

Environmentally Sustainable Business Practices: An Anecdote from Infosys

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Abstract

The term 'Sustainable Development' refers to the development that meets the needs of the present without compromising the ability of the future generations to meet their needs. 'Environmental Sustainability' is a facet of Sustainable Development and is about preserving the long term quality of the natural environment. To achieve 'Sustainable Development' business organizations need to adopt environmentally sustainable business practices. Success at the global level can be achieved only if companies adhere to such business practices. International standards have been developed with regard to carbon emissions and Global Reporting Initiative (GRI) being the most widely used Sustainability Reporting framework. In this paper we have studied the environmentally sustainable business practices taken up at Infosys, India's one of the leading private sector companies. Content Analysis has been used as the research methodology. Data of the last six years (2008-2014) has been used to show the impact of the environmental initiatives taken up at Infosys. In the last six years Infosys has achieved a 43.6% reduction in electricity intensity and 34.5% reduction in water intensity against the base year, 75.6 mn units of electricity sourced from renewable sources, 2.0 MW of onsite solar plants, 3.4 mn sq.ft. of land with highest rated green buildings, and many more significant achievements to its name. The environmental initiatives taken by Infosys are not specific to it, but can be ideal for any organization irrespective of its type of goal.

Key words: Environmental Sustainability, Infosys, Energy and Emissions, Water, Biodiversity, Waste Management

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1. Introduction

The term "sustainable development" appeared for the first time in the Brundtland Commission Report "Our Common Future". The Brundtland Commission defined sustainable development as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. The report sought to draw the world's attention towards the deteriorating health of our planet earth. In the light of this, it focused on the urgent need to rethink our ways of living and to move towards a balanced life style which preserves the ecosystem for future generations. Industrial revolution though has brought wealth and prosperity to the world, but it has also resulted in deterioration of human environment and the natural resources. Business organizations use the environmental resources. They can survive only if the environment continues to offer the necessary resources. Considering the fact that the natural resources are limited and scarce and their rate of consumption is much higher than the rate of their replenishment, the only idea left for business organizations to have these resources for

an indefinite long period is to adopt environmentally sustainable business practices. Thus considering the tremendous pressure on planet earth the companies should go green in their business practices and bring a change in the environment. They have a major role to play in improving the health of the environment they operate in. Business organizations are the intermediaries that convert natural resources into final products, thus are well situated to implement strategies that preserve the natural resources.

1.1 Environmentally Sustainable Business Practices

Growing global environmental concerns have necessitated the need for organizations to behave in an environmentally responsible manner. Environmental Sustainability is about preserving the long term quality of the natural environment in such a way that the needs of the present generation are met without putting in danger the ability of the future generations to meet their needs. The environmentally sustainable business practices should aim at

reducing pollution or waste, lowering carbon emissions, reducing energy use, reducing the use of limited natural resources, and protecting wild life or ecosystems.

Today, in order to be successful, companies need to incorporate environmentally sustainable practices into the fabric of their business. Companies need to take up activities that not only help them achieve a competitive advantage but also result in a more favorable image. A research report (Advancing Sustainability: HR's role, SHRM 2011) explained the positive outcomes of organization's sustainability initiatives. In a survey of 343 employees, the most frequently reported positive outcomes of their organizations' sustainability initiatives were (percentage indicates the number of respondents out of total who reported that outcome):

Improved employee morale(55%), more efficient business processes(43%), stronger public image(43%), employee loyalty(38%), increased brand recognition (34%), increased customer/consumer confidence(34%), increased employee retention(33%), position as an employer of choice(27%), positive financial bottom line(25%), increased workforce productivity (21%), Increased recruitment of top employees(17%), improved product portfolio(13%), others(2%).

Different types of environmentally sustainable practices can be taken up by the organizations at their workplaces such as: offering recycling program for office products, using e-tools to conduct meetings, energy-efficient lighting systems and equipment, partnering with environmentally friendly suppliers/companies, encouraging employees to power down computers after few minutes of inactivity or installing automatic shut off, minimizing fresh water consumption, installing solar panels on roof etc.

