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## **Green IT at Wipro: A Sustainable Solution?**

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## **GREEN IT AT WIPRO: A SUSTAINABLE SOLUTION?**

*It was a hectic month at Wipro as the financial year was about to end in March 2012. The sustainability team at Wipro also faced the heat as the Sustainability report was due that month. After a tedious and taxing process of collating data from several sources, the team finally managed to publish the final report highlight the sustainability efforts and results at Wipro. Mr.P.S. Narayan, Vice President and Head-Sustainability, was quite pleased with the environmental performance and sustainability initiatives at Wipro. However, there was one question that kept bothering him- Can Wipro sustain the environmental performance and continue the Green IT initiatives in the long run?*

*It was time for the team to assess the current state of Sustainability initiatives at Wipro and ponder upon the long term survival and sustainable delivery of environmental performance. They were now dealing with a very sensitive issue- 'Sustaining Sustainability initiatives'. They had to take a decision on whether the current sustainability strategies would help them achieve their goals by 2020. It was time to decide if Wipro could scale up their environmental initiatives at this stage to ensure sustainability in the long run.*

### **Wipro: Company Overview & Sustainability Rankings**

Wipro Limited, the legal entity, is a company registered under the Indian Companies Act, 1956, with its shares listed in National Stock Exchange and Bombay Stock Exchange in India and in the NYSE, USA. Wipro's IT business is spread across the three pillars of IT Services, IT Products and ITeS (IT enables Services). Customer profile at Wipro includes large business enterprises in global market, government and NGOs in Indian market and retail/individual customers of laptops and desktops.

Wipro IT has shown a sustained growth over the last six years with a CAGR of 28% in the IT Services. The growth trend for revenues, no. of clients and development centers is evident in the last six years (see Exhibit 8.1). The geographical distribution of revenue has been consistent over the years with India accounting for 22% of the revenues on an average for last five years. The revenue breakup is dominated by Americas followed by Europe and India (see Exhibit 8.1).

Wipro over the last six years has crossed several benchmarks in the domain of Sustainability. It has always been in the forefront of Sustainability reporting and implementing Green IT practices. Wipro featured in the top ten companies that paint

India Green and it was one of the two IT companies that featured in the list (Thambi, 2011). Wipro also parachuted into the top spot in Greenpeace's (<http://www.greenpeace.org>) latest green electronics rankings, after winning plaudits for its ambitious commitments to cutting carbon emissions and sourcing energy from renewable sources. It outperformed several IT giants in the field of Sustainability including HP, Dell and Apple. Greenpeace each year selects which companies to rank based on latest industry sales figures and global market share for the previous year. According to the Greenpeace report, Wipro showed leadership in reducing greenhouse gas emissions, having adopted a target to cut emissions 44 percent between 2008 and 2015, while delivering 85 percent of its emission reductions through the greater use of renewable energy. "Wipro has set a new benchmark for sustainability, not only in India but across the globe, that will have a long-term impact in shaping the green energy debate in the electronics industry," Greenpeace India Senior Campaigner Aphishek Pratap said in a statement.

There are several other ranking agencies that have put Wipro on top spots. Newsweek Green Rankings (Newsweek, 2012) ranked Wipro in second spot on Global scale being the only Indian IT company in top 10. It was also ranked first in the 2010 Asian Sustainability Rating (ASR, 2010) of Indian companies. It is also in the top two Indian companies in the Carbon Disclosure Leadership Index (CDLI) from Carbon Disclosure Project. Wipro won second spot globally in the Oekom Sustainability Rating of IT companies. Given the top rankings by several rating agencies, Wipro offers a good potential for exploring the parameters that ensure Sustainability of Green IT.

### **Sustainability initiatives at Wipro: An overview**

The spawn of sustainability initiatives at Wipro dates almost a decade back with Wipro Cares (a community care program) and Wipro Applying Thought in Schools (WATIS), an initiative for bringing systematic reforms in school education. These programs formed the base of community caring and sustainability initiatives at Wipro. Over the years, several programs related to environment got added to the existing ones, forming a broader outlook on sustainability at Wipro.

Considering Sustainability initiatives in general, Wipro has established a formal framework that is driven by their foundation of values- Spirit of Wipro. This is equally driven by the globally accepted formal standards like triple bottom line framework of principles as embedded in standards like the AA1000 and GRI (Global Reporting Initiative). This framework has matured in terms of breadth and depth and is constantly reviewed at Wipro. Demonstrated in Figure 8.1, the framework shows sixteen major initiatives that address between them the seven stakeholders- Customers, Employees, Suppliers, Investors, the Education ecosystem, Proximate communities, and the Government. The details of the framework and sustainability initiatives are clearly given in the Wipro annual Sustainability report.

**Figure 8.1**



With several sustainability dimensions in place, Wipro thrives on proper structure and governance to sustain the operations on these dimensions. This structure is based on the idea of building a coalition or network of partners – internal and external – with nodal responsibility lying with a distinct group. The sixteen dimensions are handled by four groups at Wipro- EcoEye, Wipro Applying Thought in Schools (WATIS), Wipro Cares,

and Mission10X. They carry out different operations and have unique set of responsibilities, but are tied in the common knot of Sustainability and report to the Chief Sustainability Officer. The operating structure of these groups is presented in Table 8.1. Green IT initiatives at Wipro are mostly carried out under EcoEye as the other groups cater to education, schools, colleges and healthcare. Green Computers and IT for Green Solution is one of the major Green IT initiatives being taken up by Wipro under the head of EcoEye.

**Table 8.1**

**Operating Structure of Wipro’s Sustainability Initiatives**

<i>SUSTAINABILITY</i>	<i>NODAL SUSTAINABILITY</i>	<i>INTERNAL BUSINESS</i>	<i>EXTERNAL PARTNERS</i>
Energy, GHG, Water, Waste, Biodiversity	Ecoeye	Facilities and Infrastructure Group (FMG)	Consulting partners on demand for Energy, Water and Biodiversity
Workforce Diversity, Employee Engagement, Health & Safety	Ecoeye	All the ‘People’ groups- Recruitment, Talent Engagement and Learning	
Green Computers and IT for Green Solutions	Ecoeye	The Computing and EcoEnergy divisions and Chief Technology Officer	
Supply Chain Responsibility	Ecoeye	Chief Procurement Officer and team	
Reforms in School Education, Ecology and Education	Wipro Applying Thought in Schools	Corporate Brand & Communication	Network of nearly 30 education partners across country
Engineering Education	Mission10X	Corporate Brand & Communication	Network of global and Indian partners e.g., IIT-B, IIT-M, Dale Carnegie Center
Disclosures, Public Advocacy	Ecoeye	Investor Relations, HR, FMG Corporate Communication	Partners in energy, biodiversity and water
Primary Health Care, Urban Environment, Education for the Disabled	Wipro Cares		NGO partners in the respective domains

## **EcoEye and Green IT initiatives**

Wipro EcoEye was initiated in 2008 as a comprehensive charter for ecological sustainability. The purpose was to enable the company to become a carbon neutral and water positive organization, achieve defined levels of biodiversity footprint, set new standards in recycling waste, and help employees achieve a smaller ecological footprint in their personal lives. It attempts to engage increased participation from all the stakeholders including employees, partners, suppliers, customers and immediate communities etc. It also offers close collaboration with suppliers to reduce their own ecological footprint and help meet and exceed labor and human rights norms.

