



SustainNuance

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GREENING INDIA INC

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Gujarat's Renewable Revolution

A roundup on how the
state is going green

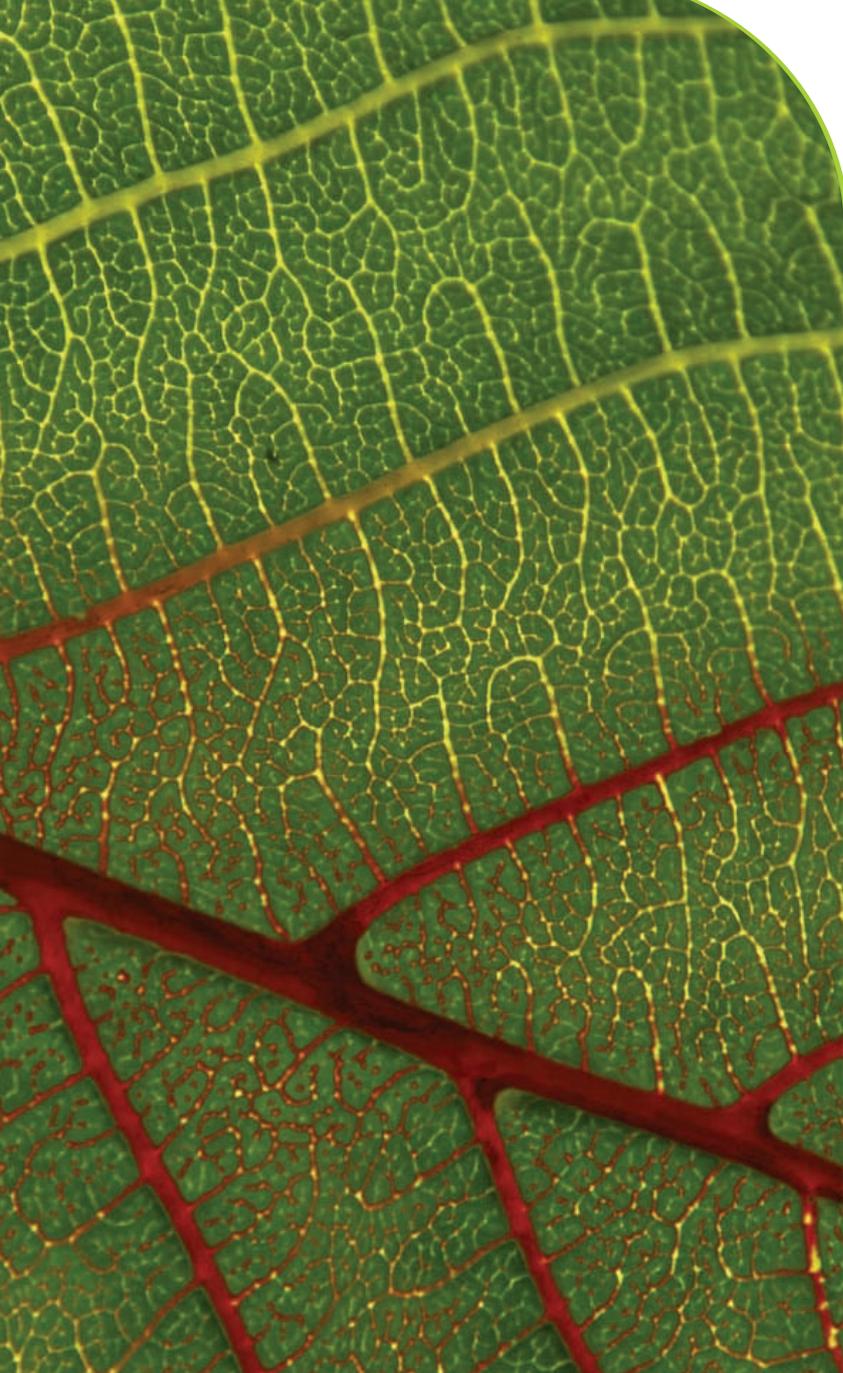
DO YOU NEED A CHIEF SUSTAINABILITY OFFICER?

CEOs from across verticals share their opinion
on the need, necessity and practicality of a
chief sustainability officer within their enterprise

Burning daylight oil
Telcos grapple with Diesel

Green-touch banking
Banks look anew at green

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Etymologically correct



Shashwat DC
Editor-in-Chief

The trouble lies not in the many facets of sustainability, but in the perspectives.

“What’s your definition of sustainability?” That’s a question I was frequently asked in the last few months as I met up with business leaders across multiple industries. Yes, the marathon discussions with experts rendered the definition stronger, as we unfailingly covered more ground with each passing lap, but admittedly, it almost felt like estimating the expanse of the Indian Ocean while sailing out in a small yacht. No matter where we sailed to, the question on definition of sustainability invariably cropped up.

The frequency with which the question occurred finally did make me see the underlying message: there were too many definitions of sustainability, and yet, there was much ambiguity on what could universally be conveyed by the term ‘sustainability.’

The trouble lay not in the many facets of sustainability, but in the perspectives. Quite like the blind men who went on to describe the elephant, various industries too seemed to be grappling with their own perspectives of sustainability. For an oil & gas major for instance, the existing business processes posed a sustainability challenge, while for an IT company that appeared to a business opportunity instead. The scope of sustainability too varied from sector to sector and often from person to person.

To a magazine that is mandated to sail the length and breadth of the subject, however, this multi-perspective-induced ambiguity needed to be cleared at the outset. And so, I began looking for the constituents of ‘sustainability.’ The word’s etymology traced back to the Latin word *sustinere* (*tenere*, to maintain; *sus*, up).

Corporate sustainability could consequently be defined as a way to conduct business that maintains equilibrium. Let this be a working definition of sustainability. As subsequent issues roll out, I’m sure collective wisdom would make the understanding on the subject evolve (and so will the definition, from a working one to a full-blown version).

Meanwhile, considering how inter-linked our business processes are with the economy and ecology, finding and maintaining this equilibrium is certainly not an easy task. Companies that seek to operate sustainably need to ensure that their operations are attuned towards better financial performance, have positive impact on the environment at large, and a better standard of living for their employees and the communities among which they operate. A firm that is able to achieve a stasis among these may be seen as treading the sustainable path. As India’s first magazine on corporate sustainability, we would be recognizing those efforts.

At Sustainuance, as we undertake to create a platform for the business community to propose and discuss various hues and tones of sustainability, we would also aim to identify steps that would lead India Inc. onto roads that are greener than those traversed before. I invite you to join this endeavour to discover and embrace sustainability! 

External links on sustainability

<http://blogs.hbr.org/leadinggreen/2008/06/we-need-a-definition-of-sustai.html>

<http://www.greenbiz.com/blog/2009/01/05/defining-sustainability>

<http://www.iisd.org/sd/>

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Here comes the green man!



As companies get serious about meeting their sustainability goals, the role of a 'chief officer' becomes a must-have

Y K Saxena

A boardroom representation is what helps drive adoption of sustainability processes across the organization

India Inc. is becoming increasingly conscious of the contributions that sustainability initiatives can bring to the bottom lines and to the planet earth. An effective sustainability reporting helps in creating long-term value by not only building a 'green' strategy, but also by taking into consideration every dimension of the social, cultural, and economic environments in which a business operates. The position of Chief Sustainability Officer (CSO) is now being created in many companies as they get serious about meeting their sustainability goals.

Historically, as the impact of business activities on the environment was increasingly recognised, the corporate environment department was assigned to comply with the relevant policies and to communicate with the key stakeholder groups. The importance of this activity was raised intermittently through environmental compliances when a company's license to operate would be put at risk.

By elevating the function to the board level, it sends out a message that the company no longer wants sustainability to be viewed as a 'business silo' but instead as a measure that would impact the major budgetary aspects of the business as well.

That said, the CSO's key role is to focus on areas of strategic importance that will make a significant difference to the shareholder's value while facilitating the company's management to review the impact of business policies and the risks. The CSO monitors and provides strategic direction to the company's sustainability practices towards fulfilling the three key objectives of environment, health and safety as well as monitoring the social investments done by the organisation.

The CSO, along with his team and other departments, coordinates activities to accomplish all levels of conservation within the organization—green supply chain management, energy and water conservation,

waste reduction and management, resource management, green building concept and greenhouse gas reduction. He focuses on renewable resources and implements social, economic and environmental reporting metrics such as the Global Reporting Initiative (GRI). The corporate office role is to ensure that these practices are also undertaken at the facility level. The CSO has to ensure that the organization is adhering to the United Nations Global compact principles in the areas of human rights, labour standards, anti-bribery, and that environment as well as social initiatives are in line with Millennium Developments Goals of United Nations.

The CSO integrates environment friendly technologies into the organization's routine and designs a sustainability plan to achieve performance goals. He engages in a constructive dialogue with policy makers to reduce uncertainty in the policy framework and introduces enhanced training for managers across the business. He also communicates the benefits of forward-facing strategies to financial analysts who may not realise the commercial benefits of sustainability. The CSO is also instrumental in tying up with various initiatives for the upliftment of society and conservation of the environment while sticking to the commitment of 4Ps of people, profits, principles and planet.

While the reduction of carbon footprint is of strategic importance for companies, particularly in the energy intensive sectors, there also are a number of other prominent issues that are mounting and will likely add to the CSO's responsibilities. Optimization of key resources such as water will start to influence organizations' sustainability strategies in the coming years. Indeed, for the CSO, sustainability has to be an attitude, not just a skill. **S**

Y.K. Saxena is the CSO at Tata Power.

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Let greed take backseat!



Business leaders, by being conscious of external costs of their operations, can help make sustainability a new normal

Ganesh Natarajan & Ruchi Mathur

Business resolves, and not government statutes, can check unbridled tendencies to make profits at the cost of environment

The business of business is no longer just business, in a world where the corporate sector has become an important constituent of society and plays an important role beyond the traditional responsibilities of providing employment and generating profits. In the last few years, when the global slowdown has hit all businesses and economies, the view of business as a self-serving and occasionally dishonest entity has further highlighted the need for mature business leaders to ensure that their firms are conscious of the external costs of their operations and do their best to build their operations in a sustainable manner!

'Cost externalizing' is a socio-economic term describing how a business maximizes its profits by offloading indirect costs and forcing negative effects to a third party. Pollution of air or water is a prime example of external costs. These contribute to climate change. Air pollution from burning fossil fuels causes damages to crops, buildings and public health. Similarly, water pollution is caused by industries poisoning water, which in turn harms plants and animals.

Climate change is attributed to greenhouse gas emissions from burning of oil, gas and coal. The Stern Review on the Economics of Climate Change by British economist Nicholas Stern notes, "Climate change presents a unique challenge for economics: it is the greatest example of market failure we have ever seen." According to the 700-page document, without action, the overall costs of climate change will be equivalent to losing at least 5% of global gross domestic product (GDP) each year, now and forever. Including a wider range

of risks and impacts could increase this to 20% of GDP or more.

Environmental regulations are required to correct the market but more importantly, a giant leap of intent is required to create both urgency and action! We are on a path to catastrophe. To avoid that, we as intelligent individuals must rise above the Tragedy of the Commons phenomenon, as discussed by American ecologist Garrett Hardin decades ago. Social responsibility should take an 'Inclusive Wealth Index' approach and track a business's contribution to society after reporting all costs.

In developing economies like India, it would be a pity if government statutes and policing were to be the only way to get businessmen to take their 'external costs' seriously and restrain their unbridled tendencies to make profits at the cost of environment and sustainability. Enough material is available on the concept of 'green,' be it in the use of green buildings, in minimizing polluting ingredients and processes or even in green IT concepts like server virtualization and green data centers, to minimize the harmful outcomes of running a business. The imperative to approach carbon neutrality in both products and operations has to be recognized across all sectors of business and industry and active programs should be put in place to reduce the carbon footprint and create a better world for our children and grandchildren to inhabit! 

Ganesh Natarajan and Ruchi Mathur are with Zensar Technologies Ltd. Ganesh is the Chairman of Knowledge Committee of CII and a member of the Chairmen's Council of Nasscom

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Your vehicle might soon run on solar power!

Experiments are on to use the most abundantly available alternative energy resource – solar – to run vehicles.

Until date, vehicle owners didn't have much choice except using fossil fuels for transportation. However, that might change eventually – the electric vehicle (EV) market is set to take-off. Solar charging systems and designs within the vehicle are coming up and renewable energy is making its way in the automobile industry.

Evs are the necessity of the time

Photovoltaics (PV) are set to play an important role in the way transport sector functions. PV is being used to power Evs and some companies now produce PV modules that can be retrofitted to hybrid Evs (HEVs) to extend their range and economy. An example of this method is the Solar Electric Vehicles, founded in 2005 with the aim of enhancing the performance of HEVs through the use of solar energy.

The Toyota Highlander hybrid is an example of the roof-mounted modules based on mono-crystalline PV cells used in combination with an additional battery pack. The unit designed for Toyota Prius generates 215 Watts and provides this vehicle with up to 30 miles per day in the battery solar mode. It improves fuel economy up to 34% and 60%, depending on factors like driving habits, speed, and road conditions. An interesting option on the Prius is the solar-powered air conditioning.