Indian companies are realizing that if they truly want to be successful at the global level, they have to take initiatives, and formulate such strategies that help them succeed in a carbon constraint economy. Thus the leading Indian companies like Godrej, Infosys, Tata, ITC, etc. have resorted to such environmentally sustainable business practices. Godrej is one of the greenest companies in India. It is known for its 'Good and Green' programme. The company makes maximum reuse of discarded materials, has switched from diesel to biomass fuel, makes energy efficient air conditioners, and is one of the first makers in the world to market products with extremely-low GHG refrigerants. ITC has structured programs to be carbon neutral, water positive. ITC has received global recognition for its 'e-choupal' program. ITC came up with a new technology 'ozone treated elemental chlorine free technology' that is used to make environmental friendly multipurpose paper for office and home use. It has been first to adopt many such environmental friendly technologies. Tata scores each of its component companies not only on the basis of its leadership, business results, but also on the basis of action being taken to combat climate change, reduce waste and use

sustainability strategically as a part of their business planning. Mahindra has been working on fuel efficiency and alternative energy as a part of its product responsibility strategies. Wipro launched a comprehensive program called 'Eco Eye' that drives increasing ecological sustainability in all its operations and areas of its influence. Bharti Infratel has initiated Green Towers P7 program based on seven innovative ideas aimed at minimizing dependence on diesel.

Most foreign countries have stringent norms with regard to carbon emissions, and unless companies abide by these rules, entry to those foreign markets wouldn't be an option. International standards have been developed with regard to reporting such emissions by a company. Many organizations use external guidelines to help manage their sustainability reporting. The Global Reporting Initiative (GRI) framework is the world's most widely used Sustainability Reporting framework. The initiative sets out principles and indicators that organizations can use to measure and report their performance and impacts in four key areas: economic, environmental, social, and governance.

2. Analysis of Environmentally Sustainable Practices at Infosys

Infosys limited is an Indian company which was started in 1981 by seven people with US \$250. Today Infosys is a global leader in consulting, technology, and outsourcing. As far as sustainability is concerned, Infosys has always adhered to sustainable business practices in its day to day operations. Since 2004, Infosys has been capturing data on energy and water consumption and CO2 emissions. In 2007-08, the processes and methodologies for capturing and calculating data were refined. Infosys, in the same year, started to use the global standards mentioned by the The Green House Gas Protocol Initiative. Infosys is the first Information and Communication Technology (ICT) Company in India to take up the carbon neutrality goal. It made a voluntary commitment at United Nations in 2007 to become carbon neutral in its Indian Operations by 2017. Infosys is a signatory to United Nations Global Compact (UNGC). It has adopted GRI G4 guidelines for Sustainability Reporting. Since 2007-08, every year Infosys has come up with its Sustainability Reports (2013-14- latest Sustainability Report).

Environmental Initiatives at Infosys are focused on four major areas as shown in Figure 1.

In the area of Energy and Emissions, the long term goal of the company is to become carbon neutral. Several initiatives have been taken with focus on energy efficiency and use of renewable sources to source energy.

Buildings are the biggest energy consumers worldwide and commercial buildings make up a large part of this. Infosys has

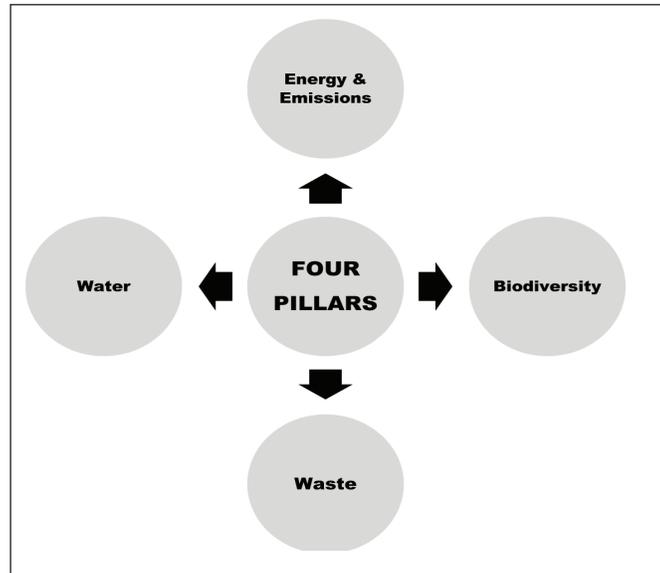


Figure 1. Four Pillars of Environmental Sustainability Initiatives at Infosys.

