

# Green Human Resource Management: A Critical to Industry 4.0 and Economic Sustainability

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**Abstract:** - Green the corporate is the new mantra in the name of green wave, green training, green globe, eco ideas; environmental friendly is the new alluring buzz today. To be more prosaic, green is the seductive, new black today. With alarm bells ringing over the corporate folklore, go green is getting more belligerent than before in corporate. Be its green buildings, green products, green processes, green systems and green jobs, the list is endlessly long and if this is not enough HR departments in many companies are increasingly greening their processes in the name of Green Human Resource Management. The researcher's paper discusses how the concept of go green/green wave is an emerging trend in the professional world, industry 4.0, digital era and economic sustainability.

**Keywords:** Industry 4.0, Eco ideas, Environmental friendly, Green human resource management, Green training, green jobs.

## I. INTRODUCTION

Admittedly, green is the new alluring buzz today. Be it the organic garden or green buildings to green job to cash-for-clunkers initiative aimed at wooing the gas guzzlers off the road, going green has found instant resonance with society today. Increasingly, businesses are also becoming alive to the fact that going green is not only the politically right thing to do but also adds a zing to the bottom line. Little wonder that HR teams are making an earnest bid to put in place slew of in-house green initiative. For developing any sustainable business, employees and the systems encompassing them are crucial. One may always hasten to add that a company is a product of its culture and operations. But then its employees who are instrumental in creating, executing and maintaining eco policies on ushering in green corporate culture. Shorn of sustainable practices and trained employee's it is well-right impossible to play the green game. Precisely, this is the reason why HR practices are at the core of any sustainable business development. Companies have realized that the time is more propitious now to hire talents who are keen on working for green companies.

What do you understand by Green Human Resource Management?

- Green human resource management means a management role in the pursuit of greener business practices: a role which could help to both save the planet and recruit new employees.

- Green workplace is defined as a workplace that is environmentally sensitive resource efficient and socially responsible.
- Green human resource management refers to the contribution of people management policies and activities towards the broader agenda.

## II. REVIEW OF LITERATURE

There is a suitable literature on green human resource management in conformity with its history and economic importance. On the basis of extensive literature review, it has been found that considerable studies have been carried out in the field of green human resource management. Literature survey has been done with the view to secure the effective information that has been depicted on both national and international scenario.

### *Need/Importance of the Study*

- Words with green suffixes such as green jobs, green buildings, green products, green processes and green systems have become the stuff of corporate folklore today.
- The green wave has taken the workplace storm. It may have started off as a fad, but has translated itself into a movement which is here to stay. Whether on an individual level through the efforts of singular employees, or through large-scale organizational initiatives, the avenues to make a difference are plentiful. Terms like sustainability and carbon footprint are doing the rounds of offices pretty frequently nowadays.
- Growing global environmental concerns and the development of international environmental standards are creating the need for business to adopt formal environmental strategies and programmes.
- The need for balance between industrial growth leading to wealth creation and safeguarding the natural environment so that the future generations may thrive.

### *Statement of the Problem*

The trajectory of this green development can be described to many reasons. One, all over the world, business are transmogrifying from industry-centric economy to talent-driven economy. Businesses are also in the throes of entering

green economy where customers and employees ever-shifting expectations and constant unfolding of environmental changes are forcing its leaders to address green issues head on. Secondly, CO2 footprints are easy to reduce a recessionary phase, but the same may be searing when the business picks up its growth momentum and revs up its production. Conventional wisdom would have it that in a recessionary phase, the company would place heavy emphasis on cutting down on wastes and stretching its resources optimally. As the growth momentum perks up, companies may look to going green even while attracting costs and cutting carbon levels. In the recent years, the businesses and departments are increasingly under pressure to ‘join the green club’ as they battle with the daunting task of attracting costs, reducing wastes and paperwork and conserving energy.

III. RESULTS AND DISCUSSIONS

There are three steps involved in creating a process for HR practice. They are:

1. Evaluate

Some of the questions that would come up in this space for deep diagnosis are:

1. Are the products/services turned out by the company environmentally sustainable?
2. Does the company have any job that promise to cut back on carbon footprint?
3. Whether the job description and the corporate website of the company support the green agenda?
4. Has there been any attempt to take stock of recruiting processes in order to work out its carbon footprint?
5. Is the firm involved in any community services to offset the lack of sustainability in products or services?