Solar Charging Stations for vehicles

Several companies have launched solar HEV/EV charging stations and provide great opportunities for the use of PV. This can hugely aid and benefit fleet operators, owners of parking lots and shopping malls. In the US, for example, SunPods Inc. of San Jose, California has announced the first factory built solar charging station, the "EV Plug-N-Go," which can



North America leads the world in terms of the number of EVs (electric vehicle) and hybrid Evs.

be installed and commissioned in a matter of hours. It is made up of 12 solar panels comprising poly-crystalline or mono-crystalline PV modules mounted on a galvanized steel frame that can produce between 2.3 and 2.5 kW.

North America leads the world in terms of the number of Evs and hybrid Evs. There is growing interest in Europe as well – the number of stations in Germany alone is estimated to be at well over 200.

It will certainly take a long while before we see wholly solar-powered vehicles as a common sight on our roads. It must be noted, however, that PV technology is already making a substantial contribution to reducing our dependence on fossil fuels and improving the quality of air. **S**



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Are Indian cities prepared to manage environmental effects?

As the construction sector is poorly regulated in India, it uses a major chunk of depleting resources and makes a considerable impact on ecology.

No need to look further to answer the above question. Come monsoon and all our cities, including the metros and 2-tier and 3-tier ones, face floods, water logging and traffic jams. This is largely due to poor drainage and an inefficient disaster management system everywhere. Add to this the aggressive building construction taking place in all cities which is putting extra pressure on the already inadequate infrastructure.

According to the Center for Science and Environment (CSE), without resource efficiency measures the construction work will severely affect the liveability of cities. A statement issued by CSE says



that, “Both residential and commercial buildings will increase several fold in the coming decade. There will be enormous impact on the quality of urban space, water and energy resources in cities, and waste generation. Unless guided with right principles for location choices, architectural design, appropriate choices of building material, and operational management, the building sector can make cities unliveable.”

A survey conducted by CSE states that in India, buildings are responsible for 40% of the energy use, 30% of raw material use, 20% of water use, and 20% of land use in cities. At the same time, they cause 40% of the carbon emissions, 30% of solid waste generation, and 20% of water effluents.

The problem is that construction sector is poorly regulated in India. It uses a major chunk of depleting resources like wood, coal and sand. Hence, it makes a considerable impact on ecology. With proper policies and follow-up, there is potential for resource savings in the building sector. Builders need to put up more efficient lighting, ventilation, air conditioning, refrigeration and architectural design in place. That can save 30% - 70% of energy. Similarly, saving water is also possible. By improving the water efficiency of the water fixtures the demand can be reduced by more than 30%, states CSE.

Power and water crisis in our cities and smaller towns is a common phenomenon. This is a sort of reminder that, either build energy and water efficient green buildings or be prepared to pay the price in the form of natural calamities. **©**



Architects take inspiration from the cocoon structure

A team of scientists at IIT-Kanpur have realized the possibilities of building temperature regulated, green homes.

Nature can be a rich source of inspiration. A team of scientists at IIT-Kanpur have realized the possibilities of learning from nature to build temperature regulated, green homes. Their inspiration - the cocoon. The team considers the cocoon as an architectural marvel that can inspire and help construct sustainable buildings for extreme temperature conditions.

The researchers studied how the pupa lives in a cocoon for a few weeks, and how the cocoon maintains best possible temperature and living conditions. Their study revealed that the cocoon membrane is asymmetric; it allows preferential gating of CO₂ from inside to outside.

A study revealed that the cocoon membrane is asymmetric; it allows preferential gating of CO₂ from inside to outside.

This means that it allows CO₂ to pass out from inside the cocoon, but not the other way round. So there was no build-up of CO₂ inside the cocoon. The temperature within the cocoon is also regulated automatically, irrespective of the temperature outside.

The chemistry department at IIT-K in collaboration with other departments and the Defence Research Development Organisation (DRDO) in Delhi conducted the study, and published it in the 'Biointerphases' journal.

The team carried its research on the Tassar silk worm. They also studied how the cocoon responds to extreme temperatures. "The cocoons were exposed to two extreme natural temperature regimes of 5 and 50 degree C, but a temperature of 25 and 34 degree C respectively was maintained inside the cocoons. Our results demonstrate, how CO₂ gating and thermo-regulation helps in maintaining an ambient atmosphere inside the cocoon for the growth of pupa," the study concludes.

They also simulated a CO₂ rich external environment but found that CO₂ did not spread into the cocoon. "But when CO₂ was injected inside the cocoon it diffused out in 20 seconds indicating that the cocoon's structure did not allow the build-up of CO₂ inside," says the study.

The team hopes that such natural architectural control of gas and temperature regulation could be helpful in the construction of energy saving structures and gas filters. ☺

Cheer India! You are the most eco-friendly nation

Developing countries can teach a thing or two to the developed nations on sustainability!

It was wrong to call ourselves stingy when we gave away our old newspapers to the Raddiwallahs and made a little money out of it. This and various other behavior of reuse and recycle, that is so much a part of our daily lives, has earned us the title of being the most conscious about environment footprint.

A new survey by the National Geographic Society has found that Indians were more guilty about their environmental impact when actually they display the best sustainable behavior.

The analysis puts Indian consumers at the top of the list of 17 nations which have the best sustainable behavior, with consumers in the US ranking last on the list.

Contrary to the belief, developing countries like India, China and Brazil made the most sustainable lifestyle choices, while the rich nations have the least sustainable lifestyles. India accounted for a Greendex score of 58.9, followed by China at 57.8 and Brazil at 55.5, while the US was ranked the lowest at a score of 44.7.

"In what may be a major disconnect between perception and behavior, the study also shows that consumers who feel the guiltiest about their impact – those in China, India and Brazil – actually lead the pack in sustainable consumer choices. That's despite Chinese and Indian consumers also being among the least confident that individual action can help the environment. In contrast only 21% of US consumers are guilty about the impact they have on the environment," the survey stated.

Terry Garcia, Executive Vice President for Mission Programs at the National Geographic Society, said concern about air and water pollution is highest among Chinese, Mexican, Brazilian and Argentinean consumers as well as in Russia and India.

The report is a pointer as to how developing nations and wealthy nations treat and deal with environmental challenges. There is obviously a significant divide between the two markets. 



Has Cuba found the answer to fuel depletion?

Engineers in Cuba are experimenting with a new plant to aid biofuel projects for sustainable development.

In what can be a big boost to the automobile industry and fuel market, Cuba for the first time test-drove a vehicle on biofuel. This new fuel was produced from the 'Jatropha' plant in a new factory on the island, state media reported. The area has the capacity to produce more than 100 tonnes of liquid biofuel per year.

The biodiesel was produced using the oil of *Jatropha curcas*, an inedible flowering plant. Part of the first 400 liters of the biofuel extracted from the plant was mixed in a 70-30 ratio with diesel and used to power a 2007 Toyota Hilux, the head of the

Applications Center for Sustainable Development, engineer Jose Sotolongo, said. The biofuel was used to drive the car for 1,500 km.

He further added that after a week of testing the biodiesel, the automobile was running with greater efficiency than normal, a situation he attributed to the lubricating effects of the *Jatropha* oil. Sotolongo also said that the biofuel could be used in gasoline-powered vehicles but "had to be in the proper proportion".

Promoters emphasized that the advantage of this project is the fact that an inedible plant is being used here, that does not compete with the island's food production. This is in contrast to other countries that are using nutritive species like corn and sugarcane in similar biofuel production projects.

The official said that the vehicle used in the test is part of the BIOMAS-CUBA project, which is being participated in by several government departments with the support of the Swiss Development Cooperation Agency. The project is being subsidized by the Cuban state. 



The new fuel was produced from the 'Jatropha' plant grown on the island.





Rural India Taking the Lead in Producing Solar Electricity

State leaders and other rural authorities have realized the potential of solar energy in meeting their electricity needs.

A major part of rural India faces complete or partial lack of reliable electricity. Power cuts and load shedding are a common trend here. It is estimated that about 400 million people in India, more than US population, are off the grid.

It was but inevitable to start looking at alternatives and solar power has given hope to hundreds of millions of Indians who are waiting to see their villages lit up. At the launch of Solar Mission in 2010, Prime Minister Manmohan Singh highlighted the potential of solar energy to not only electrify rural India, but also be a “substantial multiplier” to renovate rural economies.

Tangible steps have been taken in this field at various villages. Mahindra Solar One, one of India’s leading solar energy developers, has announced plans to develop a 50 megawatt solar plant in Rajasthan, India. It is partly funded by the U.S. Export Import Bank. Seeing the vast potential of the rural markets, the Indian states, along with international funding and partnerships, have set up solar projects to provide clean and reliable source of energy to villages.

Gujarat has gained fame for being one of the leading states for solar power supply to both villages and cities. It became the country’s first state to generate energy through solar panels mounted on a body of water. These panels, stretching over half a mile of the Narmada Canal, generate 1 MW of power and distribute it to

nearby villages. The project is a joint venture by the Gujarat government and SunEdison.

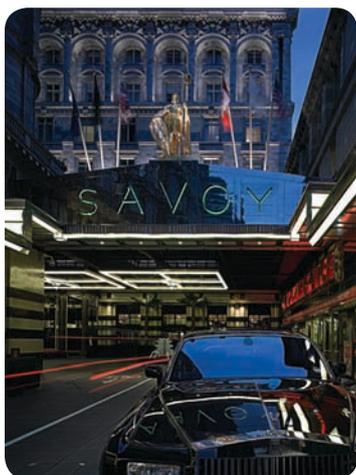
Madhya Pradesh is not far behind. Again with the help of SunEdison, a 14 KW solar energy plant was set up in the remote village of Meerwada. Today, the plant delivers electricity to a village of 400 residents who never had it before! SunEdison has also identified 29 other villages in the same district which can benefit from solar-powered electricity. Efforts are on to raise public and private funding for the same.

The New and Renewable Energy Development authorities in Uttar Pradesh have sanctioned funding to install over 250 solar street lights to illuminate 35 villages across the state. And this will be the first time these villages will be lit.

Odhisha’s Renewable Energy Development Agency (OREDA) has big plans of solar electrification of over 3000 villages by 2014. Under the Remote Village Electrification Programme (RVEP), OREDA has identified thousands of villages which were considered as “not feasible or cost effective” to be electrified via conventional grid and which need solar energy sources. The agency has strived to provide energy through solar LED lamps, home lighting systems, solar water heaters and solar home electrification systems to hundreds of villages. Similar efforts might also help the state to chalk out a master plan for its capital, Bhubhaneshwar, to become the state’s first ‘Solar City.’

It is heartening to see progress in this field being made in Jammu and Kashmir. Two solar power plants were recently inaugurated by the state’s Chief Minister Omar Abdullah here. The Center’s Ministry for New and Renewable Energy (MNRE) has granted the development of 67 more solar plants, which will serve as back up electrical sources for many hospitals across the state. Besides these projects, MNRE has sanctioned over 50,000 solar home systems since 2009 to reach 225 previously un-electrified villages.

In order to ensure a sustainable growth of India’s solar projects, it will need continuous and extensive efforts to enhance each aspect of this industry. That would include developing a manufacturing base, commissioning projects, increasing their bankability and creating a conducive environment for the same. Such efforts promise to carry India to its next development milestone. 



Namaste London!

Yes, the city deserves greetings for making sustainability the spirit at the Summer Olympics there

Sailee Karnik

After the environment-friendly 2010 Winter Olympics at Vancouver, it is now the London Olympics that is going green in 2012. London Olympics is the first host city that has been appointed to host the first sustainable Summer Games this year. The announcement to this effect brought the Games' green features like recycling, energy-saving operations and usage of alternative energy sources in

media spotlight. It is notable that a vision for this event has been to regenerate and enrich the sustainable quality of life for the whole of UK.

The key 'sustainability' goals of this event are:

Minimizing brown, maximizing green: UK has a new dream of creating the largest

new urban park and Olympics 2012 has created a meaningful opportunity to do so. To create a festive mood for the visitors at the event, the authorities will clear the industrial land and will built 250 acres of new parkland. All contaminated river banks will be cleaned up for the new park. Not only during the event but also after it, people can visit and enjoy playing sports on this parkland.



and its habitat during the Games, to minimize its impact on the natural habitats.

Related to these goals, various programs have been planned out by the organizing committee for the London Olympics.

Some key sustainability targets

Following the trend of electric cars and cycles: There will be a focus on increasing usage of public transportation—overground rails, trams and buses and bike-rental services—in UK cities. Much stress is being put on cycling by the committee as it is the best way to reduce pollution. A special feature, which is in the midst of discussions, is for using BMW electric and diesel cars for comfortable transportation of VIPs to the Games venues. Much criticism is coming up, too, against this idea.

Not only cycling, but recycling too: Recycling is observed as the chief sustainability aspect of this event but one that has been left mostly unnoticed by the media. Coca-Cola, for example, has a recycling program in place as part of the event's eco-friendly theme. It has organized to compile the heaps of used plastic bottles in the game and recycle them. It has also organized a waste management system. The food vendors, too, have come forward to contribute to the green program by using cellulose-based bio-plastic which is known as compostable plastic. Not only plastic bottles and wrappers, but the venues themselves are also built in such a way that they can be reused. According to the sources, after the Olympics, the basketball tournament venue will be demolished and reused for other events. This has raised awareness for green and clean environment in the sports field for future generations. London Olympics has taken a stand to organize the event not only for entertainment, but to spread the important message of recycling and enhancing the environment.

Green hotels for green travelers: If everyone has taken a stand for going green, then why not hotels? There is exciting news for the environment-conscious people. A number of luxurious hotels in the outskirts of Central London have been certified to deliver eco-friendly and sustainable facilities for the Olympics attendees. Rail public transit network has been expanded for the benefit of late comers who would be staying outside the core of the city. They can avail the transit facility, instead of going for a car-based transport.

