its first appearance in the International version of the Guide to Greener Electronics. Wipro scored high points (7.1) on a scale of 0 to 10 for reducing greenhouse gas emissions and increasing its use of renewable energy, placing energy efficient products in the market and for an effective take-back policy and performance on the collection and recycling of post consumption e-waste.

HP 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.

Nokia moved up to 3rd position in this edition of the Greenpeace Guide to Greener Electronics. After three years at 1st position, Nokia fell to 3rd in last year's edition.

Acer moved 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. This has

resulted in increase scoring across the three criteria.

Dell dropped to the 5th position, with 4.6 points because it scored poorly on all Products criteria. Dell previously pushed back its commitment to eliminate polyvinyl chloride plastic and brominated flame retardants 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.

Apple ended up in 6th position (scoring 4.5 points) mostly because of lack of transparency on greenhouse gas emission reporting, clean energy advocacy, further information on its management of toxic chemicals, and details on post consumption recycled plastic use.

Samsung moved up to 7th position, with 4.2 points in the present Greenpeace Guide to Greener Electronics. Samsung is close to achieving a revised goal of eliminating some of the most hazardous substances from its products.

Sony moved up to 8th position, with 4.1 points. Sony was a top scorer in earlier Guide; it lost significant points for not continuing its energy policy advocacy work for tougher greenhouse gas emissions reduction targets.

Lenovo dropped to 9th place in this edition of the Guide. Lenovo made progress since the last Guide, but did not reach its extended goal of eliminating these chemicals from all its products by the end of 2011.

Philips moved down to 10th position (3.8 points), while Panasonic fell back to 11th position (3.6 points), LGE (Lucky Goldstar Electronics) scored 3.5 points. With a score of 3.1, HCL shared 13th position with Sharp. Surprisingly, with all its efforts, this solar power manufacturer does not have a renewable energy or energy efficiency target, and it only powers 0.5 per cent of its electricity worldwide with solar.

Toshiba dropped to 15th position with 2.3 points. Toshiba has, as of March 2012, removed polyvinyl chloride plastic (PVC) and brominated flame retardants (BFRs) from most parts of its products.

The report points out, 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 programs proliferate, the speed of collection is not keeping pace with the rate of consumption, creating ever greater amounts of toxic e-waste. In addition, 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.

A glimpse of the efforts taken so far by the top five electronic companies and some other Indian electronic companies has been summarized below:

**Table 1: Summary of Progress of Green Marketing in Multinational and Indian Electronic Firms**

<i>Multinational Companies</i>		
Sr. No.	Name of the Company	Major Green Initiatives
1.	Hewlett Packard	The HP Eco Solutions program makes it easier for the customers than ever to identify HP innovations, products and services. They communicate well about how their products and services can reduce environmental impact and save money while delivering the high quality that is expected. They continually work to reduce energy consumption, green house gas emissions, paper use, water consumption, and waste. Efficient and productive operations that use less energy and reduce associated green house gas emissions are adopted. They also help recapture value from existing equipment by trading it in for new HP technology.
2.	Nokia	Nokia has been named one of the 'Best Global Green Brands' of 2012 in a report from brand consultancy Interbrand. At Nokia, they have reduced the emissions of own facilities and those of suppliers. They have been successful in increasing energy efficiency throughout operations and using green energy where possible. They have not only saved resources through simple initiatives such as cutting down on packaging and using sustainable, ethically sourced materials in products but they are also using their global reach and mobile technology expertise to encourage customers to adopt greener, more sustainable lifestyles. They are involved with the organisations such as WWF (World Wide Federation) and IUCN (International Union for Conservation of Nature) to develop and implement environmental projects around the world.
3.	Acer (Australian Council for Educational Research)	They have developed an environmental management system that not only helps in saving energy and ensuring appropriate treatment of waste in all of their offices, but also work to raise the environmental awareness of employees. Their products embody the concepts of the precautionary principle and Individual Producer Responsibility (IPR) as they endeavour to reduce their environmental impact at each stage of the product lifecycle and provide appropriate recycling channels to help consumers perform their part for the environment.
4.	Dell	Dell adopts the world's toughest environmental standards such as Europe's RoHS (Restriction of Hazardous substances) and REACH (Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals) and goes beyond these standards with chemical use policy by reducing or eliminating other substances even if they are not restricted. They also endeavour to achieve environment friendly life cycle of the products with smarter material, lesser energy consumption, end of life disposal and recycling.
5.	Apple	Apple reports environmental impact comprehensively. Apple has also eliminated harmful chemicals from thousands of components, putting their efforts ahead of others in their industry. They use environmentally conscious materials, smaller packaging and every single Apple product not only meets but exceeds the United States Environmental Protection Agency's strict ENERGY STAR guidelines for efficiency with longer product life and recyclability.