*Eco Eye is the “eye” through which we attempt to see everything and act for ecological sustainability. We firmly believe business cannot be built at the cost of ecology. It is not sustainable. Ecological sustainability will increasingly be the defining force for society and business globally. Wipro believes ecological sustainability is the right thing to do—in fact is the only way forward. Wipro will work on the dimensions of carbon neutrality, water balance, waste management and bio-diversity.*

- Azim Premji, chairman, Wipro (Bose, 2011)

Five themes are included in the charter of EcoEye (EcoEye, 2009): Ecological Surplus Organization, Business Investments, Beyond Wipro, Transparent Reporting and Risk Planning & Mitigation. These themes present an overall picture of Sustainability approach at Wipro. Based on the themes and goals set for the EcoEye initiative, Wipro designed a framework for development. This included seven goals- Becoming carbon-neutral, Becoming water-positive, Setting new standards in recycling waste, Achieving bio-diversity footprint, Reporting on sustainability, Managing climate change and Reducing personal footprint. These goals were allotted a road-map, appropriate metrics, timeline and role of stakeholders. The various initiatives planned under EcoEye followed a phased approach. This approach targeted at starting within and then expanding outside. While the first phase focused on Wipro (inside) and Community, the second focused on Extended Circle of Influence (suppliers, partners, customers and advocacy groups).

Green IT initiatives under Eco-eye followed a two pronged approach: campus centric and facilities centric eco-sustainability. Campus centric sustainability focuses on waste recycling and economical use of power appliances on the campus front while facilities front focuses on consolidation of data centers and virtualization of servers. Green IT initiatives at Wipro range from in-house practices like power management systems, server virtualizations etc to providing Green IT solutions like Energy Management Systems and Smart Grids. Key Green IT initiatives are discussed in this section.

### **Wipro Greenleaf**

It is an Intelligent Automated Power Management- which will identify power savings, measurement of carbon reductions and implementation of customer organization's Green Goals. This initiative inculcates a sense of responsible computing at Wipro. The scalable deployment of Greenleaf enables automated power management for all the systems at different levels. Regular monitoring by the application ensures on going reporting of savings vs. plan for all organizational levels. It also allows group of computers to follow power management templates using centralized and custom configured dashboards.

At any point of time, employees are able to view the Greenleaf savings tree. This tree allows the user to quickly identify the current power savings status in his network. Each leaf in the tree represents a percentage of systems. These leaves are color coded to provide a better picture of the energy conservation program in the company. Green color indicates that the systems are meeting/exceeding savings goals while Yellow indicates that systems are saving energy, but less than the target. Red color indicates an area of concern where systems do not have a power schedule programmed leading to no savings.

One of the highlights of Greenleaf is the carbon footprint calculator that helps one visualize the impact of his network on global climate change. The metrics are available for custom query given by user based on systems, days, business units etc. A snapshot of various usage scenarios is presented in Exhibit 8.2.

## **Server Virtualization: Towards Energy Efficient Computing**

Taking into consideration the cumulated energy consumption of IT infrastructure that has increased over the past, Wipro has designed set of initiatives to reduce the consumption and virtualization is one of them. . Computing accounts for 32-35% of the total electricity consumption in Wipro and is prime area of focus in terms of energy efficiency improvement. Virtualization at Wipro not only offers great computing efficiency but also results in smaller resource and energy footprint.

In the year 2010-11, Wipro provisioned 247 virtual servers. At present, it has close to 495 virtual servers and these are hosted on 70 physical servers. Wipro gets considerable benefits from this initiative as it brings down the energy costs due to on-demand load sharing between server spaces, easier configurability and centralized power management of the servers. It saved more than 265 Mwh units of electricity in the year 2010-11 due to virtualization which translates to a GHG emission reduction of 220 Metric Tons of CO<sub>2</sub>-equivalent.

## **Portfolio of Sustainability Solutions**

Wipro has a range of Sustainability solutions to offer. It not only has a strong impact in IT industry, but has significant impact in energy sensitive and material sensitive sectors- Oil and Gas, Utilities, Consumer Goods, Supply Chain and Distribution. These sectors are energy intense sectors where Green IT solutions can play a significant role in reducing the carbon emissions. The portfolio of IT enabled Sustainability solutions are divided into four groups:

- a) *Green IT Infrastructure*: Data Centers, Cloud Computing
  - a. Green Computing (Energy Star Desktops and Laptops)
  - b. Remote data center/desktop: Management for Energy Optimization
- b) *IT for Green*: IT led solutions for improvements in enterprise sustainability
  - a. Carbon, EH&S and Sustainability Performance Management Services
  - b. Smart Grids
  - c. Performance Management Services Process Optimization - Supply Chain and Logistics Dematerialisation and Inventory Efficiency



- c) *Clean Energy*
  - a. Utility Scale MW Solar Plants, Rooftop Solar Plants & Biogas
  - b. Green Buildings: LEED Certification, Turnkey Project Management
- d) *Managed Energy Services*: IT platform based remote management of energy infrastructure. The technology platform helps in integrating data, analytics, predictive diagnostics and automation.
  - a. Energy Efficiency Services
  - b. Regulatory & Monetization Services
  - c. Procurement and Billing Optimization

### **Energy Management Systems**

Wipro has leveraged upon computing expertise and analytical experience to come up with a suite of energy management solutions in the area of energy infrastructure management and maintenance. These solutions increase efficiencies and reduce the customer costs and energy consumption. The key areas of energy management systems are divided into five components: Energy efficiency, Billing recommendation, Carbon Management, Predictive Maintenance and Procurement efficiencies.

The services in these domains are delivered by uniquely integrating customer facilities with Wipro's Energy Management Platform. The platform integrates with a service desk which aids in dynamic real-time interventions to deliver energy and emissions reduction with associated cost take-outs to the customer.