Maximum amount of focus is being laid on recycling, which is being seen as the key sustainability by organizers

Earth-friendly venue for Olympics spectators: The venue will be designed in such a way as to give the feeling of richness of the nature. The south-end of the park will be occupied by vendors, cafeterias, shops, restaurants etc. The main feature lies on the northern side of the park. It will have the look of a beautiful landscape giving the message of preservation. A wetland area will consist of mammals like otters as well as bird species along with 300,000 plants. Between various games venues, 100,000 plants would be planted on the Thames-side walkway. Organizers are quite sure that this earth-friendly design will effectively convey the concepts of sustainability and nature preservation.

There are gaps indeed, yet...

Thrilled about the event, David Cameron, Prime Minister of UK and Paul Deighton, Chief Executive of Games and Organizers, London Organizing Committee of the Olympics and Paralympic Games (LOCOG) had announced to support the Olympics event. But the excitement didn't last much long as criticism came up.

The biggest issue put forward was about the Dow Chemicals wrapping the stadium with 336 panels of corporate advertising. With the conflict of Bhopal Tragedy still alive, many experts are against any relation between the eco-friendly London Olympics and Dow Chemicals. Dow justifies this issue by stating that the Bhopal Tragedy matter has been dealt with the resignation of the 12 key people and that strong support to the company has been extended by LOCOG Chairman Lord Coe.

Barring a few such or other criticisms, however, there has been appreciation for the organizers' rigorous work done towards hosting a cleaner and greener Olympics, while spreading the message of sustainable living. Due to its 'green' agenda, the event may well come to be known as the Green Olympics of 2012. 

Play healthy, live healthy: A message from this sustainable event is that people adopt a sustainable lifestyle by keeping the environment healthy and play in a cleaner atmosphere.

Address climate change, waste management and biodiversity: These three are among other prominent aims of the event's Green Theme. The motive is to minimize greenhouse gas emissions and to control the impact on climate change. The organizers have planned the waste management program to ensure that waste created during the event is not dumped in landfills. Greater care will be taken for the wildlife

Empower!

Consumer appreciation for energy efficient devices has risen multifold; standards-oriented selling could drive adoption too

Ankur Verma

“Research shows that every watt of energy saved at consumption level results in four watts less of energy produced, factoring in the generation and transmission and distribution losses.”

– Deepak Takkar,
Senior Vice-President-Sales
and General Manager-Cold
Chain, Emerson Climate
Technologies (India)

The Bureau of Energy Efficiency (BEE), having upgraded its energy-saving standards in January to ensure efficient consumption of electricity in air conditioners and refrigerators, has noticed encouraging results and is planning to bring in more appliances into the fold for better energy saving.

BEE, a statutory body under the central government’s power ministry had upgraded requirements for split air-conditioners, frost-free refrigerators, distribution transformers and tubelights.

Deepanshu Ahuja, Project Engineer, BEE said, “Energy is critical for India, and the demand for clean and energy efficient devices is growing rapidly. We are happy that star labeling for air-conditioners has borne good results.” He added that at present India faces 10% shortage in energy consumption and about 14% during peak demands.

BEE has increased the threshold level for energy efficiency rating (EER) for the star level categorisation. From January, the EER for one-star appliances has been increased to 2.5 from the earlier 2.3, and there has been an increase in EER of other appliances as well. He said the new gadgets will be put in the category of mandatory star ratings, which will make it incumbent on the sellers to display those ratings for the benefit of consumers.

To ensure proper implementation of energy-saving standards, BEE has also tied up with Emerson Climate Technologies to train salespersons dealing with different gadgets at showrooms and to acquaint them with the ratings and the savings consumers can make. An Emerson-BEE survey has shown that awareness among

consumers in 2008 was only 12 percent for star labeling which has now reached 85 percent. As per the survey, consumers care about energy efficiency, price and brand. The survey also indicated that salespersons needed more education and sales tools to explain to the end user concepts like the payback period.

Deepak Takkar, Senior Vice-President-Sales and General Manager-Cold Chain, Emerson Climate Technologies (India), said, “Research shows that every watt of energy saved at consumption level results in four watts less of energy produced, factoring in the generation and transmission and distribution losses. The adoption of star rating in air-conditioners supports energy conservation and improvement of power efficiencies.”

Improved compressors have been introduced in the Indian residential AC market for the first time to provide optimum energy savings and comply with the highest star rating, he added.

A scroll compressor is one example of this. Some of the newer compressors using this technology have one scroll, or spiral, orbiting in a path defined by a matching fixed scroll. The fixed scroll is attached to the compressor body, as described at an Emerson website. The orbiting scroll is coupled to the crankshaft and orbits, rather than rotates. The orbiting motion creates a series of gas pockets traveling between the two scrolls. On the outer portion of the scrolls, the pockets draw in gas, and then move into the center of the scroll, where the gas is discharged. As the gas moves into the increasingly smaller inner pockets, the temperature and pressure increase to the desired discharge pressure. 

Mandatory star ratings on gadgets will make it incumbent on sellers to display those ratings for the benefit of consumers.



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Do you need a Chief Sustainability Officer?

The C-level drive gives an organization the vision, the direction and, most importantly, the culture needed to attain sustainability

By Pratima H

Nikita was very excited as she pushed the elevator button. It was her first day at her first job, at the public relations department of a coveted MNC.

As she stepped into a swanky office that stood immediately distinctive with plush air, expensively-upholstered couches, high-couture paintings, revolving doors and rotating waiters, she silently wished for a camera moment. The desire only strengthened as she saw her soon-to-be boss Alisha approach.

They set out to visit all the major departments first, and then, the corner-rooms. Alisha fed her with delicious bytes on every VP on that floor. Their cabins smelled of elite oak, but Alisha's stories smelt of fine cheese—good enough to be spread smoothly over bland business news. No wonder she headed PR...

As they passed through the red-carpeted aisle, soft-stepped and hush-toned, covering one by one the cabins of the CEO, COO, CMO, CFO, VP-R&D and VP-Legal Affairs, Nikita wondered while looking at the last cabin door that bore a strange title—CSO.

“What does that stand for?” she asked Alisha.

“That’s the office of Veer Mehra, our Chief Sustainability Officer,” she replied. “In fact, your debut assignment is here. He has just been appointed. It means a lot of work for you and me now, for a few days,” she chuckled.

With that, Alisha took nonchalant strides towards other floors, and Nikita followed. But she couldn’t help turning back with a questioning look at the cabin.

“What could CSO mean? A PR gimmick to fiddle with or a serious big turn of sails for the company that will affect every press release I would be preparing?”

Nikita is not the only one to be intrigued about the CSO function.

While CSOs are no more a very rare breed, the term still elicits doubts, frivolous discussions and even ignorant glances in corporate elevators.



A Weinreb report notes that 90% of CSOs it profiled were only two steps removed from the CEO, with 35% reporting directly to the CEO

The essential attributes

Call it the need of the environmentally-alert times, a compliance or governance alarm going off without snooze buttons anymore, a branding imperative, a public-awareness crusade taking shape inside boardrooms, or a business-smart, profitably-oriented strategic bullet, the space for the sustainability office is beginning to get carved.

As recently as May 2011, Coca-Cola Company appointed its first CSO, Beatriz Perez, who earlier served as Chief Marketing Officer at Coca-Cola North America.

A release said the change was an effort to better integrate ongoing initiatives and noted that Perez would work to integrate Coca-Cola's sustainability initiatives in water, climate protection, packaging and recycling.

In an emerging league of global sustain-

ability chiefs, Perez is joined by EMC's Kathrin Winkler, SAP's Peter Graf, AT&T's Charlene Lake, UPS's Scott Wicker and DuPont's Linda Fisher.

Weinreb Group, an executive search and consulting firm, in a report that tracks the evolution of the CSO, uncovered many topographical changes around the function. The report titled "CSO: The Back Story: How Chief Sustainability Officers Reached the C-Suite," captures the 'how' and 'why' bits on 29 CSOs it profiled.

The report acutely points out how the person in charge of corporate sustainability and corporate social responsibility has evolved, from a director-level position, to vice-president to C-level, over the last decade. As the sustainability function crept up the corporate ladder, so has the caliber of the person leading it.

Highlighting some key common attributes of the profiled CSOs, Ellen Weinreb, CEO, Weinreb Group notes, "These are veterans at their respective companies. On an average, they have been there for 16 years! They know how to move initiatives forward and they are not experts in sustainability."

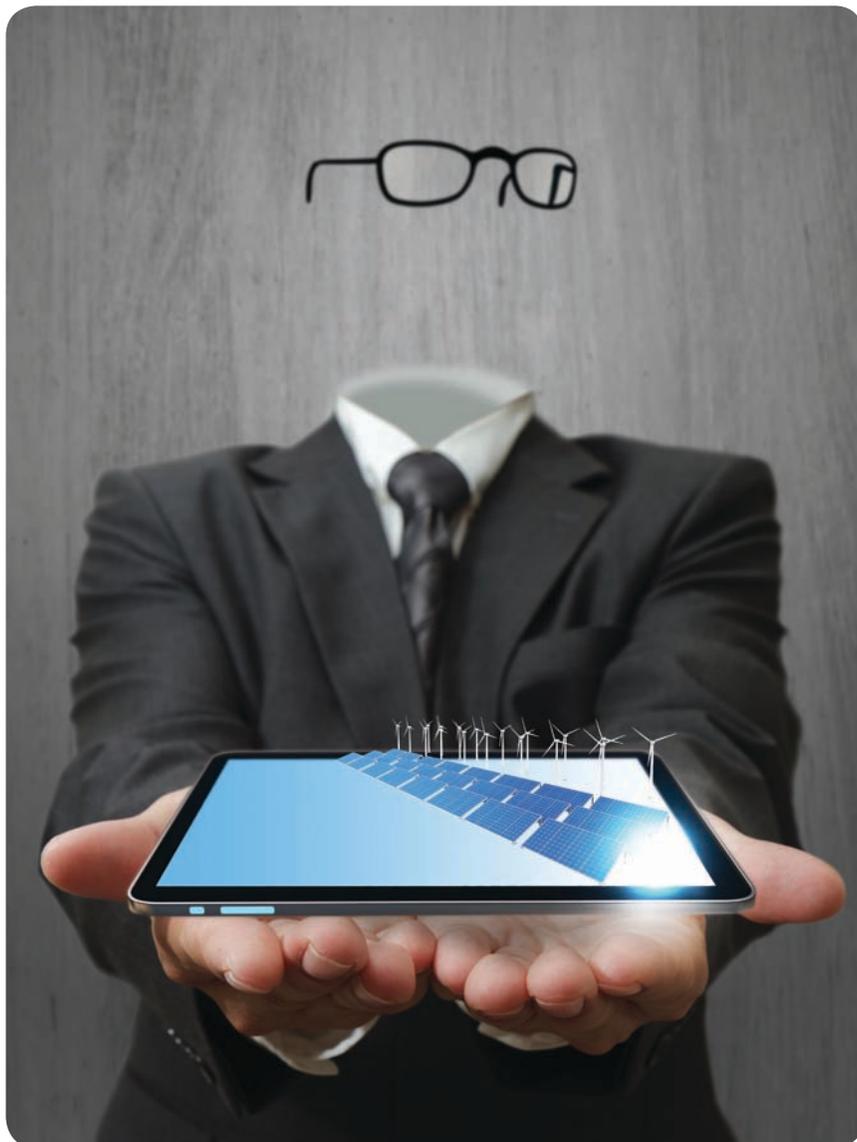
The positioning debate

As the head of clean technology projects at a utility in India reaffirms, the CSO is a significant position in the organization that should be reporting directly to the CEO of the organization. The need sharpens acutely and the position becomes critical due to growing compliance needs for fulfilling social and environmental obligations. The economic aspect though, has been kept out because every company is working towards that anyways, he points out.

As Weinreb stresses in the report too, "As an executive recruiter who has watched and worked in the sustainability field now for 15 years, I have seen firsthand the evolution of this function from a discretionary cost to a strategic necessity."

She points out how the new wave shows emergence of a new stakeholder in the corporate ambit, beyond the yesteryear shareholders. It's not hard to guess how a shift from quarter-to-quarter-hops to a long-term-stride will affect every business decision and what its vast and snowballing impacts on many fields of society will be.

It seems that the question has become all the more crucial, especially for large organizations. Ganga C Sharma, Country Head-CSR and Sustainability Services, TUV Rheinland India, opines that large





Sustainability encompasses the triple bottom line of people, planet and profits. As a concept has already evolved from being a “good-to-adopt” concept into a “basic-hygiene” practice.

organizations must create the CSO position. He feels it is critical from the point of view of addressing existing and future challenges and the business opportunities that are emerging out of global issues. “Examples are climate change, greenhouse gas emission, energy efficiency and product lifecycle assessment, among others.”

But assuming that a CSO title in itself would guarantee the much needed changes in mindsets would be a wishful thought.

A place among the top pecking orders is no automatic switch for sustainability. A separate functional identity or office does not reduce the distance one needs to walk to get to the boardroom or the CEO’s office. For instance, as mentioned in the Weinreb report, all 29 CSOs had their own budgets but not necessarily their own P&Ls.

As strategic as it gets

Of the CSOs covered, 86% had been hired internally. Ninety percent of CSOs were one or two steps separated from the CEO, with 35% were reporting directly to the CEO. Another 55% were removed by no more than two degrees from the CEO, reporting to another C-level executive such as the COO or CMO. Only 10% were three steps away from the CEO.