come up with many new building technologies in India like Indian Green Building Council’s (IGBC) Leadership Energy and Environmental Design (LEED) rating System, radiant cooling technology, smart building systems, efficient building envelope, and building design parameters. Majority of Infosys’s campuses are located in tropical climates and because of this air conditioning constituted approximately 50% of electricity consumption. Therefore there was a need to overhaul company’s approach to Heating, Ventilation and Air Conditioning (HVAC). New ways of implementing cooling systems in buildings were sought. Various other mechanisms have been undertaken to improve air conditioning systems like Low-pressure ducting and piping, Variable Speed Drives for Air Handling Units (AHUs), White paint on roofs, avoiding the use of Skylights in buildings, Heat recovery wheels, multiple cooling coils in fresh-air treatment equipment, etc.. In the area of lighting, all new buildings designed since 2008 have Daylight and Vision Panels that bring in natural light and thereby reduce the need for artificial lighting. Occupancy sensors / Motion sensors have been used to minimize energy wastage. Latest lighting technologies like Volumetric Lighting, Simulation software models, and LEDs have been introduced. In the field of IT infrastructure around 11,000 older desktops have been replaced with newer, more power efficient versions. Latest Technology concepts such as Virtualization, Consolidation, Cloud, Optimized Power Management Configuration, and Terminator have been adapted to in order to reduce the physical footprint of the servers. Eco-friendly designs have been incorporated for Data Centers and Server Rooms and made a Standard to ensure a reduction in power consumption. In the Renewable energy sector, the use of green power at Infosys has been increasing year by year. Solar Water Heaters, Solar Photovoltaic Systems,

and wind turbines have been set up at few of its campuses. To reduce carbon footprint related to business travel and employee commute, employees are encouraged to meet on virtual platforms, use multiple means of mass transit, carpooling, and company’s transport.

The above mentioned initiatives have resulted in a 43.61% fall in per capita per month electricity consumption since the base year (2007-08) as shown in Table 1. Year-wise changes have been shown below:

In the area of Water, as Infosys is an IT services company, its operations do not have a significant impact on water resources. In this focus area the goal of the company is to become water sustainable in its new India based campuses by focusing on reducing consumption, recycling, and rain water harvesting.

Fresh water is used only for drinking, office maintenance, dish washing, and in kitchens, and not for production. However, to meet the long term goal of becoming water sustainable, an integrated water management approach has been implemented with latest technology such as membrane bioreactor technology, setting up of rain water reservoirs, and taking up initiatives such as Installation of pressure reducing valves in taps and pipes, installation of sensor taps in high density areas, use of flow restrictors, dual plumbing systems in buildings to enable the use of recycled water for flushing, installation of sewage treatment plants to achieve a high quality of recycled water, use of recycled water in cooling towers and landscaping, plantation of low water consumption plants like land covers and shrubs, installation of waterless urinals, installation of electronic water meters at all outlets of underground reservoirs, etc. The focus has been on rain water harvesting, improving the efficiency of water use, and recycling all the human touch water in waste water plants.

Table 1. Electricity consumption in kWh (per capita per month)–(2008-2014)

Year	Electricity consumption in kWh (per capita per month)	Progress(%rise/fall) with respect to previous year	Progress(%rise/fall) with respect to base year
2007-08	296.5	-	
2008-09	266.5	Fall by 10.12%	Fall by 10.12%
2009-10	246.2	Fall by 7.62%	Fall by 16.96%
2010-11	229.5	Fall by 6.78%	Fall by 22.60%
2011-12	199.6	Fall by 13.03%	Fall by 32.68%
2012-13	178.3	Fall by 10.67%	Fall by 39.87%
2013-14	167.2	Fall by 6.23%	Fall by 43.61%

Source: Infosys Sustainability Report 2013-14

Table 2. Fresh water consumption in KL(per capita per month) (2008-2014)