Surely, it does not stop with this. HR will have to evaluate deeply every touch point involved in the employee life cycle. Some of the green human resource management methods are:

Exhibit 1: Checklist for Diagnosis	
Sl.No	Items
1.	Workforce planning
2.	Recruitment
3.	Career fairs
4.	Campus placements
5.	Candidate interview and selection
6.	On-boarding
7.	Dissemination of benefit information
8.	Orientation program
9.	Performance appraisal
10.	Communicating changes in benefits, policies and procedures
11.	Wages and salary administration

12.	Communications and public relations
13.	Employment branding initiatives
14.	Reward and recognition programs
15.	Exit interview
16.	Celebratory functions
17.	Retirement benefits
Source: <a href="http://www.slideshare.net/.../how-to-get-hr-greenand-how-it-e...">www.slideshare.net/.../how-to-get-hr-greenand-how-it-e...</a> - United States	

1. *In Recruitment:* In the U.K environmental issues have an impact on recruitment, as survey data show that high-achieving graduates judges the environmental performance and reputation of a company as criterion for decision making when applying for jobs.

2. *In Induction:* Induction for new recruits is seen to be needed to ensure they understand and approach their corporate environmental culture in a serious way.

3. *In Performance Management:* Using performance management in environmental management presents the challenges of how to measure environmental performance standards across different units of the firm, and gaining useful data on the environmental performance of managers. Example: how different departments within a company contribute to the overall environmental performance.

4. *In Performance Appraisal:* Performance appraisal covers topics such as environmental incidents, usage of environmental responsibilities, and the communication of environmental concerns and policy.

5. *In Training and Development:* Training is seen in the literature as a key intervention to manage waste. In terms of both prevention and reduction, and occurs through organizations training teams of front-line employees to produce a waste analysis of their areas. In Germany, all employees at Siemens receive some environmental training, with a focus on those involved with the treatment of hazardous waste/dangerous substances and interested specialists. Such training is an element of the in-house training. A good example of the complexity involved in environmental managers lies in the mobile telephone sector, where such phones are seen to contain fourteen different technological areas, meaning that mobile phone firms may need to develop ecological technologies that take care of pollution during production and the use and waste process for each of them.

6. *In Employee Relation:* A number of rationales for using employee involvement teams include the ideas that they can cut waste. As employees are seen to have the most knowledge of the work processes and products involved; can manage such complex work well: and that using them helps build employee pride and commitment in their work. Using employee involvement in the employee management domain is not only

seen as changing how work processes are performed, but also in terms of improving worker health and safety too. For example: Dow Chemical’s waste reduction programme was set up as a contest for all employees to engage with, and from which Dow claims a 173% return on investment from their first year of operation.

**7. In Payment and Reward Systems:** Work organizations are ideally seen to benefit from establishing a reward system for waste reduction practices that teams develop. It may be that as per the U.S experience, negative reinforcements like suspensions, criticisms and warnings are needed to get employees to make environmental improvements, example: if employees engage in lapses in the handling of hazardous waste. But using such negative reinforcements does not teach staff how dispose of waste properly, and may result in them failing to disclose environmental problems at source. So, instead, organizations may wish to engage in giving employees positive rewards in terms of verbal feedback from supervisors, as such informal verbal and written feedback which might help them motivate. Monetary-based environmental reward systems have developed, where for example, an important proportion of monthly managerial bonuses are dependent upon performance outcomes. Europe, Britain and U.S have examined the greening of performance related pay and environmental appraisal systems.