*Indian Companies*

Sr. No.	Name of the Company	Major Green Initiatives
1.	Wipro	<b>Wipro is the top Scorer</b> on the 18th edition of Greenpeace Guide to Greener Electronics (November, 2012). It performs outstandingly on disclosing and setting targets for operational and supply chain green house gas emissions and renewable energy supply, clean energy policy advocacy, recycling efforts, product energy efficiency, avoidance of hazardous substances, environment friendly product life cycle. Wipro is the top scorer for committing to reduce its absolute emissions by 44 per cent 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. Wipro has 80 per cent of its total products free from PVC and BFR. All of Wipro's new products currently meet latest Energy Star compliance, while 52 per cent of their products exceed ES 5.0 standards. Wipro continues to receive the maximum score for its effective take-back policy and performance on the collection and recycling of post consumption-waste.
2.	Hindustan Computer Limited (HCL) Info systems	HCL Infosystems is included in the global release of the 18th edition of the Greenpeace Guide to Greener Electronics for the first time and secures 13 <sup>th</sup> position (sharing with SHARP). HCL scores well on the disclosure of greenhouse gas emissions from its entire operations, although the company fails to provide information about its employees' travel and setting an ambitious target for renewable energy use. They provide convenient information to their customers in India to enable them to access its take-back service. But somehow, they lack clarity on energy policy to mitigate their emissions. HCL's advocacy scores were reduced in this edition due to lack of public support for renewable energy policy in India. The company has also not mentioned a deadline to eliminate harmful chemicals and they provide little information on product warranty and innovation tools that would extend the life of their products.
3.	Videocon	Under the aegis of the Ministry of Environment and Forest, Government of India, End of Life Cycle (EOL) product recycling program, applicable from May, 2012 onwards they have initiated their rigorous e-waste recycling efforts
4.	Godrej	Although they have no major green initiatives as reported in their public domain, they have bagged some laurels on the national front such as National Green Governance Award in 2005 for conservation of 1750 acres mangroves forest, LEEDs Platinum Rating for CII - Sohrabji Godrej Green Business Centre, Green guard Certification for Stallion Green workstations, Spacio Green workstations and Unite Green storages. They design and keep updating their environmental policy over the years and strive towards achieving the environment protection goals.
5.	Onida	The company gives special emphasis to green initiatives in their policies and meets the mandatory environmental regulations and rules.
6.	Bajaj	The Company is committed to prevent the wasteful use of natural resources and minimize any hazardous impact of their activities on the ecological environment but have not reported green accomplishments as such.

All the companies which are international in nature are performing well towards ecological cause through their policies, raw material acquisition, manufacturing processes, energy efficacy, e- waste handling etc.

A clear comparison of the companies (table 1) reveals that the ruling brands in the market (like Wipro, Nokia, HP etc.) have adopted the green concept with meager differences amongst them but some of the core Indian

companies still lag behind like Videocon, Bajaj, Orient, Voltas, Micromax. And also, companies like Voltas and Micromax are not even reporting their green efforts.