Year	Fresh water consumption in KL(per capita per month)	Progress(%rise/fall) with respect to previous year	Progress(%rise/fall) with respect to base year
2007-08	3.28	-	
2008-09	3.30	Rise by 0.61%	Rise by 0.61%
2009-10	3.32	Rise by 0.61%	Rise by 1.22%
2010-11	3.01	Fall by 9.34%	Fall by 8.23%
2011-12	2.53	Fall by 15.95%	Fall by 22.87%
2012-13	2.17	Fall by 14.23%	Fall by 33.84%
2013-14	2.15	Fall by 0.92%	Fall by 34.45%

Source: Infosys Sustainability Report 2013-14

The above mentioned initiatives have resulted 34.45% reduction in per capita per month fresh water consumption since the base year (2007-08) as shown in Table 2. Year-wise changes and the progress every year have been shown below:

In the area of Biodiversity, all the campuses are located at government approved sites (industrial zones). Though the company's operations don't have a significant impact on the biodiversity conserves, but as a responsible company it is committed to conserving and promoting biodiversity at all its campuses. Only organic manure and pesticides are used for landscaping. Most of the trees planted are native to the area, thus helping to conserve endangered flora and fauna species of that region, promote local biodiversity and water conservation. Besides ornamental trees, aromatic, aquatic, fruit bearing and medicinal plants have been planted. Further, in order to ensure judicious usage of paper initiatives like PIN based secure printing, duplex printing replacing printed forms with e-forms, organizing Zero Print Week, raising usage awareness, loan books in library instead of issuing permanent hard copies. Since 2007 the training learning department has adopted virtual training through e-learning modules and online systems. Zero print week results in a saving of around 20,000 sheets of paper. Online question papers save more than .96 million pages per year. Online attendance saves more than 200,000 pages per year.

The following table shows the cumulative number of trees across its India campuses at the end of every fiscal starting from the year 2008 as shown in Table 3.

In the area of Waste Management, Triple R Principle of Reduce, Reuse and Recycle is used to manage solid waste. In the fiscal year 2014 initiatives such as clean hussain sagar drive, Zero food waste initiative, zero earth hour, and free pollution checks were taken up. In its effort to manage waste, Infosys had set up its first biogas plant at Mysore campus in fiscal year 2010-11. In-vessel composting system for handling organic waste, Organic waste converter has been set up at a few of its campuses. Other technological initiatives have also been taken such as waste-to-energy plant to dispose off non-recyclable mixed waste, and CFL crusher to ensure that the mercury in CFLs or tube lights is recycled. Also, Infosys has partnered with suppliers to increase the use of environment-friendly packing material. It is ensured that suppliers take back their packing material after good are delivered. Innovative ways are explored to use the generated waste. For eg- wood waste is used in carpentry.

Since the base year, solid waste is being disposed off as follows as shown in Figure 2.

3. Adoption of Environmentally Sustainable Initiatives- A Success

Since the base year 2008, there has been a substantial reduction in the carbon footprint and a rise in sustainable footprint. There has been a 43.61% fall in Electricity Consumption (measured

Table 3. Trees Planted at the end of each year (2008-2014)

Year	Total no. of trees at the end of year	Progress (% Rise) with respect to previous year	Progress (% Rise) with respect to Base year 2007-08
2007-08	1,00,000	-	-
2008-09	1,18,000	18%	18%
2009-10	1,41,700	20.08%	41.7%
2010-11	1,80,000	27.03%	80%
2011-12	2,26,000	25.26%	126%
2012-13	2,88,065	27.46%	188.07%
2013-14	3,90,255	35.47%	290.23%

Source: Infosys Sustainability Report 2013-14

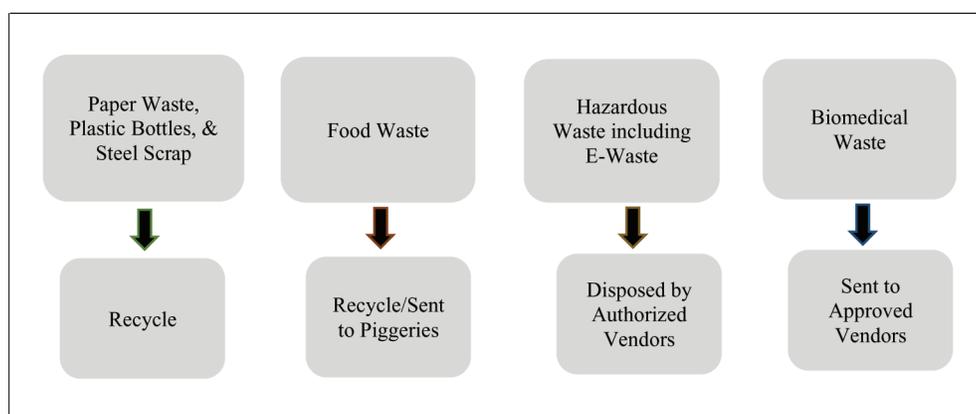


Figure 2. Waste Management Model at Infosys.