### **E-Waste Management at Wipro**

Wipro launched its e-waste disposal service in 2006 which provided more than fifteen collection centers across India for e-waste. It was one of the pioneers in recognizing the e-waste problem as one of the Extended Producer Responsibility (EPR). Wipro has established itself as a key player in Indian IT market constantly improving and maturing the process of take back and safe processing in last three years. In the year 2010-11, 260.43 tons of e-waste was collected from seventeen collection centers across India and disposed through the network of certified partners.

The components that arrive at the collection centers are termed as End of Life material (EOL). All EOL materials that arrive are either segregated for reuse or recycle. Wipro respects the privacy of companies that offer EOL material and hence all storage devices go through a process of ‘datawiping’ before it is sent for recycling. The amount of EOL materials being processed has been increasing over the years. At present, close to 600 parts or components ranging from monitors, motherboards and other accessories are segregated, checked thoroughly and reused. The balance EOL material is sent to an authorized e-waste recycling vendor. The entire process is illustrated in Exhibit 8.4.

Wipro has transcended the basic norms and taken voluntary steps in the domain of e-waste recycling. It has taken efforts in socializing the idea to their customers and convincing them on returning their EOL material for responsible behavior. Wipro also invests in terms of bearing the cost collecting, warehousing and transporting the EOL equipment. They invest in extensive research to work with certified partners to process the e-waste. These efforts have led to considerable results for Wipro. The total e-waste recycled has increased from 49 tons in 2008-09 to 260 tons in 2010-11.

### **Other Initiatives**

There are several other initiatives and solutions at Wipro that contributes to Sustainability and Green IT. One of the important products at Wipro is Greenware which offers radiation free monitors and energy conserving components. It uses recyclable and biodegradable packing materials and is compliant with Restriction of Hazardous Substances (RoHS) regulation.

Wipro has always been on the forefront of collaboration and Eco-Consortium, one of the Green IT initiatives by Wipro reflects just that. It facilitates a consortium among Sun Microsystems, APC-MGE, Hitachi Data Systems, AMD and Wipro Infotech to help customers with ‘green’ issues specific to data centers. Green Testing Lab has also been one of the key initiatives by Wipro. This lab is set up in Sarjapur campus (Bangalore, Karnataka) that will exclusively test products to confirm that they are “green” compliant. The idea is to maintain & uphold the environmental standards by the Government & Society.

The solutions offered by Wipro extend even to the aviation sector. Its e-Freight cargo suite of tools provided a single interface connecting airlines, freight forwarders and customs, enabling paperless interaction and multi-format transmission of data for clients. Its Intelligent Smart Device Technology optimized infrastructure management across processes and, by reducing the need for non-essential maintenance inspections, lowered their carbon emissions

### **Sustainability Culture at Wipro**

The Ecological Sustainability Vision statement at Wipro highlights the key focus areas of sustainability initiatives.

*Business cannot be built at the cost of ecology. It is not sustainable. Ecological Sustainability will increasingly be the defining force for society and business globally. Wipro believes Ecological Sustainability is the right thing to do - in fact is the only way forward. Eco Eye is our comprehensive program that drives increasing ecological sustainability in all our operations, as also areas of our influence. We work on dimensions of carbon neutrality, water balance, waste management and bio-diversity. The initiative attempts to engage with increasing levels of intensity with all stakeholders - our own employees, partners, suppliers, customers and immediate communities...*

- Extract from Wipro Documents (WiproEco, 2008)

Wipro believes that change and transformation comes from empowered people whether as individuals or as part of small groups, teams, organizations, communities etc. Therefore, it invests in measures and techniques to develop sustainability at workplace leading to sustainable Green IT initiatives. The values framework at Wipro titled “Spirit of Wipro” highlights this by articulating the need to act sensitively with their stakeholders and through a demonstrated “Intensity to Win” where the winning implies both, stakeholders and Wipro. The values framework is divided into three heads:

- a) Intensity to Win
  - a. Make customers successful
  - b. Team, Innovate and Excel
- b) Act with Sensitivity
  - a. Respect for the individual

- b. Thoughtful and responsible
- c) Unyielding Integrity
  - a. Delivering on commitments
  - b. Honesty and fairness in action

### **Focus on Individuals**

Wipro understands the importance of individual level factors for the sustainable operation of its Green IT initiatives and constantly invests in methods to develop positive attitude towards Green IT. The efforts are not only involved in shaping the environmental beliefs of the employees, but also the customers involved in the process. One of the Wipro employees from the e-waste department communicated:

*“Any Green IT initiative is bound to fail if there is not enough participation from the employees across the organization structure. Right from top to bottom in the organizational chart, members need to have positive attitude towards Green IT initiatives for it to be sustainable and for us to meet our targets. We do this by educating employees, conducting seminars/webinars, sharing Green IT experiences on online platforms, developing guides & materials related to Green IT for detailed reading etc”*

One of the team leads in Sustainability department at Wipro mentioned about the impact of peer pressure on a particular individual when green IT practices are concerned. According to him, subjective norms play an important role in shaping up the environmental beliefs resulting to effective participation in Green IT initiatives. He said:

*“With the Power Management Systems in place, each employee can now calculate and share the environmental impact of his computing resources. When a large proportion of employees in a group start meeting their sustainability goals, it inspires and educates the non-participants to set and meet their goals as well.”*

Examples of power management system include Greenleaf that has already been discussed. The environmental impact of the entire system could be viewed in a tree structure where the color of the leaves indicate the status of the computers in terms of their sustainability goals. If good numbers of systems have met their carbon emission goals, it inspires the rest to apply the best power management template to their system and bring it on track for meeting Green IT goals. Further, Wipro gives a strong emphasis

on core value systems and ensures that the company is a free and fair workplace. The code of business conduct and ethics (COBCE) has strong guidelines for maintaining value systems at workplace and focusing on sustainability.

Wipro believes in building organizational capacity at multiple levels of the organization by encouraging maximum employee participation. Following steps strengthen the perceived behavior related to Green IT/Sustainable initiatives and develops a culture of Sustainability at Workplace.

- a) Formal training programs on sustainability are conducted for EHS, HR and Finance managers at regular intervals.
- b) An e-learning program on Diversity that is available to all employees as part of the employee portal
- c) Creation of Sustainability Council consisting of C-level and senior leaders who meet on a quarterly basis to review the progress of our sustainability goals
- d) A strong employee chapter program that is based on voluntary but committed participation

Wipro not only focuses on shaping the attitude and subjective norms of their employees, but pays equal importance to their customers too. The conversation with the head of e-waste practices at Wipro suggested the same. He said:

*“When we started our e-waste recycling initiative, we had a dull response from our customers. We tried digging deeper into the issue and found out that customers did not have a positive attitude towards EOL materials being recycled. We immediately conducted a primary research and found out that the customers had no clue about the processing that happened after they gave their computing resources for recycling and hence were not very keen on the process. We had a team that tackled this issue and worked with members in recycling plant to come up with Live tracking system for End of Life materials. This system helped a lot in shaping up the attitude of our customer for e-waste recycling and now we have a good system in place with active participation from our customers”*

The live tracking system is a product that helps customers to trace their computing resource in the cycle of recycling. Each end-of-life product given by the customer for recycling is assigned a unique code and is shared with the customer. This unique code can be entered into the tracking system to find out the exact position of the EOL material

in the entire chain of recycling process. It shows all the details associated with the EOL material including recycling plant, vendor, possible new product etc. Wipro also ensures that the end-of-life materials that are storage devices are properly data-wiped so that there are no data security issues. This again assures the customers that their data is safe in the process of recycling and hence ensures more participation.