Dow Chemical’s CSO belongs to the group that reports directly to the CEO. The job description is to make sure that sustainability and environmental health and security (EH&S) are embedded in all Dow work processes, from manufacturing products to procurement and supply chain management and in determining where to invest capital, including new facilities and facility updates.

Proximity to the CEO also translates into better arrows to chase.

At Coca-Cola, when announcing Perez’s new position, Muhtar Kent, Chairman and CEO of the company, had stated. “We are realigning this important work to create a unified team, strategy and business plan that connects our sustainability work and actions.”

The green ink, however, is conspicuous by its absence when the corporate world gets busy with black and red as they take stock of their performances every quarter or year.

In this context, attempts like the one to bring out a green IT report by Daman Sood, CIO and Head – Sustainability Practice, Continuity and Resilience, becomes significant.

“We ran a survey on Green IT in 2010. The plan is to make it an annual practice

so that trends start emerging in couple of years.” Sood says.

The fact that business metrics and CSO’s mandate have to align is critical. Unless that happens, a CSO cannot create more impact than that of an arm candy. At Dow Chemical for instance, this issue is a clearly acknowledged point. As a science and technology company focused on global mega trends in energy, agriculture, infrastructure, transportation, consumer and lifestyle, CSO objectives and business metrics are integrated, the company emphatically claims.

Talking of the strategic continuum, Sharma adds that the CSO’s work is top-bottom and quite general in nature in the sense that specific activities have to be done by respective departments, like product development, supply chain or manufacturing. “CSO’s role typically should be to set the direction for the business, internal and external stakeholder consultation, overall process monitoring and in a way drive the organization on the path of sustainable development, fuelling innovation.”

In fact, the big gap between the CSO and the boardroom can stir a lot of issues. “The most important thing is that a CSO should also have administrative powers to be able to take decisions. The position ought to be equivalent to the CFO as both are looking at the sustainability of an organization,” an Indian CSO stresses.

More than a line item

The scope of the CSO is very wide, as one CSO pointed out, “He is more of a thinker and advisor as he has to look after the sustainability of the organization. His responsibility does not end with the organization but goes beyond that, in determining that the organization’s performance enhances global sustainability too.”

Talking about the balance sheet part of the game, some even feel a CSO can take a back seat when it comes to the bottom line. His involvement comes in the lines above the bottom line.

Incidentally, Coca-Cola has been stalked with many challenges recently like draining the aquifers in India and its alleged lack of initiative on bottle recycling and integration of recycled plastics.

There is a palpable change bubbling up on many fronts like a shareholder resolution asking Coca-Cola to disclose its plans on discontinuing use of bisphenol-A (BPA) in beverage can linings.

Companies are not myopic anymore

when it comes to the writing on the wall. As in case of Dow Chemical, the giant industrial group realizes that growing economies around the world face challenges in energy, agriculture, transportation and infrastructure, including massive water issues, and health and nutrition. The company adds how Dow’s innovation engine is pointed squarely at addressing these major needs and bringing solutions to market that will allow more people to live prosperously while striking a balance with the bounty that Nature provides.

In fact, fiascos like the BP deep-water horizon Gulf Oil Spill have only accentuated the need for sustainability orientation becoming an imperative and not just an option. Commenting on these new contours after such mishaps, Dow agrees that external events are learning opportunities, as well as opportunities to collaborate

Practicing CSOs say sustainability is best addressed from the highest governance levels and by having the desired authority to drive initiatives





The top KRAs for a CSO ought to be to develop an organizational strategy to grow or operate in the most efficient manner such that there is least impact of the operations or growth on the global challenges in terms of environment and resources.

towards solving issues.

“They give cause for all companies to maintain close scrutiny of, and accountability for, their policies and procedures. Dow’s culture of safety and responsible operations is a best practice that is constantly improving in order to meet our goals and to deliver on our core values of “respect for people” and “protecting our planet.”

The function is clearly sketched for a CSO’s team at Dow Chemical: “Development and accountability for corporate sustainability strategy, external visibility and engagement with stakeholders, and managing governance structure for sustainability, with emphasis on our 2015 sustainability goals.”

Weinreb is confidently positive when it comes to how CSOs’ roles would be shaping up going forward: “I see their roles gaining legitimacy within the corporate C-suite,” she says.

More teeth are needed

Some CSOs candidly agree that sustainability will remain an eye-wash until there is a serious dedication by the top management as well as a sincere understanding among the promoters or the boards. “If it is looked at as a hygiene factor, then the company cannot be sustainable. As stated earlier, a

dedicated senior management and board could make an organization truly sustainable in all respects,” a CSO at a power major acknowledged.

The fact that fiascos like BP spill reinforce the need for a solid CSO pillar cannot be overstated. Sharma concurs that such incidents have accentuated eco-activism decibels and affected a CSO’s function and its importance to the organization. “It is true in a majority of the cases.”

It is time, he underlines, that CSOs get to address sustainability at highest governance levels and have the desired authority to drive the initiative.

The role of a CSO is also determined by how the environment and the contexts around the corporates and business decisions are changing. It is important to note that the extent to which it can etch some real impact on the milieu that houses customers, activists and regulatory bodies, either today or generations later, is also changing.

The sensitive issues that often surround sustainability can also make it quite challenging to handle, almost like a hot potato. Specialists like Alisha or Nikita can either mash it with PR mayonnaise or preserve it deftly as a pickle. But it will need the responsible office of a Veer to incorporate that into an organization’s staple diet. **S**

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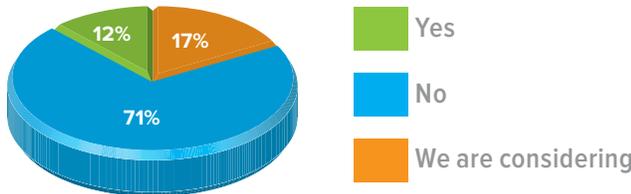
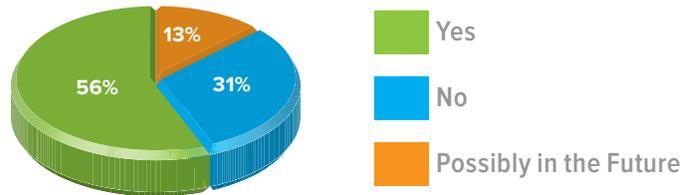
CSO!

CEOs across India have unequivocally trumped their support for a green officer within their organisation. While, not many have someone designated to look at sustainability as of now, most of them are contemplating or in the process of having a CSO designate.

To analyse what the CEOs and MDs of major organisations across India thought about the need and requirement of a CSO designation, Sustainuance conducted a pan India survey. In the same, close to 680 responses were elicited from CEOs across the nation. The geographic spread of the respondents was largely from the four metros and Bangalore (some 85%).

Do you need a CSO?

A big majority of Indian CEOs admit that they could well do with a support of a CSO. With quite many are still contemplating it.



Does your organisation have a green officer?

Some, 64% of respondents agreed that they did not have a senior-level position for sustainability. As of now, sustainability is either closely aligned with CSR function or with HR.

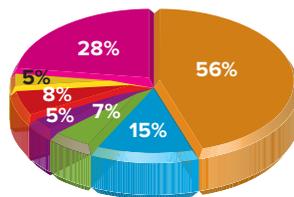
Rank the scope of your CSO's Responsibilities? (Ranking)

Surprisingly, cost optimisation is considered to be a very low objective. Possibly, it underscores the perception that sustainability is still considered as a cost-intensive function.

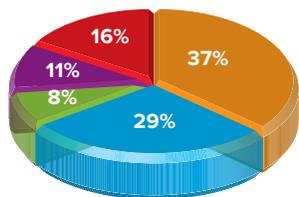
- 1 Environmental initiatives
- 2 CSR programme
- 3 Liasioning with Govt bodies and NGOs
- 4 Regulatory Compliance
- 5 Audits and control
- 6 Advisory
- 7 Cost Optimization
- 8 New Market Development
- 9 Cost optimization
- 10 Others

Do you deem your CSO team or office to be a...

While 56% consider sustainability as a cost centre, a good 28% consider it to be a good hedge for the future.



- Cost centre
- Profit centre not now but in the long term may be
- An imperative in today's times
- A regulatory necessity
- An experiment
- Good for PR or crisis
- Good for pre-emptive risk met on difficult decisions



- Board level interactions
- Frequent round-ups
- Occasional and nominal
- Tactical or execution-oriented
- Crisis-oriented

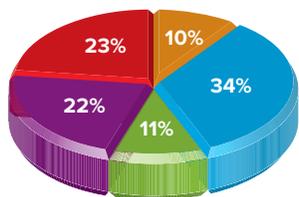
What is the exact nature of CSO's equation with the decision-makers here?

The CSO is still considered to be more aligned with the top-board management. This proves that, he or she is considered to be fairly senior, at par with other CXOs, like CFO, CIO and others.

Rank the best way to recruit a CSO?

Most of the CSO are still best hired from within the organisation. Quite a few respondents had listed social network LinkedIn as a good resource to hire sustainability officers.

- 1 Internal Promotion
- 2 From R&D
- 3 Experts from outside
- 4 Consultants on a project basis
- 5 Other mediums



- Yes surely
- Yes, if leveraged carefully
- Not much
- Can't say
- No, but can have a good branding impact

CSO function can lead to a competitive advantage

CEOs still are not sure of the competitive leverage they can have from a CSO. This could be the biggest reason, why even though they would like to hire a CSO, they haven't actually done so.

“TECH’S CARBON FOOTPRINT IS TINY BY COMPARISON”



Arun Gupta has been one of the most respected names in the CIO circles. Now at the helm of IT decision making at home-grown pharmaceutical giant Cipla, he is endowed with multi-vertical insights. In the past, he has been associated with leading brands such as Shoppers Stop, Pfizer, DHL Worldwide Express and DSP Merrill Lynch. Besides being a sought-after technology champion, Gupta is also widely regarded for his business acumen. In fact, he has been among those at the forefront of bringing business consciousness to the CIO function, having championed this need over various platforms.

Over the years, the sphere of a CIO's influence has significantly increased and today he or she is as essential a presence in the boardroom as a CEO. But specifically, what is the role of the CIO when it comes to an organization delivering on sustainability? In a candid interaction with **Shashwat DC**, Gupta delves on the pertinent aspects of how CIOs should broad-base themselves and start looking at the bigger picture. Excerpts.

S

ustainability has a wide ambit. How important do you think is the role played by technology in helping make the transition?

Sustainability is everyone's responsibility; it is not divided into silos and demarcated by roles. Technology plays a role in some parts, like in enabling or in creating visibility for the results of the efforts put in. It is thus a fallacy to ask the CIO to focus only on the IT infrastructure to aid the sustainability vision of the company.

The carbon footprint of IT, especially of IT hardware, is pretty high in modern enterprises. How should the CIO walk the tight rope between buying sustainable infrastructure (which is often a tad more costly) and managing IT budgets?

Technology's overall contribution to carbon footprint is tiny in comparison to what the rest of the enterprise contributes (an exception could be high-technology driven services companies). Take the example of the retail industry, where each store consumes 200-400 kVA power, of which the IT components account for about 10 kVA. Where should one focus? In one instance, systems were put in to measure the high-consumption areas and power saving of more than 20% was achieved through interventions, which is twice the consumption of IT.

Green IT has been around for quite a few years. Do you feel it has been able to deliver all the benefits that it had promised to? Or has it been overhyped, perpetrated by vendors to peddle new wares?

Green IT, if limited to power consumption, is part-hype part-reality and has barely delivered to the promise. Vendors will always overhype to sell, but CIOs are not a gullible lot anymore. However, if the definition is expanded to include, say, paper consumption, the benefit can be derived based on internal process changes with no dependency on vendors.

In what ways can a CIO aid and abet the green transition?

The earlier example I gave was from the retail industry where I spent five years. Let me add a generic example from supply chain. Route and load optimization can reduce the total fuel bill by reducing the number of trips or aligning the truck capacity to available load, thereby improving the cost per kg per km. Technology can help attune the solution to business dynamics, and the CIO can lead the transformation along with the Chief Sustainability Officer (CSO).

There is also a trend these days to appoint a C-level executive to overlook the sustainability aspect in the company. Is it relevant or redundant?

It is a matter of choice, depending on the belief of the enterprise and the importance given to the function. Relevance or redundancy is contextual.

Do you think a CIO is better placed to take on the additional responsibility of sustainability? If yes, then how should one prepare for the role?

If a CIO has to take up the sustainability responsibility, my advice would be to reach out to each and every part of the enterprise and not limit the scope and definition. Be open to ideas and learning from others. If CIOs drop the technology hat and start thinking for the larger cause, they can participate in many initiatives that may have no technology solutions. So CIOs should be willing to take risk and get out of their comfort zones to achieve success.

How conscious do you think Indian CIOs on the whole are about sustainability issues? And what needs to be done?

I believe that the awareness levels are high, but their interventions are not always aligned with their knowledge or wisdom. CIOs need to shed their inhibitions and move in a partnership or leadership mode.

What has your experience been so far? And how have you been involved with all these issues at the various companies you were earlier?

My experiences have been mixed. The example above was from my earlier company. In another setting I worked with a global NGO in helping the company gain insights and apply those to the local market. The scope of sustainability thus extended beyond just power savings and looked at various dimensions. I was fortunate to also connect with some international government sponsored programs to help connect them with Indian industries. So in many cases the role played was that of an enabler, in a few of the catalyst and for the rest it was restricted to IT as the champion.