**2. Eliminate**

By taking recourse to Business Process Re-engineering, companies can take substantive measures to cut down on wastes. If truth be told, TQM and continuous quality improvement tools are not the sole preserve of Six Sigma companies alone. These methodologies can be embraced by organizations for soft processes as well. For example, a company uses recruiting materials made for campus recruitment. The question that begs an answer is: are the materials made of recycled papers? This question is relevant if one looks at the issues in the context of manufacturing a ton of paper. To manufacture a ton of paper, 24 trees are felled: 40 gallons of clean water and 5,690 lbs of greenhouse gases are used in the course of production. The production process may result in 20,000 gallons of waste water discharged out in the open hazardingly. Companies would do well to print the recruiting materials on recycled paper, enforce duplex printing policy and send e-mail with attendant message. Think twice before printing this e-mail. Hence, working out carbon footprint is of paramount importance.

Virtual interviews have become a flavor of the season in recent times except for the final interview, the other stages are now increasingly being held through virtual interview. The statistics put out by the solutions provider greenjobinterview.com is quite revealing. They have calculated that candidate’s travel cost can be pruned to the extent of 75% if virtual interview is conducted. A case in point is Baptist Health Systems in South Antonio, Texas,

which walked away with the coveted ‘Best Candidate Experience Award’ for their physician recruitment. ARINC bagged the ‘Innovation in Recruitment’ award. Both these companies used the virtual greenjobinterview.com solution for their recruitment.

<b>Exhibit 2: How Does the Cost Stack Up?</b>
Disney conducts an interview for the position of engineer from Dominican Republic for a vacant position in Los Angeles. <b>Disney conducts a virtual panel interview with grenjobinterview.com</b> Web camera and shipping = \$60 Interview with 4 people in 1 hour = \$99 <p style="text-align: center;"><b>Conventional personal interview</b></p> Two-night LA lodging = \$500 Airfare = \$1200 Car/taxi = \$150 Food and sundry expenses = \$100 <b>Total</b> = \$2150 Source: <a href="http://www.slideshare.net/.../how-to-get-hr-greenand-how-it-e...">www.slideshare.net/.../how-to-get-hr-greenand-how-it-e...</a> - United States
<b>Exhibit 3: CO2 Footprint Reduction by Using Virtual Interview</b>
Personal interview 645 kg CO2 Virtual interview 17 kg CO2

**3. Illuminate**

HR will have to develop a consistent and authentic employment brand that will go a long way in helping the company find, retain and replace talents. Companies of all size and shapes are witnessing spike in the ROI of their recruitment and retention activities by developing a strong employment brand. At the core of a robust employment brand is green recruitment practices. Not many companies have made sustained and concentrated efforts to capitalize on their environmental stance to woo the best of the talents. But there are a few notable exceptions like Google, Timberland, GE, Starbucks and P & G. all these companies are have used their environment-friendly policies to bolster their employment brand.

<b>Exhibit 4: Notable Exceptions of Google</b>
<ul style="list-style-type: none"> <li>• Google has a dining facility that dishes out organic foods.</li> <li>• Google provides donations to organizations that combat global warming.</li> <li>• Google has on-site farmers markets and composting of food wastes.</li> <li>• Google actively plugs for the usage of solar power and clean fuels.</li> <li>• Google offers 100% subsidized employee bus pools for commuting employees.</li> <li>• Google offers \$5,000 subsidies for all its employees who buy hybrid cars.</li> </ul>
Source: <a href="http://www.drjohnsullivan.com/articles-mainmenu-27/employment-branding-mainmenu-30/165-green-recruiting-building-your-environmental-employment-brand">http://www.drjohnsullivan.com/articles-mainmenu-27/employment-branding-mainmenu-30/165-green-recruiting-building-your-environmental-employment-brand</a>