Wipro conducts many awareness drives and they have a team to educate customers and other stakeholders in the domain of Green IT. They conduct several sustainability programs and competitions in schools and colleges, the most important being “Earthian Awards” that aims at collaborative sustainability initiatives. Thus, shaping up value systems and attitude towards Green IT initiatives occur at both workplace and different levels of stakeholder engagement.

### **Stakeholder Relationships at Wipro:**

Wipro believes that Sustainability is a multi-stakeholder game and collaboration is the only way to sustain the green initiatives. Wipro subscribes to select charters and aligns with the right networks to boost up their programs. This ensures transparent disclosures related to sustainability and provide an incentive to sustain the initiatives in future. One of the key members working on Virtualization at Wipro reported:

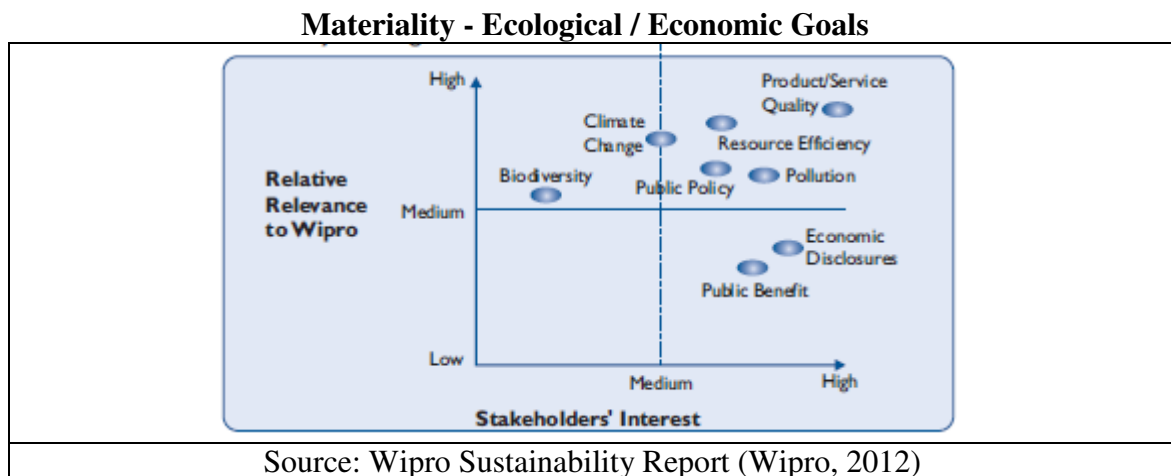
*“The complexity of various technologies associated with Green IT is essentially driven by the stakeholder management rather than technology per se. There are several issues that come up even with simple implementation of Green IT initiative like Grid Computing. There are several customers that opt for exclusive use of infrastructure at Wipro, thus raising concerns over the shared infrastructure. Other initiatives like e-waste management brings into picture external stakeholders like government bodies and recycling vendors. It is important to effectively manage the stakeholder relationships to sustain such initiatives”.*

Wipro sustainability report highlights the importance of stakeholder relationship by assuming the broader role they play in sustainability context of the industry sector and geography. It views its customers, employees and investors as strategic partners and stakeholders. Constant engagement with communities and educational groups has brought Wipro in close engagement with –partners in educational system and proximate

communities (two new stakeholders). As far as Green IT is concerned, the rise of IT Services industry has led to massive change in the supply chain and services thus extend to canteen, transport, housekeeping etc. This adds services suppliers and contractors to the list of stakeholders. They attribute the success of Green Computing Journey to their suppliers as they played a strategic role in driving the operations.

Wipro has developed a stakeholder engagement framework that lays down the modes of engagement, its frequency, major issues and primary internal custodian for each stakeholder. The framework is laid down for eight stakeholders- Customers, Employees, Investors, Suppliers, Educational ecosystem, Communities/NGOs, Policy Research & Advocacy and Current/Future generations. Modes of engagement refers to tasks like Strategic and operational reviews, Open houses, Performance reviews, 360 degree feedback, Analyst conferences, Roadshows, Shareholder voting etc. Key points of the stakeholder framework are given in Table 8.3. Based on the feedback received from the stakeholders, it has also prioritized the goals of Ecological and Economic Sustainability in an ‘Interest’ Quadrant. This helps Wipro allocate proper resources to various sustainability initiatives. The quadrant is presented in Figure 8.2.

**Figure 8.2**



**Table 8.3**

**Stakeholder Framework**

<i>Stakeholders</i>	<i>Modes of Engagement</i>
Customers	Strategic and operational reviews, Customer Meets, Formal customer feedback and surveys
Employees	Open houses, Performance reviews, 360 deg feedback, All hands meet, Focus groups, Leadership webcasts, Blogs and discussion groups, Perception Surveys
Investors	Annual General Meeting, Annual Report, Investor meets, Analyst conferences, Roadshows, Shareholder voting, Investor complaints
Suppliers	Regular operational reviews, Supplier meets, Vendor survey
The Education Ecosystem	Periodic meetings and discussions, Regular e-mail exchanges, Annual Education Forum, Faculty Workshops, Mission10X collaborative portal
Communities and NGOs	Periodic meetings with partners, open meets with community, Partner newsletters
Policy, Research and Advocacy	Planned meetings, workshops, taskforces and steering committees of industry network bodies
Current and Future Generations	Indirect inference from our school interventions mentioned above, Published sociological research and analysis of emerging generation

With active stakeholder engagement, Wipro also ensures that the disclosures related to sustainability are properly made to the associated stakeholders. It believes that disclosures act as a catalyst for continuous improvement. Sustainable environmental performance and consistent rankings on Green IT initiatives acts as a feedback mechanism to boost up initiatives for achieving excellence. “Transparent disclosures and good governance acts as key pillars for sustainable Green IT initiatives”, reports the lead of Sustainable operations at Wipro. Following are some of the charters/networks/associations Wipro is constantly engaged with:



- a) The Digital Environment Sustainability Consortium (DESC) India: DESC works with the CII sustainability forum on the charter for ICT as a driver of India's national goals on climate change as articulated in the NAPCC.
- b) CII Mission for Sustainable Growth: It was launched with the purpose of championing the conservation of natural resources with compromising on economic growth. Wipro was one of the first signatories to the CII Code for Ecologically Sustainable Business Growth that seeks commitment towards reducing specific consumption of energy, water and other natural resources
- c) The Carbon Disclosure Project: Wipro has participated in many versions of CDP and all the carbon emission disclosures are publicly available.
- d) U.N. Global Compact: Its principles act as policy guidelines and framework for companies with sustainability initiatives. Wipro became a formal signatory to the UNGC in 2008.
- e) Other associations include CII-ITC CESD's task force on CSR guidelines, CII-GBC Green Company Rating, India Green Building Council (IGBC), India's National Action Plan on Climate Change (NAPCC), Indian Society for Technical Education (ISTE) & U.N. Millennium Development Goals (MDGs).