Going forward, how do you see sustainability panning out in India Inc.?

I believe that it is already gaining momentum once again, after a lull that was driven by economic uncertainties. We all should work towards keeping the world at least in the same state as it was when we took over, if not better. This applies not just to our professional lives but also to our personal lives. 

“Take the example of the retail industry, where each store consumes 200-400 kVA power, of which the IT components account for about 10 kVA”

10 STEPS TO ENERGY CONSERVATION

Saving money on energy bills is always an attractive proposition for all business establishments. While certain free or low-cost measures can result in more than 10% savings on electricity bills, some higher-investment programs may ensure returns upto 30%. Besides reduced energy consumption, they can also help in reducing emissions and environmental pollution.

What an audit does

An energy audit is necessary to identify the core areas of improvement. It aims at identifying strategies to adjust and optimize energy usage, using systems and procedures to reduce energy requirements per unit output. The total cost of production is either held constant or reduced.

The choice of energy audit depends on different factors, such as the function and type of the industry; depth to which the audit is needed and the potential and magnitude of cost-reduction desired. A preliminary energy audit methodology usually uses pre-existing data and easily obtainable data. It involves quantifying total energy usage, estimation of savings and identification of thrust areas for improvement. A detailed energy audit is done to calculate energy usage by zone or

Energy audits help identify practical, sustainable and economically viable energy saving opportunities

Ankur Verma

by device and to carry out a detailed analysis of costs and savings. It is carried out in three phases, involving a 10-step approach as listed below.

What gets measured, gets done

That applies even more to energy conservation and savings. Organization have realised that they cannot survive in the long run unless they practice conservation. Sustainability is the road ahead and it is important to keep a check on resource consumption.

Of all sustainability measures, energy conservation comes first. A detailed energy audit can yield significant reduction in consumption, which in turn promotes savings. Metering and measurement is a necessary step in energy audit. It not only tells energy usage per unit but also helps to identify key areas for improvement. For example, Schneider Electric, in its drive towards energy management, aimed to reduce the energy consumption by a factor of four at its headquarters in France.

It installed 172 meters to measure energy consumption by zone in a 35,000 sq. meter building that accommodates more than 1,800 employees. And ultimately it resulted in energy savings of up to 30%. This success story led them to

the first ISO 50001 certification.

Closer home, the Petroleum Conservation Research Association (PCRA) conducted a detailed energy audit at a leading petrochemical company at Pata, UP. The audit was mainly aimed at identifying practical, sustainable and economically viable energy saving opportunities in all sections of the plant, resulting from a detailed analysis of technical parameters. It involved use of a wide range of sophisticated measuring instruments to generate refined data for feasibility analysis.

Electricity and natural gas were identified to be the main energy sources for the plant. The consumption data showed usage of 42 million kWh from utility grid, another 240 million kWh from in-house generation, and 363 million sm³ of natural gas per annum. The detailed energy audit led to savings of 88 million kWh electrical units, which amounted to savings worth Rs 629 lakh per annum while the one-time cost of program was Rs 246 lakh (see Table 1 for details). 

Table 1. Ten Steps for Detailed Energy Audit

Step No.	Plan of Action	Purpose/ Results
Phase I : Pre Audit Phase		
Step 1 	<ul style="list-style-type: none"> Plan and organise Walkthrough audit Informal interview with energy manager, production/ plant manager 	<ul style="list-style-type: none"> Plan for resources, establish/organise an energy audit team Organize instruments and time-frame Macro data collection Familiarize with processes/plant activities First-hand observation and assessment of current operations and practices
Step 2 	Conduct of brief meeting / awareness programme with all divisional heads and persons concerned (2-3 hrs.)	<ul style="list-style-type: none"> Build up cooperation Issue questionnaire for each department Orientation, awareness creation
Phase II: Audit Phase		
Step 3 	Primary data gathering, Process flow diagram, and energy utility diagram	<ul style="list-style-type: none"> Historic data analysis, baseline data collection Prepare process flow charts Draw all service utilities system diagrams (Example: Single line power distribution diagram, water, compressed air and steam distribution). Design, operating data and schedule of operation Annual energy bill and energy consumption pattern (refer manual, log sheet, name plate interview)
Step 4 	Conduct survey and monitoring	<ul style="list-style-type: none"> Measurements : Motor survey, insulation, and lighting survey with portable instruments for collection of more and accurate data. Confirm and compare operating data with design data.
Step 5 	Conduct of detailed trials /experiments for selected energy guzzlers	Trials/experiments: <ul style="list-style-type: none"> 24-hour power monitoring (MD, PF, kWh etc.). Load variation trends in pumps, fan compressors etc. Boiler/efficiency trials for four to eight hours Furnace efficiency trials Equipment performance and experiments
Step 6	Analysis of energy use	<ul style="list-style-type: none"> Energy and material balance and energy loss/wastage analysis
Step 7 	Identification and development of energy conservation (Encon) opportunities	<ul style="list-style-type: none"> Identification and consolidation of Encon measures Conceive, develop, and refine ideas Review the previous ideas suggested by unit persons Review the previous ideas suggested by energy audit (if any) Use brainstorming and value analysis techniques Contact vendors for new/efficient technology
Step 8 	Cost benefit analysis	<ul style="list-style-type: none"> Assess technical feasibility, economic viability and prioritization of Encon options for implementation Select the most promising projects Prioritise by low, medium, and long-term measures
Step 9	Reporting and presentation to the top management	<ul style="list-style-type: none"> Document and present to the top management.
Phase III: Post-Audit Phase		
Step 10 	Implementation and follow-up	<ul style="list-style-type: none"> Assist and implement Encon recommendation measures and monitor the performance Action plan, schedule for implementation Follow-up and periodic review

What's environment sans people?

An organization's sustainability exercise is meaningful only when it exudes concern for communities within and around

Jigna Khajuria

Corporate social responsibility (CSR) has become a matter of necessity as well as goodwill-building for all large businesses. This means taking into account the welfare of people at the company's main centers of operation and also those from whom the company gets its raw materials and products. Hence, it is imperative for a sustainable business to build good relations with the community.

Any business would do well by making sure that its everyday transaction with these communities respects the cultural and local differences. It implies having good employee relations, ensuring respectable wages, good employment conditions and the opportunity for development and free thinking among its direct workforce and those employed by its suppliers.

Even though sustainability relates basically to the environment, the company should also take note of its responsibilities for the wider community. Ignoring the welfare of your workforce, or your suppliers' workforce, can have a damaging effect on your business in the long run. This can come through strict regulations and fines or through poor quality of work and customer boycotts. The moral benefits of taking a positive stance on social and environmental issues should be included in the business case for sustainability.

Although financial benefits would remain at the core of the business for taking a sustainable approach, it is important not to ignore reputational benefits. The public is increasingly becoming aware of sustainability and green products. Identify issues that are affecting your stakeholders and make amendments and progress in these areas. Such an approach will ensure loyalty and support from the community towards your business. Having a reputation of being a company that is really concerned about the environment or sustainability or that of a caring organization gets you remarkable rewards. You can garner more community support and present the company positively to potential customers.

Having a good relationship with the community can also help your business with procuring government licenses and permissions. In case you face a public inquiry or some bureaucratic obstacle, having the support of the local community will be an added advantage to your business and reputation. 

Businesses would benefit by making sure that its everyday transaction with communities respects the cultural and local differences

Checklist: A framework for responsible management

The GoodCorporation Standard is based on a core set of principles that define a framework for responsible management in any type of organization. Ensure that:

1. Where activities have a potentially significant impact on the community, the company has a process to minimize the negative impacts.
2. There is a process in place to deal with enquiries and complaints from members of the local or national community
3. There is a program of support for community projects and activities that is appropriate to the organization and the needs of the community.
4. The organization engages in meaningful dialogue with the community where there are concerns about its products, services or operations.
5. The organization works in a constructive way to satisfy the requirements of bodies responsible for regulating its activities.
6. There is a process to ensure that risks to public safety resulting from the organization's products and operations are minimized.
7. There is a process to ensure that any lobbying activities are conducted in a responsible manner.
8. There is a process to ensure that there are no forms of bribery or corruption in relation to public officials and public bodies.
9. The organization ensures that it remains politically neutral in all countries in which it operates.

Source: www.goodcorporation.com



Green your World
Coming soon
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Not for the

For a green product to make good buyer sense too, it should be as functional and affordable as its conventional counterpart

Jigna Khajuria



Illustration: Chaitanya Surpur

sake of it

When considering to going green or achieving more sustainability in one's business, a high degree of focus should be on transformation of products or services.

True, there will be exceptions. For example, the aviation industry cannot stop its core service even though it makes a negative impact on the environment, with large quantities of fuel being burnt. Any alternatives like electric or hydrogen powered planes would be too futuristic, given the current limitations of such technologies. In this case, the fundamental product can't be changed until there is a technological revolution.

For many other businesses, however, it is possible to transform a product or service to make it sustainable. One will need to take a look at the entire product cycle and the implications the various stages have for the environment and society in general. The analysis should start right at the stage of sourcing of raw materials and go all the way till the disposal of the product. Consider the impacts that manufacturing of the product or its disposal might have on the environment.

Measure the current impact

Begin with considering the water consumption. Since we can't access vast quantities of usable water cheaply enough, water usage becomes an environmental issue. A reasonable personal consumption of water is around five liters a day, but one would be amazed to know that most Westerners use between 5,000 to 10,000 liters daily.

Large quantities of water are used in making the products we use every day. For example, a one-kilo jar of coffee will use up to 20,000 liters of water during its production.

One needs to take such far views, to get a much clearer picture of the problems and opportunities. And that helps when setting out to transform products and services. Right from the sourcing of raw materials to the design of the product, and from the stage it is packaged and transported to the time when the customer will use and dispose it, it is important to first understand the current states of environmental impacts. How much energy is used at each stage? What resources are consumed and where those resources are sourced from? What is the impact on the community?

Look for improvement opportunities

At each stage, we need to look for opportunities for improvement. What changes can be brought about to reduce environmental damage, use of dangerous materials, consumption of energy, transportation and packaging? Simultaneously, how can the reusable or recyclable content be increased?

It is important that all stages of the product or service lifecycle are considered, because opportunities for improvement don't necessarily come in the most obvious stage of its design or production.

Sometimes, the important point is to change the way the consumer behaves. For example, the biggest opportunities for energy saving in the lifecycle of detergents come when washes are undertaken at a lower temperature. This does not mean that the design phase is unimportant. The crucial change here is that sustainability should be a central part of the design specification from the beginning. It is possible to have an elegantly designed product with good usability. Designers need to understand the importance of usability.

Sometimes, certain 'green' products hardly sell or bring good returns on investments. Take the example of electric cars. Even though a small segment of customers would be prepared to pay extra for a more sustainable product that may not function as well as its traditional counterpart does, the number of such buyers will always be small. Given a choice, most customers would say they are all in favor of sustainability and are even prepared to pay a premium for it. However, ask those same people to purchase the product and far fewer will pay the price that they claimed they would.

What is important therefore is to build and market a product that is not only 'green', but is also comparable to the traditional product in terms of costs and pricing. If costs are comparable, then an environmentally friendly product or one with a socially responsible manufacturing process becomes a great selling point.

A effective 'green' strategy therefore would be to have a product or service that is not only normally priced and is as effective as the conventional product, but is more sustainable as well. 

Even if many offer to be counted among potential buyers of 'green' products at a premium, few of them go ahead and buy too

Optimizations would be possible at various points of a product lifecycle and not only at the most obvious stages of design and production

Burning daylight oil?