## IV. FINDINGS

1. As a part of their CSR activities, organizations are increasingly supporting environmental causes. The initiatives have been growing in magnitude and budgetary support over the years. These have a positive impact on the organizations corporate reputation, so it truly is a win-win situation for all those concerned. Say's Manan Desai, an Associate at the Frontier Strategy Group.
2. Body Shop, for example, has converted their support for sustainable and environmentally beneficial practices into a competitive advantage of sorts. In a trend catching on quickly, companies are increasingly volunteering to undergo an annual environmental audit, to highlight their green practices.
3. Google for example, is gradually switching to renewable energy such as wind power and greening their power supply.
4. Coco Cola is actively involved in the cause of water stewardship. Their community watershed programmes are designed to support healthy watersheds and sustainable programmes to balance the water used throughout their production process. The company also has a focused view on energy efficiency.
5. Toyota has created the Toyota earth charter and is undertaking initiatives through contribution towards sustainable development. To this end, the organization is aiming to minimize the impact of the vehicle on the environment at all stages of its lifecycle.
6. FMCG major Marico is striving to incorporate green practices into its organizational core. At their factory in Jalgaon, every employee's birthday is celebrated by planting a tree.
7. Media Planner Shreya Sheth says seemingly simple initiatives can go along with long way; organization has put up posters in common areas to sensitize employees to environmental issues. Every quarter they partake in an activity such as clean up drive under the organization banner. Currently, organization is also running a one cup a day initiative where employees are encouraged to reuse their paper cup throughout the day say's.
8. Some organizations are going beyond conventional green practices and coming up with interesting, innovative and impactful initiatives, reveals Amrita Mukerjee, who works in the marketing department of an MNC in Mumbai. Our organization plans to hold a poster competition for the children of the employees, where the children make use of the used paper for their posters. We are also planning a green day, where employees dress up in green. Last year, the organization organized a major activity in conjunction with the United Nations, where each employee contributed Rs 50 to purchase a sampling. In total, 10,563 saplings were purchased.
9. Product Manager Kartikeya Shah has suggestions for several devices which can help organizations perform their environmental duties better. Offices can use tubular day lighting devices that bring sunlight, minus the heat into a room. There is no electricity cost of running these. They can also install infrared controlling films, that don't allow heat into a room so the requirement for air conditioning is very limited. Additionally, officers can use films such as di-noc in their interiors. These look and feels exactly like wood, but do not require the cutting down of trees.
10. Even individual actions can have a profound impact on saving the environment. Says Supriya Sharma, a Project Manager at Zee Learn in Mumbai, conserving paper is very important, especially given the magnitude of paper wastage seen in the workplace. My idea of green office is one with a lot of native plants, which can help maintain the ambient temperature as well. Activities like cycling or walking to work, for example will not only help your general fitness levels but also have positive implications on the environment.
11. Srinivas Rao, director- human resource, ibis and Novotel Bengaluru Techpark, enlightens us on green training and green collared jobs, green collar jobs are jobs related to environmental concerns. Examples includes jobs that draft policies related to zero waste, energy and water conservation, residential solar energy etc. a knowledgeable and trained workforce must be present in order to attain the goal of energy independence. Some of the best training programmes on green training are renewable energy training, eco tourism, wind programmes, energy auditors etc.
12. Green training programmes also provide a ray of hope for the currently unemployed, so as to lead them into green sector. Vishal Chibber, Director HR, Kelly Services India, elaborates, green training can be promoted via educational programmes to help both, employed and unemployed workers obtain environmental engineering, alternative energy jobs, environmental internships etc. companies should prioritize across and inclusion in these training programmes for low-income workers, unemployed youth and other underprivileged sectors of the workforce in order to promote employment for the unemployed.
13. A firm on Mysore road has erected a solar parking lot which not only keeps vehicles out of the sun, but also generates 15 KV of power daily, built by AEG and conceived under the building integrated photo voltaic- BIPV model.



14. 24/7 portable carbon sink: the carbon tree is a good solution for reduction of co2 in highly polluted areas, but it has its restrictions. For instance, it would only absorb co2 and co gases emitted by vehicles which run on petrol. Diesel vehicles emit various other pollutants which are equally harmful. However, it cannot be an alternative for natural trees, which give out o2. However, the device could be a part of the solution in the overall process of reducing green house gases.
15. P Parthasarathy, MD of E-Parisaraa Pvt Ltd, considers electronic waste a resource. He not only recovers, reuse and recycle the precious trash, but also helps save tones of waste from ending up in landfills. Example: every ton of steel recycled may be a drop in the ocean, but there's what it saves the environment: 75% of the energy needed to make steel from virgin material: 40% of the water required in production: 1.28 tons of solid waste: 86% reduction in air emission: reduction of 76% in water pollution. Similarly, every ton of aluminum recycled saves 6 tons of bauxite: 4 tons of chemical products and 14 MWh of electricity. And every ton of paper recycled saves 17 trees. And these reasons, incidentally, are why Parthasarathy won the national award for outstanding entrepreneurship in 2010. It's also why he makes it to the top of our list of earth warriors.
16. Infosys initiative of bicycle riding inside the campus is a positive sign towards green human resource management.
17. Standard Fires innovation in improving pollution free crackers to society is an example towards green human resource management.