### **Regulatory Compliance at Wipro:**

Wipro believes that good policies and regulations act like lighthouse by directing and guiding without standing in the way. In the past, several industries had been characterized by Business vs. Government scenario, especially in the cases of environmental regulations. Wipro on the other hand, tries to seek a collaborative approach for sustainability initiatives for an enlightened regulation. It has been an active participant in policy formations related to Green IT. Sustainability advocacy at Wipro is constructed on three pillars- a) Direct policy inputs to government, b) Engagement and dialog as part of industry networks and c) Publications and Disclosures that advance and further knowledge and action. The key focus areas have been- Our areas of focus have been

Climate Change, CSR norms, Green Rating of companies, Green Procurement and e-Waste.

Wipro has a good record of compliance with government regulations in all the countries that it operates in. It adheres to Labor regulations, Financial Regulations and Environmental Regulations. Environmental regulations include Environment Impact Assessment (EIA) compliance prior to the start of new facility. It also includes clearance from Pollution Control Board (PCB) on issues related to water treatment, handling and disposal of hazardous elements etc. There are also some key programs where the engagement of Wipro in sustainability advocacy can clearly be seen:

- a) CII Green Procurement Council: It was formed with the objectives of framing guidelines for procurement of goods and services that would be aligned with sustainability parameters – e.g. Energy Efficiency, Material Intensity, End of Life handling, Compliance with human rights norms etc. These objectives are very much relevant in the context of Green IT with strong focus on Green IT procurement. Wipro is a key member of the council's steering committee.
- b) MAIT e-waste task force: Wipro has played a major role in reaching out to a highly unorganized sector in India-E-waste. It is actively involved with government bodies to bring-in regulations in IT sector for handling e-waste.

### **Sustainable Business Process at Wipro**

Wipro believes that in order to engage with the issues related to Sustainability, business must do in a manner that is consistent with its core drivers. One of the team leads from Eco-Eye reported:

*“Green IT initiatives span all the domains of a business cycle including procurement, design, manufacturing and recycling. It is very important for us to include Green IT in Wipro's business process and ensure that it is consistent with the core values set up in the form of 'Spirit of Wipro'. Eco-eye division takes up the responsibility of coordinating across different business units to work towards a common goal of making Green IT an economic and ecological success.”*

Wipro tries to align its Green IT initiatives with hallmark attributes of the business like innovation, financial and operation rigor, keen focus on outcomes etc. It tries to give equal importance to different steps in the business process when Green IT is concerned. It believes that improper alignment with the business process could lead to discontinuity of Green IT initiatives, loss of interest among stakeholders and could make the sustainability approach peripheral and hollow. Wipro carries out the Green IT initiatives not as an extra affair or based on need to comply, but rather considers it as a part of the business.

Alignment with the business process also demands that the initiatives are carefully chosen and designed with a strong focus on desired outcomes. They prefer not to use the term Corporate Social Responsibility as it can be perceived to have a strong patronizing connotation associated with it. Green IT initiatives at Wipro is a more inclusive and appropriate term that suggests a proactive and comprehensive range of engagements. The entire concept of aligning the Green IT initiatives with the business process starts with the selection of Suppliers. They expect the suppliers to supply products and services that exceed environmental standards. They pay special attention to procurement in LEED buildings and Energy Star Green computers. They also expect their suppliers to establish a program of ecological sustainability in their own operations.

The importance of business process is also evident from Sustainability Strategy and Governance at Wipro. Out of the many approaches in this strategy, one of the key components is “Integrate into mainstream planning, budgeting and review process” (Wipro, 2011). This component is one of the eight components laid down by Wipro for Sustainability Strategy. This component ensures that:

- a) The sustainability program is reviewed quarterly at multiple levels – by the board, by the corporate executive council and by the chairman.
- b) All sustainability programs of Wipro follow the regular planning and budgeting cycles of the corporation

### **Organizational Procedures for Green IT Alignment:**

One of the important components of Organizational Green IT Procedures is the existence of good governance and board of directors committee for Green IT policies. Wipro has its commitment to good governance practices and most of the components in its governance framework focus on long term strategies that will benefit Wipro. This vision of long term is useful in driving Green IT initiatives as most of the technologies take some time to deliver Return on Investment.

Strategic planning at Wipro takes inputs from variety of stakeholders with respect to current and foreseen changes in the socio-economic climate. It has laid down the Sustainability governance and Management framework. One of the important components of Governance is the Enterprise Risk Management which is designed to manage, mitigate, and optimize the risk for compliance and assurance to various stakeholders. Internal audits also form an important part of the Governance with other parts being Board governance, Ombuds process and Code of Business Ethics. The Sustainability dimensions include Resource & Cost Efficiency, Ecological footprint reduction, Education & Community and Transparent Disclosures. The key points of the Sustainability governance and Management framework is shown in Figure 8.3.

**Figure 8.3**

#### **Wipro's Sustainability Governance and Management framework**

Governance	Practices	Sustainability
<ul style="list-style-type: none"><li>• Enterprise Risk Management</li><li>• COBC</li><li>• Ombuds-process</li><li>• Board governance</li><li>• Internal Audits</li></ul>	<ul style="list-style-type: none"><li>• Innovation</li><li>• Quality</li><li>• Customer Centricity</li><li>• Knowledge Management</li></ul>	<ul style="list-style-type: none"><li>• Resource &amp; Cost Efficiency</li><li>• Ecological footprint reduction</li><li>• Education and Community</li><li>• Transparent disclosures</li></ul>

The funding model at Wipro related to Sustainability programs follow the regular planning and budgeting process. Each group working on Green IT has to prepare an annual budget that is extensively discussed with Chairman, the members of the Corporate Executive Council and with Finance before approval. Wipro believes that the funding should not be based on targeted percentage or revenues or other similar metrics. It goes against the spirit in which Wipro goes about implementing Green IT initiatives. It transcends the compliance based sustainability initiatives and works towards broader goals of ecological prosperity.