Telecom industry's consumption of energy has risen to alarming levels and yet green programs are not at the fore and kicking

Tanu Kaur

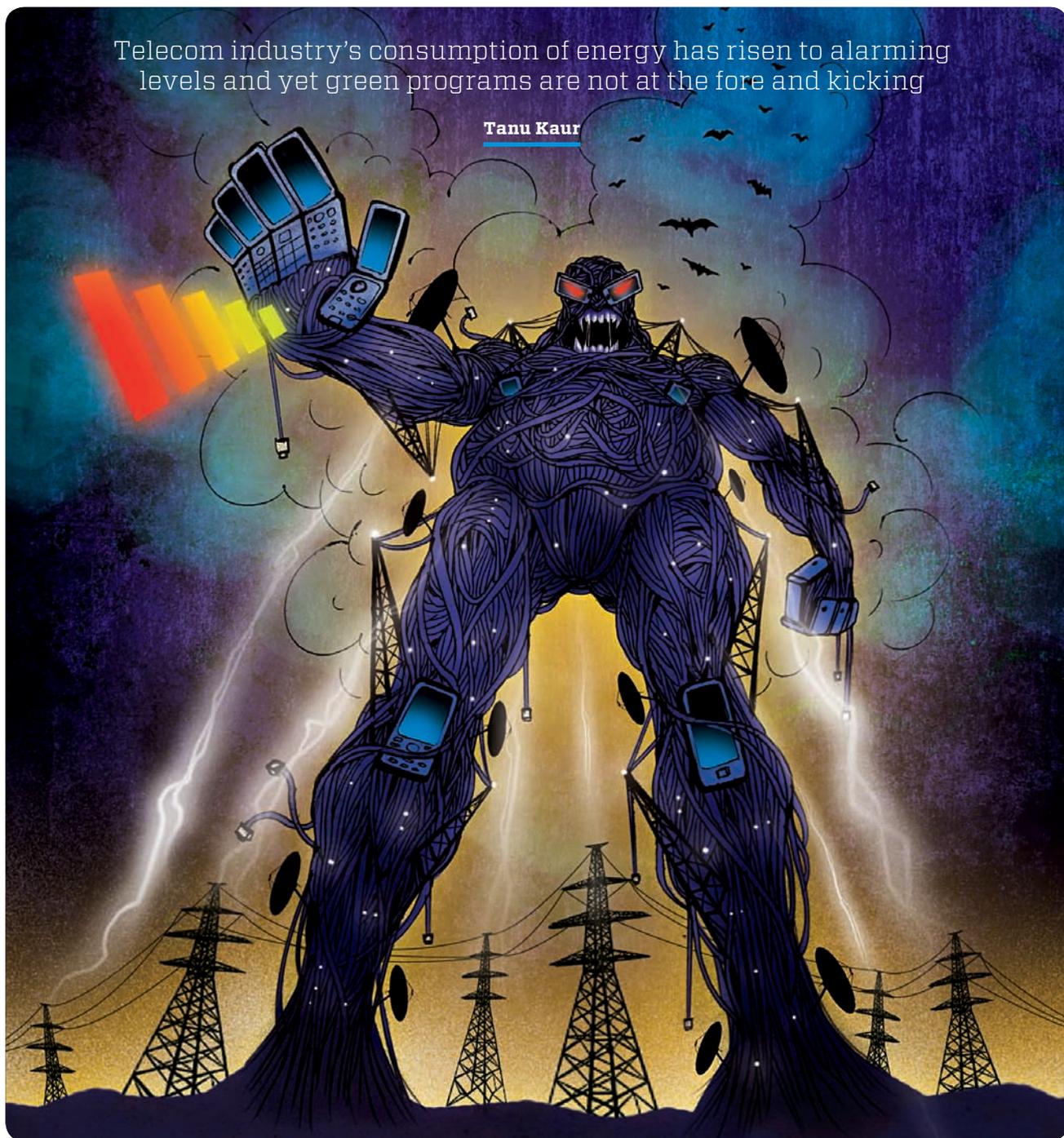


Illustration: Chaikanya Surpur

The rapid growth of mobile and Internet technologies has changed the way we communicate and live. It has transformed lives of millions by providing them tools to learn, share and collaborate. What's more, it has also created umpteen employment opportunities for many.

While the sector might be witnessing a slowdown, it is still considered to be among the fastest growing, with an overall growth rate of 45%. The statistics reveal that the sector has attracted around 8% of the cumulative foreign direct investment (FDI) over the last couple of years. By the end of 2012, the country is expected to have around 800 million telecom subscribers that will take the overall tele-density to 51%.

The story doesn't end there. Industry estimates project that by 2012, India is likely to have 200 million rural telecom connections at a penetration rate of 25%, accounting for over 60% of the total telecom subscriber base. In addition, the proliferation of value-added services (VAS) and the ever new handset launches has further strengthened the ecosystem.

The flip side

Like every growth story, this journey is also not without challenges. The growth has brought some significant environmental challenges in the country. Ambitious growth plans of service providers have compelled them to use huge amounts of energy in order to provide support for their network infrastructure, value-added services and expansion plans in rural areas. Going by the Greenpeace report, the operators currently require 14 billion units of electricity annually to power their growing network infrastructure in order to provide uninterrupted service to its consumers.

The country currently has around three lakh mobile towers, almost half of which exist in rural areas where there is either an irregular electricity supply or the grid connected electricity is not available. Hence, the majority of towers have to rely on diesel gen-sets. That's certainly an area of concern.

Due to a huge dependence on diesel for powering its overall operations, the sector is responsible for 5.2 million tons of CO₂ emissions (13 million tons overall), annually. It is also responsible for over 2% of the country's total GHG's emissions.

Recently, the Telecom Equipment Manufacturer's Association (TEMA), the official mouthpiece of India's telecom manufacturing industry, in a communication to the Prime Minister, advocated withdrawal of diesel subsidies to telecom service providers or alternately, introduction of appropriate one-time taxes per tower on telcos and mobile tower companies. In its letter, the industry body states that close to Rs 4,300 crore of diesel subsidies were being usurped by telecom towers every year.

"It's ironic that the country already suffering from power deficiency will have to feed about 800,000 telecom towers and the dependency on the off-grid source, mostly the diesel-based gen-sets, will increase

manifold. This, in turn, would mean more subsidy support for telecom service providers," comments Ashok K. Aggarwal, Director General for TEMA. Currently, the consumption of diesel by the telecom sector is estimated at over two billion liters annually, which is second only to the railways in India.

This further adds to the telecom sector's operational energy expense of Rs 65 billion, apart from other infrastructural costs to operate their network towers, especially in off-grid locations.

Targets for the industry

The government is keeping a close check on the developments for utilizing a large chunk of the diesel subsidies since the telcos have increased their dependence on off-grid energy sources. In its directive, the Department of Telecom (DoT) wants 50% of rural towers and 20% of urban towers to run on hybrid power by 2015. By 2020, it wants 75% of rural towers and 33% of urban towers to become environment friendly.

Mobile operators have been asked to cut carbon emission from their mobile networks by five percent by 2012-13 and 17% by 2018-19. According to industry experts, the current model of diesel powered networks only offers short-term monetary gains and for a better sustenance, it's extremely critical that the industry should come together and develop a suitable plan of action.

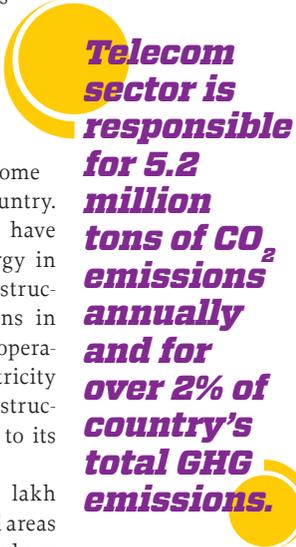
However, the industry disagrees with the government's theory and believes that the deadline is impossible to achieve. "It's extremely challenging. The formula set by the government is extremely complicated. We will need a scientific approach to address the issues," says Rajan Mathews, director general, Cellular Operators Association of India (COAI). Also, since the sector itself is going through troubled times, it demands the right funding for green initiatives.

There are some programs, such as the National Solar Mission, offered by Government of India, under which it plans to support renewable electricity for off-grid network towers. This, however, is considered a baby step and more such incentives and schemes are required if something significant is to be achieved.

According to a report by Greenpeace, the Government should incentivize initiatives of telecom companies where they can significantly shift their business and operation models, from diesel to renewable sources of energy. "With its immense contribution to India's growth over the last two decades, the telecom sector is well placed to transit to a business model that relies on energy-efficiency measures in combination with harnessing clean energy sources for its operations," the report adds.

Incentives versus responsibilities

A major challenge faced by the country today is the lack of a rich green ecosystem. In the present ecosystem, the telecom industry considers the goals of replacing equipment or fuels as highly unrealistic.



Telecom sector is responsible for 5.2 million tons of CO₂ emissions annually and for over 2% of country's total GHG emissions.

What does make sense is to have a progressive action plan, supported by the needed incentives, being made available by the government. For telecom service providers, it's important that they publicly disclose their carbon emissions and set a steady emission reduction target.

Experts also question the integrity of telecom operators. "Do they really need incentives to make serious efforts towards a green environment? Doesn't it come under their corporate social responsibility (CSR) activity? They are already enjoying a subsidy of Rs 7 per liter on diesel," comments an expert on the condition of anonymity.

Many experts have also lambasted the government for not introducing stringent policy measures to curb the cellular radiation levels. Absence of a credible third-party monitoring agency to check the radiation levels is also a big drawback to make any significant progress in this direction. While the telecom industry has been in a complete denial mode saying that the operations of telecom towers do not generate radiations beyond permissible limits, critics think otherwise.

"There are many biased studies done by telecom service providers. They cannot take shelter under a controlled study," Aggarwal adds.

What is required is a joint effort by both the government and the industry. Telecom operators need to shift

Onus for these is on operators:

- Commit to shift sourcing of their energy requirements significantly towards renewable options
- Make clear investment plans for co-development of renewable energy sources along with development of new telecom infrastructure
- Enable a low-carbon economy by playing a significant role in advocating strong climate and energy policy changes in favor of renewable energy sources

Source: Whitepaper on Green Telecom by Greenpeace

the sourcing of their energy requirements significantly towards renewable energies. There is also a need to strengthen the ecosystem where service providers are asked to spend money on research, so that they can come up with realistic solutions to go with the development of new telecom infrastructure. Under the new telecom policy, the government could provision for manufacturing 80% of overall telecom equipments within the country.

It might be challenging to implement all these initiatives simultaneously, but even a step-by-step approach can help move closer to a greener ecosystem by 2020. 

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Green marketing essentials



The product should appeal to customers, supported by a finely honed message of truthfulness and confidence

Chintan Bharwada

Being fearless in questioning assumptions or breaking rules is fine if that has the potential to drive competitive advantage

I don't believe there is a need to go overboard with efforts to market green products for being successful. My take is that green marketing requires applying good marketing principles to make green products desirable for consumers.

Many misunderstand the green marketing idea. In the past, green marketing shortsightedness has led to unsuccessful products and consumer unwillingness to pay more. In the coming years, all marketing will include elements of green marketing.

The effectiveness of your efforts will depend on how credibly you engage, communicate and deliver consumer-desired value in the marketplace. Only then you will be able to harness the benefits in a sustainable way.

Green marketing requires much more than changing the size and design of a product and its packaging, the use of recycled materials or replacing artificial ingredients by natural ones. Although constructive and essential, these changes are just small parts of a bigger puzzle.

For being green, the products you sell shouldn't be just commodity sold at a profit, but should also reflect as your organization's commitment to environmental care and social responsibility. I believe that products should appeal to consumers with a finely honed sense of idealism, truthfulness, and the confidence that organizations can attain social goals as well as financial ones. You should not be afraid of standing by your principles. If done in a right manner, your consumers will stand by to believe what your product claims and regard the individuals running the company as truthful. Hence creating a sense of loyalty for the organizational goals is a key.

You should not be scared to listen—to comprehend the concerns from all sides, be attentive to consumer groups and

individuals who could open fresh opportunities. Further, you also have the responsibility to cater to your internal and external stakeholders. If you are happy to take the next step, your customers will not be afraid to trust you. If you analyze the buyer behavior you will find that consumers trust their own instincts; that consumer insights are linked to the causes and likely solutions to community's ecological harms and their own deeply held beliefs.

Marketers who manage green product lines should focus on the stakeholders that are most important to their businesses and on the product attributes that represent the greatest environmental impact and are most important to their customers. It's all about changing the consumer perception by altering buying behavior in a controlled environment.

You should not be afraid to question assumptions or break the rules. This attitude will derive competitive advantages while accomplishing the greatest good for the society by embracing unconventional and often radical solutions.

It's important to note that you should provide a high-quality product, as most consumers want to do the right thing environmentally, but not at the cost of quality or performance. Just wearing green does not mean anything. It's a balancing act, and being sustainable should be just one of the attributes that your brand is known for. You can leverage your green marketing efforts in a small sustainable outcome or a large one. However, it's fundamentally important that you don't overstate the truth. Not only is it morally wrong, it's also illegal. **S**

Chintan Bharwada is a marketing expert who specializes in customer loyalty, retention, and acquisition. He also blogs at <http://loyaltyandcustomers.com>

Green-touch banking

As prime lending institutions, banks can majorly contribute to sustainability by providing capital for low-carbon projects

Sailee Karnik



Across the world, a major issue that has to be dealt with is regarding environmental management and reducing disintegration of natural resources. Lots of organizations and agencies are having stands against global warming, climate change and carbon footprints and are taking initiatives to preserve natural resources and ecology. Reserve Bank of India (RBI) had earlier advised that Indian banks should take into consideration the environmental and social impacts while approving a project. However, it was observed in a 2011 study that the banking sector had not initiated any major steps to curb the negative effects of various projects on the environment and there remained a need to work towards that end.

The carbon-credit program

Banks can play significant roles in mobilizing financial resources, particularly in providing capital for low-carbon technology deployments. Clean Development Mechanism (CDM) by United Nations Framework Convention on Climate Change (Unfccc) and the Kyoto Protocol has provided an opportunity to reduce carbon emissions through energy-efficient and renewable energy projects at low costs. It is expected that CDM could lead to emission reductions equivalent to 1.5 billion tons of carbon dioxide. The Indian government has approved a national trading scheme of carbon credits and energy efficiency certificates, which is expected to be worth Rs 750 billion by 2015. This has encouraged the banking sector to lend for energy efficient products.

India has also outlined a National Action Plan on Climate Change where financial sector is a key element in National Missions. The National Mission on Enhanced Energy Efficiency (Nmeee) focuses on mechanisms that will cooperate in financing the energy management programs through financial gains made on future energy savings.

In the Collevocchio Declaration on Financial Institutions, it was asserted that financial institutions (FIs) such as banks and asset managers should play prominent roles in the enhancement of environment and social sustainability. This declaration urged FIs to follow six main principles: commitment to sustainability, commitment to 'do not harm,' commitment to responsibility, commitment to accountability, commitment to transparency, and commitment to sustainable markets and governance.

These six elements provide a framework for the roles and responsibilities of the financial sector towards fostering sustainability. A majority of companies in the finance sector have not actively participated in the commitment towards developing a sustainable environment. Their greater focus has been on impressing the financial markets by maximising shareholder values and profits. In

the process, short-term profits often come before the long-term sustainable goals of ecological health and social stability. FIs are expected to put their best foot forward towards corporate social responsibility (CSR) by supporting and following the regulations that have embraced commitments for sustainability.