Exhibit 5: Recycling Gains
10 Glass bottles conserves 1.8 kg CO2
10 Aluminum cans 1.5 kg CO2
5 kg Newspapers 8.5 kg CO2
5M Cable 9.8 kg CO2
3 kg Plastic bottles 6 kg CO2
1 Mobile phone 1.7 kg of CO2
1 Computer Monitor 5.6 kg of CO2
Source: <a href="http://www.bangaloremirror.com/city/saturday-july-7-2012-page8">www.bangaloremirror.com/city/saturday-july-7-2012-page8</a>

Exhibit 6: Carbon Mileage
10,000 km on a bicycle releases 0 kg of CO2
5,000 km on a train releases 4 kg of CO2
1,000 km by car releases 200 kg of CO2
1,000 km by olane releases 400 kg of CO2
Source: <a href="http://www.bangaloremirror.com/city/saturday-july-7-2012-page8">www.bangaloremirror.com/city/saturday-july-7-2012-page8</a>

## V. RECOMMENDATIONS AND SUGGESTIONS

Increasingly, a growing number of HR departments across the world are plumping for green HR practices. Here are few recommendations and suggestions to get your green team started:

1. Buy green office products.
2. Recycle cans, bottles, newspapers, and magazines.
3. Put your computer and printer on energy saving settings when you know you'll be away for a while.
4. Turn off your lights while you attend meetings and at night and over the weekends.
5. Purchase energy efficient appliances for your officers.
6. Ink and use recycle toner cartridges.
7. HR can by PCR papers.
8. Suggest lighting changes and use more energy efficient bulbs.
9. Offering recycling programs for office products and donating/discounting used office furniture's/supplies.
10. Send extra food from company events and lunches home with employees or deliver the food to a local charity rather than throwing it away.
11. Email advisories about how employees can use less papers. Example include: set printers to duplex by default: print on both sides of paper for internal or personal use documents.
12. Hook up with likeminded companies that are known for their environmental credentials.
13. Provide incentives for buying hybrid cars.
14. Promote telecommuting facilities. It can help reduce foreign oil dependency by a whopping 80%.
15. Embed green responsibilities into the job description.
16. Online payroll and check ins.
17. Online resume submission.
18. Conduct interview through telephone and video conference.
19. Limit the use of disposable products at company supplied lunches and events.
20. Experiment, because employees have to be comfortable, but use air conditioning with discretion.
21. Evaluate packing, shipping, and marketing materials to eliminate waste.
22. Minimize the use of lifts and elevators.
23. Recycle old computers.
24. More tree planting drive.
25. Organizing waste management month.
26. Green decisions, policies and practices of promote or prevent harm to green behaviour.

## VI. CONCLUSION

Time is changing and this is a green era-we all are living in green HR initiatives. Green issues are moving up on every ones agenda and it's clear that these issues need to be addressed to sustain the environment. Business can do their

part by establishing green policies which in turn have effects on the perceptions of the people who matter consumers, peers and employees. Green human resource management may provide interesting results for all stakeholders in HRM for employers and practitioners, these may be to establish the usefulness of linking employee involvement and participation in environmental management programmes to improved organizational environmental performance, perhaps via a specific focus on waste management and recycling: for unions and employees, they may help them lobby employers to adopt green human resource management policies and practices that help safeguard and enhance worker health and well being: and for academicians, they may reveal additional data to add an HRM element to the knowledge base on green management in general. Thus to conclude determining the carbon footprint: of the organization is dependent on analyzing all the process in

the performance system. Shifting the mindset and practices to a green model requires a total re-engineering of all the process steps in the entire system. i.e end to end cycle steps that make up the entire HR strategy.

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