### **Environmental performance: Where Wipro stands and Future Goals**

Wipro participates in the sustainability reporting practices and includes all its centers of operation for reporting. Wipro India has 60 locations comprising of 26 owned and 34 leased facilities including Wipro Technologies, Wipro Infotech and BPO. These locations have constantly been increasing over the years and all of them have been a part of environmental reporting –energy, emissions, water and waste. When the facilities outside India are concerned, the energy consumption data is available for close to 80% of the facilities, while they use rules of thumb to arrive at best estimates for the remaining 20. The reporting status at Wipro is consistent with the GHG protocol’s new standards and it includes Waste generated in operations, Business travel, Employee commuting, leased assets, End of Life treatment of sold products etc.

The reporting culture is deep rooted in the Environmental Management Systems, where Wipro has been following the ISO 14001 framework for more than a decade. While they have the flexibility and control in implementing best reporting and sustainability practices in the facilities owned by them, they attempt to replicate the same in their leased offices as well. The extract from the environmental policy illustrates the commitment to transparent reporting and Environmental Management Systems.

*Ecological Sustainable Commitment: The triple bottom line of economic, environmental and social good forms an essential part of its approach to responsible Corporate Citizenship. With the environmental Management System as its backbone, Wipro reaffirms its commitment, as part of its environmental policy through a set of driving principles, namely – Regulatory Compliance,*

*Minimization of our Ecological Footprint, Integration of Ecological Programs with Business Strategy, Customer Stewardship, Stakeholder Inclusiveness, Transparency in our reporting and Leadership Commitment.*

-  
- Extract from Environmental Policy (Wipro, 2012)

While the overall sales at Wipro had increased from 152.7 INR Billion in 2006-07 to 316.9 INR Billion in 2010-11, the net energy consumption per person at Wipro had come down during the same period from 336 kWhs to 279 kWhs. This reduction in energy consumption happened in spite of approximately 200% increase in the number of employees and close to 150% increase in the number of development centers during the same period. In addition, the company was meeting majority of its water requirements through rainwater harvesting and recycling of used water. Wipro had setup several benchmarks in the domain of Sustainability and Forbes reported that the company had turned its 50-acre campus at Electronic City in Bangalore into a “test bed”.

*“While 25,000 software engineers write code for Fortune 500 corporations, waste food from the cafeteria turns into methane for lighting burners, harvested rainwater is used to cool air-conditioning towers, a paper pulping plant recycles waste paper into writing pads and a micro windmill lights bulbs along the perimeter of the campus. Wipro’s Sarjapur campus a few kilometres away has India’s largest LED installations — all compact fluorescent lamps have been replaced with LED lights, helping save 75 percent in electricity consumption. Since 2003, Wipro has cut water usage in its offices across India by nearly two-thirds”*

Forbes (Jayashankar, 2009)

Wipro has set the following targets for Energy and GHG Reduction:

- a) Reduce the Scope 1 and Scope 2 GHG intensity of Wipro’s operations from 2.6 MT per employee in 2010-11 to 1.3 MT per employee by 2014-15, translating into a net reduction of nearly 60,600 tons at the Wipro Ltd level. This target applies to all campus facilities and offices.
- b) To establish a metric that is representative of its operations when ‘Data Centers’ is concerned. Data centers account for nearly 20% of our energy consumption.

- c) To expand the sources to be included in Scope 3 emissions. Scope 3 emissions comprises of emission sources that are not in their direct sphere of control.

The reduction targets for Scope1 and Scope 2 emissions for Wipro office facilities have been laid out till 2025. Wipro plans to reduce the GHG intensities for office facility from 2.6 (2010-11) to 1.3 in 2014-15. It also plans to reduce the GHG emissions in general from 3.45 tons (2011-12) to 1 ton per employee in 2025. The target is clearly demonstrated in Exhibit 8.3.

Wipro closely monitors the energy consumption and comes up with new evaluation metrics to provide realistic measurement for finding out the impact of IT on environment. The IT services section at Wipro has its energy consumption pattern largely driven by electricity consumption and fuel consumption in employee travel. Electricity consumption is essentially divided into Cooling, Computing and Lighting. Wipro conducts empirical analysis on its past data to find out the ratio between the three sources. Last analysis revealed a split between these three sources to be approximately 50:35:10 in percentage terms with the balance 5% consumed by other infrastructure like Water Treatment Plants, Pumps etc. With focus on energy consumption at Wipro, enough research goes into monitoring energy efficiency as well. Energy Efficiency at Wipro is a function of four major factors – Technology, Processes for measuring, auditing and monitoring, Asset Utilization and Behavior. The dynamics of these factors help determine the relative energy efficiency that can be realized. Wipro has invested in LEED rated buildings and it helped them realize a cumulated energy efficiency of more than 20% over a five year period. As a process of developing new metrics to monitor impact of IT on environment, Wipro came up with “Per Square feet of office space” for measuring the impact of data center. This does not include data centers meant for exclusive customer operations and servicing. This metric is relatively more independent of the volume of business activity and can help normalize for inter-period comparisons where the external business context may be different. The baseline measurements are shown in Table 8.2.

**Table 8.2**

**New Metric Statistics and GHG Mitigation Program**

<i>Per Square feet of office space</i>		
<b>GHG Emissions Intensity Metric</b>	<b>India</b>	<b>Global</b>
Area of office space (Kg per square feet per annum)	16.8	17.7
Employee (Tons per employee per annum)	2.6	2.7
<i>GHG Mitigation Program</i>		
<b>Energy Efficiency</b>	<b>Renewable Energy (Gen)</b>	<b>Renewable Energy (Purch)</b>
15%	5%	80%
Higher Cooling Efficiency (Earth Air Tunnel, Geo-Thermal)	MW Scale generation of Solar PV, Wind, BioGasifier	MW Scale purchase of Clean Energy from third party providers
Higher Lighting Efficiency (LED), Changes in building design, Behavioral and process changes	-	-

**GHG Mitigation Program at Wipro:**

Wipro has set an ambitious goal of reducing the GHG intensity per employee by a considerable amount in the coming years. There are three key elements in the mitigation program- Energy Efficiency, Renewable Energy (RE) Generation and Purchase of RE. The split between the elements is shown in Table 8.2. One of the key focus areas of the mitigation program is the reduction of electricity related emissions. Wipro’s contribution of electricity related emissions has been consistent for the time period 2008-2011 at around 60% of the GHG emissions. Therefore, the plan is to focus on electricity reduced emissions with possible efforts on travel related reductions as well.