The reporting mechanism lacks uniformity and regularity. It can be viewed through a glimpse of the companies under study (table 2):

**Table 2: Checklist of the Companies which are Reporting their Green Performances**

Electronic Companies reporting on their green efforts		Electronic Companies not reporting on their green efforts other than broad policy framework
*Wipro	Philips	*Bajaj
*HCL	Toshiba	*Videocon
Nokia	HP	*Onida
Samsung	Panasonic	*Godrej
LGE	Toshiba	*Micromax
Apple	Lenovo	*Voltas
Dell	Acer	
Sony	Sharp	
Microsoft		

*\* Companies of Indian origin*

The companies are improving on their environmental efforts year by year as is revealed from their shifts in position on green ratings (table 3). It is very clear from above revelations that companies have come long way to reduce the environmental degradation by their products from the manufacturing to the disposal. But still more efforts are required to achieve the desired results. Manufacturing is under the control of the company but not the sales and the

disposal of their products. Some strata of Indian customers want to associate themselves with companies and electronic products that are eco-friendly and they are also willing to pay more for these (Aswal C. and Kadyan A., 2013). But they are not able to do so because majority of people suffer from cynicism, lack of awareness and believe companies leverage on green products (Kumar, S., Garg, R., & Makkar, A., 2012).

**Table 3: Progress Report of Electronic Companies According to Greenpeace International**

	9 <sup>th</sup> Sept.,2008	10 <sup>th</sup> Dec.,2008	11 <sup>th</sup> Mar.,2009	12 <sup>th</sup> June,2009	13 <sup>th</sup> Sep.,2009	14 <sup>th</sup> Jan.,2010	15 <sup>th</sup> May,2010	16 <sup>th</sup> Oct.,2010	17 <sup>th</sup> Nov.,2011	18 <sup>th</sup> Nov.,2012
1.	Nokia 7	Nokia 6.9	Nokia 7.5	Nokia 7.45	Nokia 7.5	Nokia 7.3	Nokia 7.5	Nokia 7.5	IIP 5.9	<b>Wipro 7.1</b>
2.	Samsung 5.7	Sony Ericsson 5.9	Samsung 6.9	Samsung 7.1	Samsung 6.9	Sony Ericsson 6.9	Sony Ericsson 6.9	Sony Ericsson 6.9	Dell 5.1	HP 5.7
3.	Fujitsu Siemens 5.5	Toshiba 5.9	Sony Ericsson 5.7	Sony Ericsson 6.5	Sony Ericsson 6.5	Toshiba 5.3	Philips 5.1	Philips 5.5	Nokia 4.9	Nokia 5.4
4.	Sony Ericsson 5.3	Samsung 5.9	Philips 5.7	LG Electronics 5.7	Philips 5.9	Philips 5.3	Motorola 5.1	HP 5.5	Apple 4.6	Acer 5.1
5.	Sony 5.3	Fujitsu Siemens 5.7	Sony 5.5	Toshiba 5.5	Toshiba 5.7	Apple 5.1	Apple 4.9	Samsung 5.3	Philips 4.5	Dell 4.6
6.	LG Electronics 4.9	LG Electronics 5.7	LG Electronics 5.5	Motorola 5.5	Motorola 5.3	LG Electronics 5.1	Panasonic 4.9	Motorola 5.1	Sony Ericsson 4.2	Apple 4.5
7.	Toshiba 4.7	Motorola 5.3	Toshiba 5.3	Philips 5.3	Sharp 5.1	Sony 5.1	Sony 4.9	Panasonic 5.1	Samsung 4.1	Samsung 4.2
8.	Dell 4.7	Sony 5.3	Motorola 5.3	Sharp 5.3	Sony 5.1	Motorola 5.1	HP 4.9	Sony 5.1	Lenovo 3.8	Sony 4.1