Source: Infosys Sustainability Report 2007-08

in kWh-per capita per month) over the last six years. Water Consumption (measured in kL-per capita per month) has shown a 34.45% fall since the base year 2008. The number of trees planted in the campuses has shown a massive increase of 290.23% since the base year. This speaks of the success story at Infosys. The year wise percentage fall in the consumption of Electricity and Water, and the rise in Tree plantation from the base year has been shown below in Figure 3.

4. Conclusion

Today in order to achieve a development that meets the needs of the present without compromising the ability of the future generations to meet their needs, all business organizations should run their operations in a manner that results in a sustainable manner and focus on ‘achieving more with less resources.’ Growing environmental concerns all over the world have demanded companies to adopt practices that result in sustainable development.

Infosys, a flagship company of India, complies with all the environment regulations in its countries of operation. The

environmental initiatives taken up by Infosys can be taken up by every organization. In the area of Energy and Emissions, technologies such as radiant cooling, smart building systems, efficient building envelope, building design parameters, White paint on roofs, avoiding the use of Skylights in buildings, Heat recovery wheels, multiple cooling coils in fresh-air treatment equipment, building Daylight and Vision Panels that bring in natural light, Volumetric Lighting, LEDs, Solar Water Heaters and wind turbines etc. can be used. Employees should be encouraged to meet on virtual platforms, and use company’s transport to reduce carbon footprint. In the area of water, focus can be on reducing fresh water consumption, recycling it, and harvesting rain water. Latest technologies such as membrane bioreactor technology can be used. Sewage treatment plants, waterless urinals, electronic water meters, pressure reducing valves can be installed. In the area of Biodiversity and Waste Management maximum number of trees can be planted in the campuses, and judicious use of paper must be ensured. Waste Management model of Infosys as shown in the table can be used. All these initiatives taken up by Infosys are not specific to

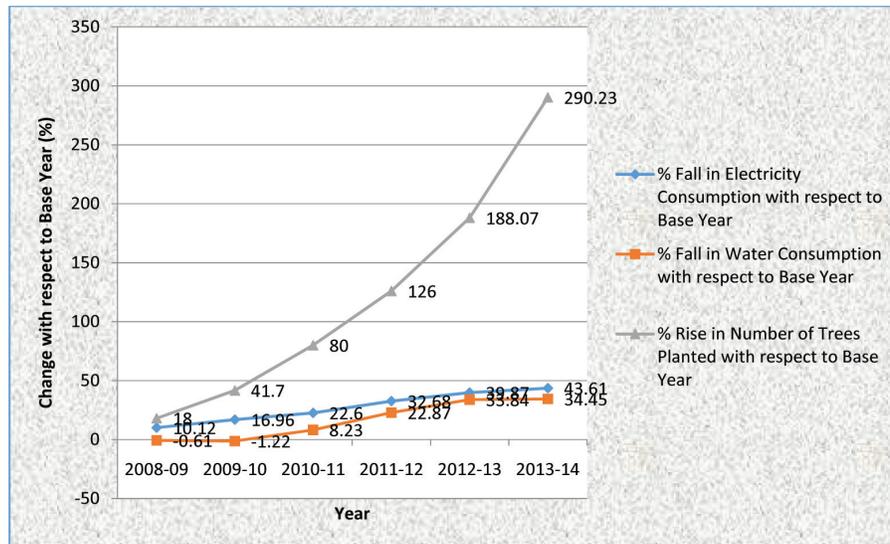


Figure 3. Year wise Change (2009-2014) in Electricity Consumption, Water Consumption, Number of Trees Planted with respect to Base year 2008.

it, but can be ideal for any company irrespective of the kind of business. Every company should act as a responsible citizen and contribute towards achieving environmental sustainability, and thus towards sustainable development.

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