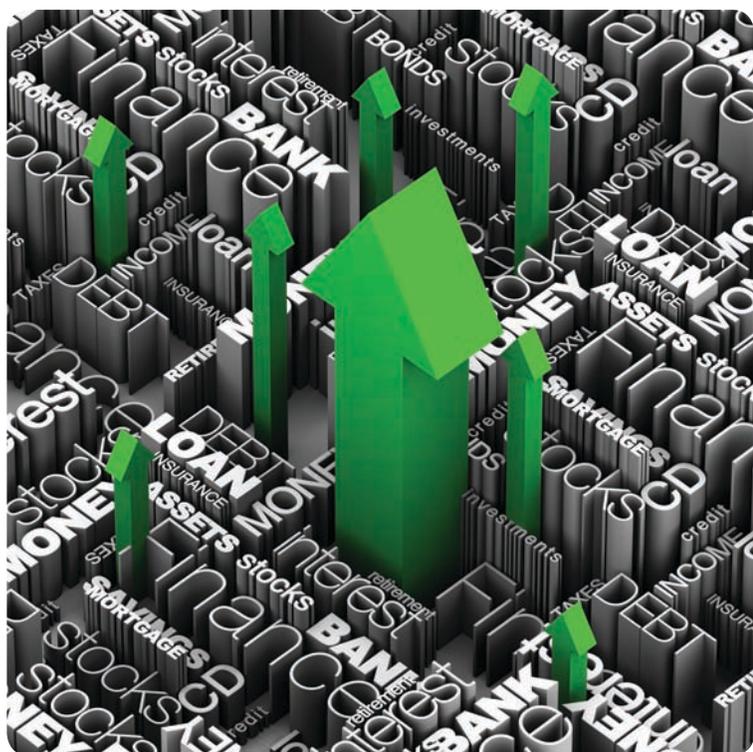
Initiatives taken by RBI

RBI has advised commercial banks on sustainable development and CSR. In a December 2007 circular, the central bank suggested the financial sector to lend a helping hand in the causes of the environmental and social impacts rather than just looking into the financial matters of the economy. Prof. A. Muralidhar Prasad, in his work, Conference on Inclusive & Sustainable Growth Role of Industry, Government and Society Conference Proceedings: 2011, noted the following action plans as suggested by RBI:

1. Environmental and social concerns have today become major considerations for determining the viability of a project. Hence the banker should focus on environmental and social consequences and ensure that a project is environmentally and socially sound and sustainable before considering any financial support.
2. In the financial sector too there is a visible trend to promote environmentally and socially responsible lending and investment in emerging markets. Banks are beginning to recognize that they have a social responsibility to fulfil as they emerge from the shadow of traditional banking. Responsible banking is the new approach born out of the new market realities.
3. Banking and finance's immediate environmental and social impacts are relatively low because most of those impacts are delivered

Despite the relatively indirect nature of their environmental and social impacts, banks need to evaluate the effects of their financing decisions





Challenges banks face

In taking the sustainability initiatives, banks are also faced with some dilemmas and challenges:

Lack of scale: The number of businesses and customers that qualify for green banking would be small. With a small pool of customers, banks will automatically have smaller returns too. Also, if they focus their loans on specific industries, they will be much more vulnerable to economic shifts.

Start-up issues: In reality, it takes three to four years for a typical bank to start making money. Many green banks today are quite new and are still in startup mode, so their cash flows may not have stabilized.

Not enough business: Though the main goal of a green bank is to serve the caretakers of the environment, the question that arises is: just how much profit gain is there in these businesses and in the eco-friendly industry? Saving the environment does not necessarily translate into earning a profit. Hopefully though, green banks would prove that they can survive with restrictive requirements in this business.

Higher operating expenses and costs: Green banks require specialised skills and talents, given the kind of customers they have. Employees like loan officers need to possess additional background and experience in dealing with green businesses and consumers. Simultaneously, delivering breaks to such clients via discounted loan rates can eat into their profit margins.

Reputation risk: Due to rising awareness in environment safety, banking institutions are more prone to the fear of losing their reputations if they are involved in big projects that come to be viewed as socially and environmentally hazardous. However, in certain cases, the environmental management system leads to greater environmental stewardship, lower risk and growth in operating profit. Reputation risks are included in the financing of ecologically and ethically questionable projects.

While the progress on sustainability is not enough, banks have nevertheless taken initiatives in the development and enhancement of ecology. These include names like State Bank of India, ICICI Bank, HDFC Bank, Punjab National Bank, Bank of India, IndusInd Bank, IDBI Bank, HSBC Bank, Union Bank of India and Yes Bank.

For times to come, the focus of the union government will no doubt be on economic development, but India cannot afford to neglect sustainability, being the world's fourth largest greenhouse gas emitter. Addressing climate change and adaption of sustainability are going to be issues of concern for the Indian banking sector.

Banks as the financial partners and pillars of economy can pull the stakeholders for environment-friendly functions. If they step forward, they can bring about a positive change in the environment. **S**

through the activities of other businesses that rely on financial institutions especially for borrowing or investment. However, despite the relatively indirect nature of their environmental and social impacts; banks need to examine the effects of their lending and investment decisions.

4. All business activities have some environmental and social impacts that typically result from sub-standard environmental and social practices, including overuse and wastage of natural resources, environmental damage caused by continuing polluting activities, persistent damage caused by past polluting practices, damage caused by accidents and mishaps due to use of environmentally sensitive materials. All these impacts have ramifications to businesses. The risks that such impacts create can be legal, financial and reputational, and banks themselves are increasingly accountable for the effects their portfolios have on the environment and society. The risks that often get transferred to financial institutions include: decreased value of investment and loss of collateral due to decreased asset, liability for damages arising from negligent investment advice, and loss of reputation and standing as a result of association with polluting businesses.

5. Incorporating environmental and social criteria into business decision-making can reduce the impacts of operating activities. The banking sector is of particular importance, as this sector is able to affect many projects and the development trends that result from them.

A national carbon-credits trading scheme to be worth Rs 750 billion by 2015 could be big spur for banks to finance energy efficient products

ICICI Bank: Some green steps



“Go Green. Each one for a better earth,” is the green initiative at ICICI Bank, which calls itself to be a responsible corporate citizen and believes that each step would lead to a long-term green future and each one has to work towards a better earth. A goal is to build awareness and consciousness towards the nation, society and environment.

The bank has been assisting various organizations in environmentally sustainable projects that would promote energy and environmental efficiencies. Its Technology Finance Group (TFG) has taken various initiatives in promoting eco-friendly technologies and reducing emissions. Some of the initiatives are in areas of waste heat recovery, biomass cogeneration, energy efficient air-conditioning and zero emission.

The bank promotes organizations with concessional assistance to those projects that manufacture zero-emission vehicles. The project that manufactured first electronic car in the country and the one that developed electric drive systems for three electronic wheelers in India were supported and assisted under this initiative. Some of the projects and initiatives are listed below:

Energy-saving street lighting project in Nasik: ICICI Bank is supporting Sahastratronic Controls Pvt. Ltd.

(SCPL) that is working towards saving energy and follows sustainable development. This company has shared an energy-saving street lighting project with Nasik Municipal Corporation (NMC). The project was completed in Nov, 2005 with 19,000 street lights covered by 486 street light controllers, thus improving the efficiency of street lights.

Introduction of clean coal technologies: ICICI Bank introduced innovative concepts such as deep beneficiation and coal bed methane. It has been responsible for assisting the first coal washery company in the country by providing solutions for highly polluting coal having high-ash content.

Finance for innovative products: ICICI Bank supports development of eco-friendly air-conditioning as a substitute of conventional air-conditioning. Its features include the indirect evaporative cooling technology and a cross flow heat exchanger, which make it 65% more energy-efficient and devoid of chlorofluorocarbon (CFC).

Corporate environmental stewardship: This program was pioneered by ICICI Bank with Bombay Natural History Society to sensitize various financial institutions and government agencies involved in project planning on issues regarding biodiversity, wildlife habitats, various environmental laws and conventions.

“THE CEOs SHOULD BE THE CSOs”

IndusInd Bank has successfully created a niche for itself, not only in the area of financing but also on the sustainability plank. The bank has been an ardent champion of green, and has been trying to incorporate little green aspects in every sphere of its business. And the efforts are paying off not only in terms of return on investment (RoI) but also in the way the bank is perceived.

Determinedly propagating sustainability at the bank is none other than Paul Abraham, its Chief Operating Officer (COO), widely regarded as an expert in the banking sector. He started his career with ANZ Grindlays Bank (now Standard Chartered) way back in 1982 and prior to joining IndusInd, he was the Managing Director at ABN AMRO Central Enterprise Services. But more than his career highpoints, Abraham is known in the industry for his deep and abiding interest in all things green. In a freewheeling interaction with Shashwat DC and Sailee Karnik, he touches upon various aspects of sustainability and the banking sector's performance on that front. Excerpts: 

“Leaderships have to set examples and stay engaged to ensure that the enthusiasm does not flag off and initiatives are taken to their logical conclusions.”



How is the Indian banking sector waking up to sustainable practices and how does it compare globally? Are we ahead or lagging?

It is a combination of various factors—part regulatory, part able leaderships in organisations providing the necessary vision and support, and part the substantial awareness created by media and NGOs in the recent years.

As a country we have varying levels of resource consumption. While our per capita consumption is low by world standards, we have, through continued patronage of outdated practices, become culpable of wastage and excessive consumption.

What has been the driving philosophy behind IndusInd's sustainable practices?

It has been to have a sense of fair play towards future generations and a strong belief that sustainable practices are in the long run viable and cost-effective.

Sustainability or green practices are generally considered costly and uneconomical. What has been your experience, and how have you managed the RoI while going sustainable?

We have had mixed experiences. In some cases the economics are straightforward and viability is not a concern, as was in the case of retrofitting our vehicles to run on CNG. The use of sustainable technology like thin computing is marginally viable. But things like solar ATMs still need subsidies and absorption of indirect gains like customer service continuity and advertising equivalents to make them look RoI positive.

Does sustainability offer any competitive advantages? And has IndusInd been able to leverage those?

Certainly. There are cost advantages, customer loyalty advantages, service availability advantages and employee engagement advantages. Of course, reduction in resource consumption and footprint remains a long-term advantage.

Engaging the workforce is one of the trickiest things. How have you managed that and turned them into stakeholders?

Employees are the bulwark of our journey. They bring in the ideas, and help propagate, implement and sustain changes on an ongoing basis. We have a formal selection process for 'green champions' and have the branch-region-zone and national structures with

'green and sustainability councils' that disseminate and monitor initiatives and awareness. Also, people are trained right from the time they join the bank and get to participate in outreach programs that help embed the spirit of sustainability and greenness.

How has IndusInd's experience with renewable energy been? How have you reduced the energy map? And which energy form, namely solar, wind or other, has been the chief driver?

We have been pioneers in adopting solar energy for our ATMs. We are now contemplating using the same for some of our lighting requirements like signage. We have retrofitted cars with CNG. We had windmills, which we had to dispose of due to our inability to utilise the power generated within the state. We support by financing projects in areas such as waste-to-energy, geothermal and wind. We also reduce our energy footprint by measures like switching off lights, efficient data centres, recycled paper or video-on-the-desk to minimise travel.

Solar-powered ATMs are a big fad in the banking sector currently. How has IndusInd's experience been on the same?

I'm not sure if it's a fad. I don't see too many people making a call. It is a challenge and you do need to stick your neck out and manage the logistics of implementation and maintenance and an incremental cost.

Is going green profitable in an economic way for your bank?

It has to be. That's the only way it will be sustained and embedded in our DNA. If it's seen as charity or as an antidote to the guilt we suffer due to our extravagant practices, then it will be a fad.

Over the years, 'innovation' has been the organisation's mantra. What innovations have you brought in for sustainable development of your organisation?

I have listed a few earlier, but we have also propagated increased use of e-banking, e-statements, e-reports, and combining mobile and ATMs to help deliver services electronically.

Banks are playing an important role in addressing climate change. Is it limited to reducing operational emissions or they are taking advantage of domestic and international climate change policies and frameworks, like Clean Development Mechanism (CDM) and India's National Action Plan on climate change to open new markets?

“Future is bright, but time is short. We need to evolve frameworks quickly and have CEO bodies that support each another and encourage quicker adoption.”



The challenge in India is that we need some collective actions driven by industry bodies or regulation. If I as a bank frown at financing a project that is environmentally damaging then there are many others in the market who would step in. That makes me look like a spoiler rather than a concerned corporate. Also, measuring externalities of an organisation is key to the future journey of sustainability. If we only look at profits by not adjusting them for the human, social and environmental impacts then we are really being short-sighted. Today, very few organizations measure such impacts. Also, the Government can be a lot more supportive of voluntary actions with appropriate tax breaks and recognition in addition to the regulatory support.

India announced a voluntary plan to reduce carbon emission intensity by 20-25% by 2020. How will it impact financially and environmentally? Will it change the whole scenario of the banking sectors?

I am not in a position to comment on this. However, I do know that while there is scope to alter a lot of wasteful practices and adoption of appropriate technology, we also have a huge challenge at our hands to cap consumption of resources while dealing with the aspirations of segments of our population that are just coming out of being denied the basics.

Why climate change mitigation and adaption are becoming important for Indian banking sector?