9.	HP 4.7	Panasonic 5.1	Sharp 4.9	Acer 4.9	Apple 4.9	Samsung 5.1	Sharp 4.5	Apple 4.9	Panasonic 3.6 Sony 3.6	Lenovo 3.9
10.	Acer 4.5	Sharp 4.9	Apple 4.7	Panasonic 4.9	Panasonic 4.9	Panasonic 4.9	Dell 4.3	Dell 4.9		Philips 3.8
11.	Panasonic 4.5	Acer 4.7	Acer 4.5	Apple 4.7	LG Electronics 4.7	HP 4.7	Acer 4.1	Sharp 4.7	Sharp3	Panasonic 3.6
12.	Philips 4.3	Dell 4.7	Panasonic 4.3	Sony 4.5	Dell 4.7	Acer4.5	LG Electronics 3.7	Acer 4.1	Acer 2.9	LGE 3.5
13.	Apple 4.1	HP 4.5	Dell 3.7	Dell 3.9	Acer 4.7	Sharp 4.5	Samsung 3.7	Fujitsu 3.9	LG Electronics 2.8 Toshiba 2.8	HCL Infosys 3.1 Sharp 3.1
14.	Lenovo 4.1	Apple 4.3	Lenovo 3.7	HP 3.5	HP 4.5	Dell 3.9	Toshiba 3.5	LG Electronics 3.5	RIM 1.6	Toshiba 2.3
15.	Motorola 3.7	Philips 4.1	Microsoft 2.7	Microsoft 2.4	Microsoft 2.7	Fujitsu 3.5	Fujitsu 3.5	Lenovo 3.5		RIM 2.0
16.	Sharp 3.1	Lenovo 3.7	HP 2.7	Lenovo 2.4	Fujitsu 2.7	Lenovo 2.5	Microsoft 3.3	Toshiba 2.3		
17.	Microsoft 2.2	Microsoft 2.9	Nintendo 0.8	Fujitsu 2.4	Lenovo 2.5	Microsoft 1.5	Lenovo 1.9	Microsoft 1.9		
18.	Nintendo 0.8	Nintendo 0.8		Nintendo 1	Nintendo 1.4	Nintendo 1.4	Nintendo 1.8	Nintendo 1.8		

Source: www. Greanpeace.org

**Suggestions**

Some agencies through the consortium of government, industry and non government organizations should be developed to adopt stricter check mechanism over the environmental claims of the electronic companies so that they do not go the way of Green wash. This would help in inculcating the green purchase trust and intention amongst the Indian customers. It was found that majority of respondents are aware of eco- friendly products and tend to choose these products but are not very confident about the quality and therefore, do not trust eco- friendly products (Ishaswini and Saroj Kumar Datta, 2011). Green purchase trust and intention are directly related to GPB (Yu- Shan Chen, Ching- Hsun Chang, 2012). Thus, an effort towards authentication would also help in increasing the customers' trust in the information on green achievements of the companies over the years which in turn can increase the demand for their products.

Also, there should be regularity in verification of the manufacturing practices of the companies and the environmental claims made by them. This would also help in increasing the trust of the customers in companies and their messages.

The recyclability, recycling arrangements and reuse options should be supported by the local authorities to make the endeavour a success. This would provide ease to the people who face problems in carrying the products to the recycling centres. Such scrap sellers and local vendors

should be paid well to motivate their participation in the recycling efforts.

Companies should work towards educating the customers about the criticality of the growing environmental problems, and motivating the customers to increase green purchases through educating them about the role they can play in sustaining the environment. Environmental awareness will pave the way to increased green purchases in India (Sahu T. and Nagendra A., 2013). If more and more customers will be aware and convinced regarding the societal and environment issues; the more they shall be involved in pro- environmental and pro-social behaviour (Panni, 2006; Mostafa, 2009).

As it was revealed in case of HCL that the company has failed to achieve the desired level of purchases and recycling because of non cooperation of Indian customers to some extent, the company can improve their green efforts through proper motivation of its customers. One such strategy can be of rewarding and developing a recognition mechanism for those who are availing the product righteously in an environment friendly manner throughout the life cycle of the product. This will help in motivating the customers to keep intact with the companies in sustaining and improving the environment. It may include the exchange offers, cash coupons, certificates and similar other systems.

Rules should be framed for obligatory and uniform reporting of environmental performances. The governments

and environment agencies across the globe (as discussed above) should formulate uniform rules and regulations defining the parameters on which the companies shall be evaluated. This will make the reporting procedure mandatory, comparable and easy to implement.

Financial and infrastructural help from the Industrial associations, government agencies should be given to Indian electronic firms to give impetus to innovations governed by the motives of environmental protection and improvement in the electronics industry. Governmental, Non Government Organisations and middlemen support to the national electronic companies will go a long way to enhance their environmental initiatives and adoption of the green concept in its true sense.

More specialized rating agencies for electronic companies and other such measures should be taken at both national and international level to increase the morale of the organisations towards adoption of green concept.

All the above mentioned strategies and some other thoughtful actions can strengthen and broaden the environmental perspectives of electronic firms in India to a great extent.

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