Energy Efficiency: It is one of the three key elements of the mitigation program. The trend of Energy efficiency at Wipro on a per employee basis (kWh of Electricity per Month per Employee) is presented in Exhibit 8.5. It clearly shows a reduction in energy



consumption at Wipro with an exception in 2010-11. However, this exception can be explained by the relatively larger proportion of data centers in their business portfolio. Wipro plans to leverage upon its significant energy savings by investment in Green buildings and build on additional efficiencies. They plan to execute this through a combination of real time matching of demand & usage and constant optimization of equipment efficiencies through proactive maintenance. The deployment of a smart information analytics platform that can enable the remote management of energy infrastructure is a central plan to this execution. The plan will be worked out with Wipro Energy Solutions and Services (WESS) which would also be a pioneering test bed for the deployment of IT based energy management platform.

Renewable Energy: Purchase and generation of Renewable energy forms the other two components of the mitigation program. In the year 2010-11, Wipro purchased 24.5 Mn Units of RE power, mainly from small hydro producers and targets a 70% increase for the coming years. The use of captive renewable energy in Wipro's operations is clearly visible with the pilot projects in Solar Photovoltaic (PV), Micro Wind Turbines and Solar heating applications. It saved 1274.14 Mwh/Year with the use of Solar Thermal heating and 3.391 Mwh/Year with the use of solar PV installations.

### **Concern: Sustainability**

With the current data on carbon emissions, the efforts of Green IT & Sustainability initiatives have produced good results. However, the targets decided for 2015 and 2020 need special focus on sustainable Green IT initiatives. The sustainability team at Wipro had to take a call on current strategies employed for environmental initiatives. Would these strategies provide them sustainable environmental performance and ensure continuity of their existing Green IT initiatives? Would Wipro be able to meet the targets set for the years to come?

Mr. P.S.Narayan had a tough task ahead to first understand the factors that contribute to sustainability of Green IT initiatives. His team had to then map the existing strategies and initiatives to the concerned factors and assess the long term performance of environmental initiatives. The team had to take a call on whether it was the right time to

scale up the green initiatives and if not, what crucial changes were to feature in Wipro's approach to sustainability?

**Exhibit 8.1**

**Key Organizational Metrics**


	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>
<b>Sales (INR Billion)</b>	152.7	203.9	259.6	276.5	316.9
<b>PAT (INR Billion)</b>	29.4	32.8	39	46.3	52.9
<b>Total Assets ( ` Billion)</b>	99.8	161.9	193.4	245.3	278.4
<b>Number of shareholders</b>	197,774	232,932	228,456	179,438	220,238
<b>Number of Employees</b>	76,260	94,152	98,521	108,000	130,145
<b>Clients</b>	620	743	863	860	904
<b>Global Development Centers</b>	46	50	53	72	74

## Exhibit 8.2

### Snapshot of Wipro Greenleaf


16 Mar 2012 16 Mar 2012

+Greenleaf Tree +Carbon Footprint +Device Compliance




Above Goal: 7  
Below Goal: 0  
No Template Set: 3

New devices powering off  
20 device(s)













= 1 device(s)



The Greenleaf device compliance display reports on the number of new devices that are now being powered down during the period

Group2

Select devices to apply a power template:  
 select all devices

 DEVICE2_10 10.1.2.10 Unknown	 DEVICE2_9 10.1.2.9 No Power Template	 DEVICE2_8 10.1.2.8 Unknown	 DEVICE2_7 10.1.2.7 Unknown
 DEVICE2_6 10.1.2.6 Unknown	 DEVICE2_5 10.1.2.5 Unknown	 DEVICE2_4 10.1.2.4 Unknown	 DEVICE2_3 10.1.2.3 Unknown
 DEVICE2_2 10.1.2.2 No Power Template	 DEVICE2_1 10.1.2.1 Unknown		


Devices not achieving the desired savings goals can be efficiently updated with defined power policy templates

X restricted device \* unmanaged device  
Apply a power template:

01 Jan 2012 14 Mar 2012

+Greenleaf Tree +Carbon Footprint +Device Compliance

**Your Carbon Footprint Savings**  
You have saved 33652.97 kilowatt hours which is equivalent to 23.2 metric tons of CO2 emissions.  
You have removed the equivalent of 4.55 car(s) from the road.



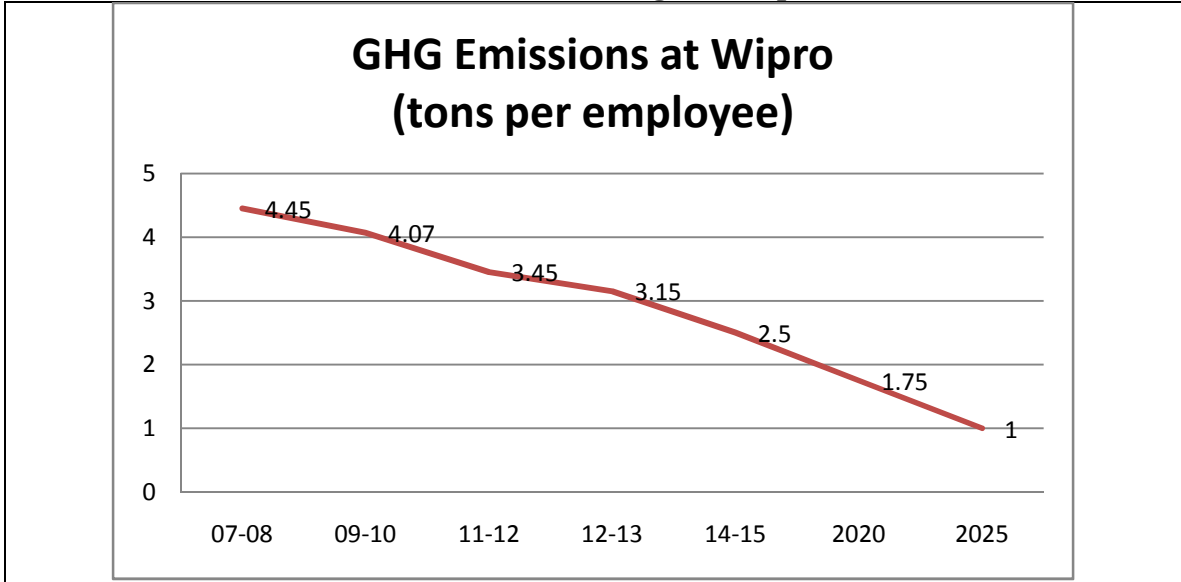
\*Average US passenger vehicles travel 11,290 miles per year with a fuel economy of 20.4 miles per gallon.

The Greenleaf carbon footprint calculator helps you to visualise the impact of your network on global climate change

Source: Wipro GreenTech,  
[http://www.wiprogreentech.com/Energy\\_Conservation\\_Initiatives.html](http://www.wiprogreentech.com/Energy_Conservation_Initiatives.html)

Exhibit 8.3

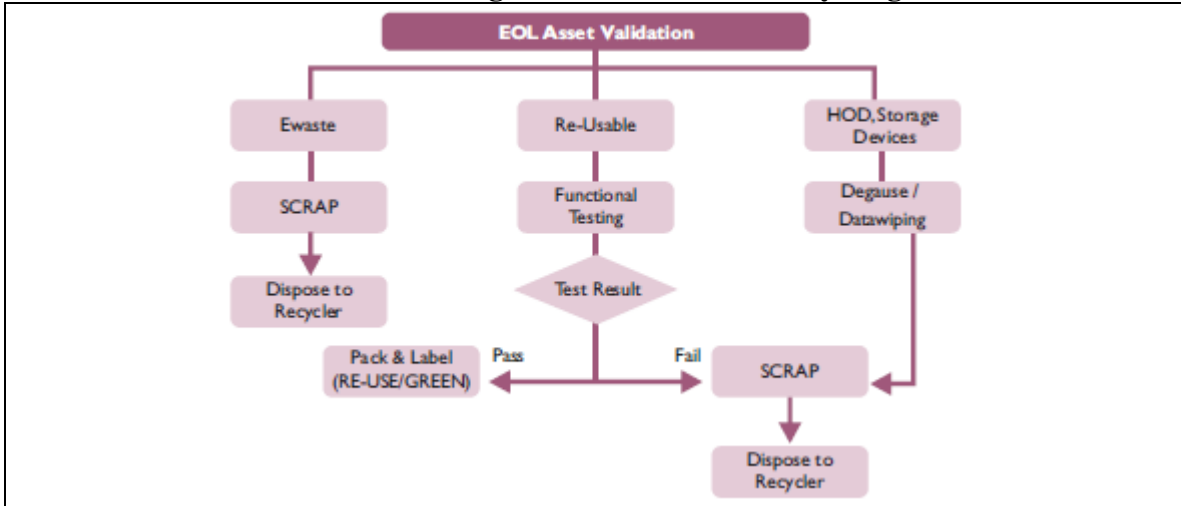
GHG Emissions Target at Wipro



Source: Wipro Sustainability Report (Wipro, 2012)

Exhibit 8.4

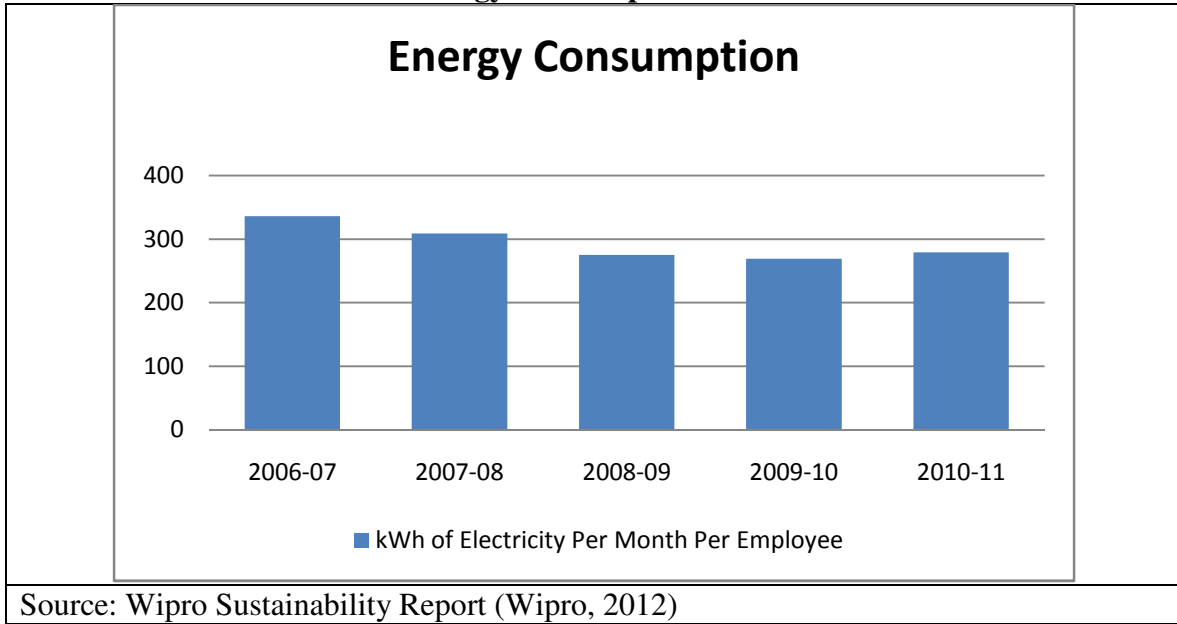
E-Waste management: End of Life Recycling



Source: Wipro Sustainability Report (Wipro, 2012)

**Exhibit 8.5**

**Energy Consumption Trend**



**Exhibit 8.6**

**Waste Management Tracking at Cognizant (2011)**

<i>Waste</i>	<i>Quantity</i>	<i>Hazardous</i>	<i>Disposal Method</i>
e-Waste	5163 PCs	Yes	Recycled with authorized vendors
Used oil	13,185 liters	Yes	Disposed through authorized recyclers
Used bulbs	19,914 nos	No	Disposed through various vendors
Used batteries	5,831 nos	Yes	Disposed through authorized recyclers
Other waste	1,611 kgs	No	Disposed through various vendors

Source: Cognizant (2011)

## Indian Institute of Management Kozhikode

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<i>Abstract:</i>  <p><i>It was a hectic month at Wipro as the financial year was about to end in March 2012. The sustainability team at Wipro also faced the heat as the Sustainability report was due that month. After a tedious and taxing process of collating data from several sources, the team finally managed to publish the final report highlight the sustainability efforts and results at Wipro. Mr.P.S. Narayan, Vice President and Head-Sustainability, was quite pleased with the environmental performance and sustainability initiatives at Wipro. However, there was one question that kept bothering him- Can Wipro sustain the environmental performance and continue the Green IT initiatives in the long run?</i></p> <p><i>It was time for the team to assess the current state of Sustainability initiatives at Wipro and ponder upon the long term survival and sustainable delivery of environmental performance. They were now dealing with a very sensitive issue- 'Sustaining Sustainability initiatives'. They had to take a decision on whether the current sustainability strategies would help them achieve their goals by 2020. It was time to decide if Wipro could scale up their environmental initiatives at this stage to ensure sustainability in the long run.</i></p>	
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