Banking is a sector that in many ways funnels and mirrors GDP. It will need to support and lead the economy in many ways. Having said that, banking per se is not a huge consumer of resources as compared to

manufacturing and some other services like telecom and airlines.

How important is the top-management buy-in to be able to carry out sustainability practices? How does one ensure the same?

Top management buy-in and support is crucial. The leadership has to set the example and stay engaged to ensure that the enthusiasm does not flag off and initiatives are taken to their logical conclusions.

How has your experience been in working with external agencies, namely NGOs and consultants?

We have had limited experience here. We do partner with NGOs and agencies to some extent and the experience is limited to providing our employees with outreach opportunities or supporting the NGOs with some funding avenues.

How do you see the future panning out for sustainability? Do you think Indian companies need to create a C-level designation, like a Chief Sustainable Officer (CSO)?

I think the future is bright, but the time is short. We need to evolve frameworks and supportive structures, either at industry body levels or government levels, quickly. We also need CEO bodies to mutually support each another and encourage quicker adoption. We need investor pressure to drive adoption. We need green indices in our stock exchanges to encourage adoption. We need investors to support companies that think sustainably and we need customers to patronise such companies. 🌱



Adding **color** to IT

If sustainability is to be the goal then Green has to be a means and ISO 50001 can be an engine

Daman Dev Sood

In simplest terms, sustainability is to live and let live. One must progress, but in that process one must also take care of the surroundings, which include people, plants, animals, earth, water and air.

Wikipedia defines sustainability as the capacity to endure and elaborates, “For humans, sustainability is the long-term maintenance of wellbeing, which has environmental, economic, and social

dimensions, and encompasses the concept of union, an interdependent relationship and mutual responsible position with all living and non-living things on earth.”

United Nations defines sustainable development as one that “meets the needs of the present without compromising on the ability of future generations to meet their own needs.”



Green IT should not be a good-to-do activity but a must-do exercise, more so because that makes good business sense too

IT and the sustainability challenge

At a recent seminar, this author asked the audience to name industries they considered to be polluting. Among the names that popped up were cement, textiles, chemical, fertilizers, metals, mining, sugar, paper, automotive, aviation, forestry, agriculture, rubber, shipping, telecom and so on. Information technology (IT) did not feature in the list.

In the last two years, at about 50 seminars or other such events, this question was presented to at least 2,000 people. IT has never featured in the polluting industries lists. (IT here refers to both IT manufacturing units and IT infrastructures deployed in organizations. Also, pollution refers not just to dust and smoke only but is the overall load that an activity puts on Mother Nature.)

When it comes to IT, any association of chemicals and smoke is hardly visible, which explains why people hardly see it as a polluting industry. But the reality is far from the perception.

To understand the overall load of IT on Nature it's important to understand the 'cradle to grave' lifecycle concept.

There are six stages in the development of IT equipment, say a PC, as shown in Figure 1.

The load can be in terms of consumption of material, water and energy (read 'carbon footprint'), and in terms of production of waste and different types of toxics, during various stages of a production cycle. Table 1 provides a snapshot of the various loads that IT puts on Mother Nature.

Since the 'usage' phase is most visible to most of the people, they tend not to see IT to be polluting.

However, when the scope of concern extends from 'usage' only to cradle-to-grave or the design-to-disposal stages, then the load that IT puts on environment becomes obvious.

Consider the following points:

- ▶ Some of the precious and rare materials like gold, copper and silver used in IT electronics are estimated to last for a few more decades only (Figure 2).
- ▶ ICT's global carbon footprint in 2002 was estimated to be 0.5 GtCO_{2e} by the Smart 2020 report.

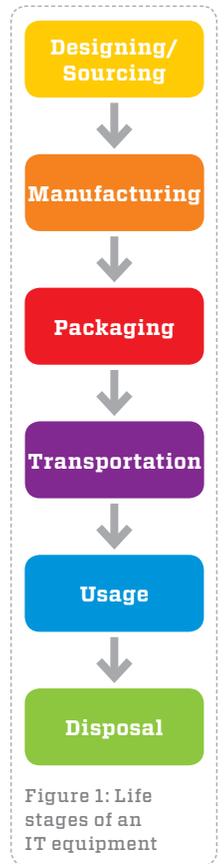


Figure 1: Life stages of an IT equipment

Phase/Load	Sourcing	Manufacturing	Packaging	Transportation	Usage	Disposal
Material (toxic/ non-toxic)	✓	✓	✓			
Energy	✓	✓	✓	✓	✓	✓
Water	✓	✓				✓
Waste	✓	✓	✓	✓		✓

Table 1: Loads that IT puts on Mother Nature



- ▶ An estimate puts world e-waste at 40 million tons.
- ▶ Global emissions from data centers only have been estimated to be as much as that of the aviation industry, each amounting to approximately 2% of CO2 emissions.

Green IT has an answer

The good thing is that there has been a consciousness in the IT industry to replace the womb-to-tomb practice by the womb-to-womb approach to product development. Some people also use the term cradle-to-cradle. Technically, these concepts are termed as lifecycle accounting (LCA). See one example of LCA as used at Apple (Figure 3).

The LCA concept leads to the subject of green IT.

Wikipedia defines green IT as the study and practice of designing, manufacturing, using, and disposing of computers, servers and associated subsystems—such as monitors, printers, storage devices, and networking and communications systems—efficiently

and effectively with minimal or no impact on the environment.

To simplify, green IT is one that is light on all resources and hence puts the least overall load on Mother Nature. Green IT therefore helps in achieving sustainability.

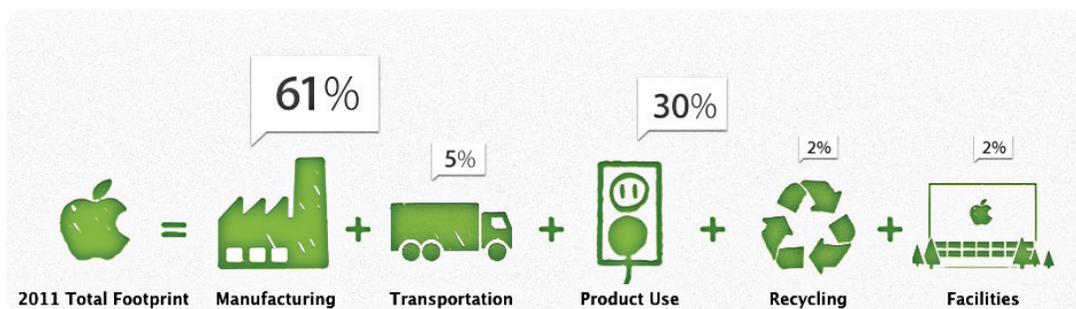
But green IT is often mistakenly taken to be a corporate social responsibility (CSR) activity. So, most organizations tend to go slow on this, as it then becomes an activity to be done with spare time, money and effort. Moreover, a CSR act to many organizations means giving money to get some work done. These are not good approaches.

Green IT must be embedded in the mainstream business strategy. It should not be a good-to-do activity but become a must-do exercise, more so because it makes good business sense.

Figure 4 and Figure 5 attempt to show the benefits of adapting green IT practices.

Implementation of green IT at numerous organizations has dispelled many notions that had earlier limited its adoption.

Figure 3:
Apple's LCA



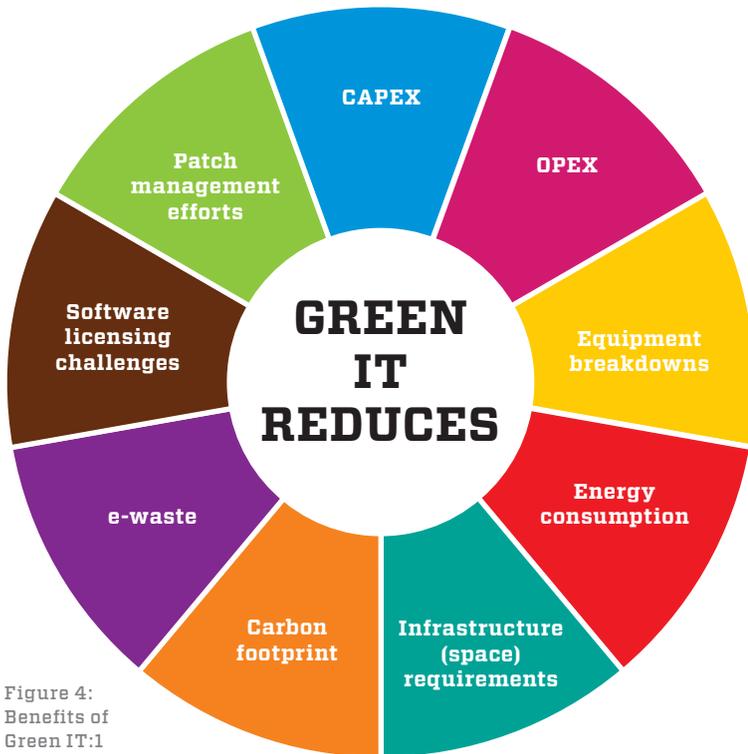


Figure 4: Benefits of Green IT:1

When it comes to IT, people hardly see it as a polluting industry, but the reality is far from the perception

Contrary to earlier myths, green IT can be deployed by any organization of any size and type in any sector and anywhere in the world and is not meant for the large enterprises only.

A relationship between green IT and CSR is not visible at all. This underlines that green IT needs to be part of mainstream business strategies.

While 'cost saving' is one of the key benefits, other benefits include reduction in carbon footprint and emissions, reduction in energy consumption, and increased user satisfaction. It also leads to increased compliance to legal requirements and reduces provisioning time as well as the number of IT equipment such as servers and data centers. Green IT helps organizations gain competitive edge and be more responsive to customers while also achieving better work-life balance for employees. ⁵

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Read more at:

<http://www.treehugger.com/clean-technology/e-waste-infographic-raises-more-questions-it-answers.html>

http://www.europeanreseller.com/index.php?option=com_content&view=article&id=781:it-a-data-centre-sector-carbon-emissions-set-to-soar-above-aviation-emissions&catid=52:voice-a-data&Itemid=71

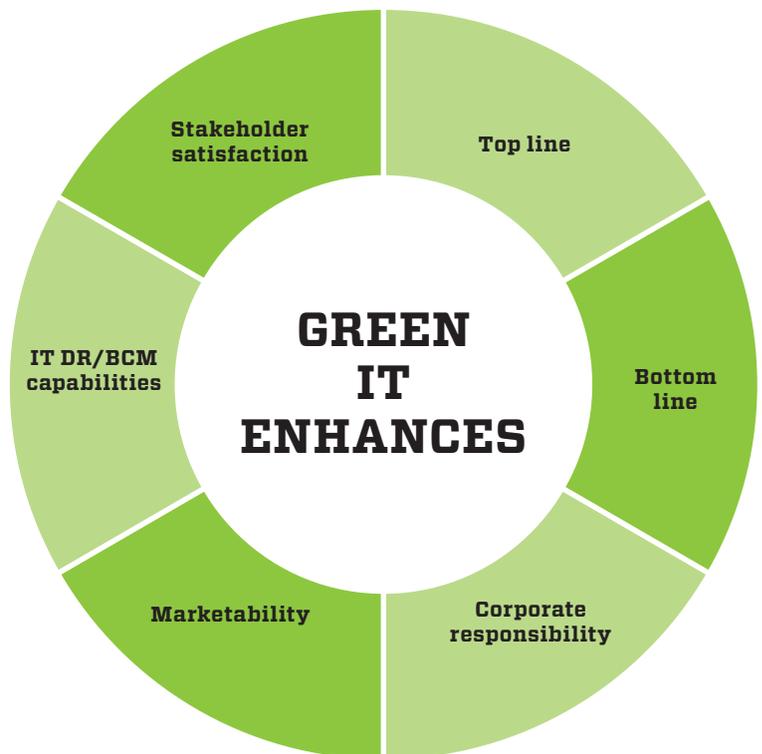


Figure 5: Benefits of Green IT:2

ISO 50001:

Benefits and linkages with green IT and sustainability

ISO 50001 was released by International Organization for Standardization in 2011. It was earlier known as BS EN 16001. It is expected that this standard would influence up to 60 percent of the world's energy use. It can be a key towards

managing three most critical crises that the world has been facing – energy, economy and environment.

Key features of ISO 50001:

Applicable to organizations of all types and sizes, in all sectors
Can make positive difference in the very near term, while supporting longer-term efforts for improved energy technologies

This standard intends to accomplish the following:

- › Assist organizations in making better use of their existing energy consuming assets
- › Create transparency and facilitate communication for the management of energy resources
- › Promote energy management best practices and reinforce good energy management behaviors
- › Assist facilities in evaluating and prioritizing the implementation of new energy-efficient technologies
- › Provide a framework for promoting energy efficiency throughout the supply chain
- › Facilitate energy management improvements for greenhouse gas emission reduction projects
- › Allow integration with other organizational management systems such as environmental, and health and safety

The above is intended to be achieved through a framework that would enable organizations to:

- › Develop a policy for more efficient use of energy



- › Fix targets and objectives to meet the policy
- › Use data to better understand and make decisions concerning energy usage and consumption
- › Measure the results
- › Review the effectiveness of the policy
- › Continually improve energy management

Some cases of ISO 50001 deployments are:

1. Delta Electronics, China
2. Schneider Electric, France
3. Dahanu Power Station, India
4. AU Optronics, Taiwan
5. Municipality of Bad Eisenkappel, Austria
6. Dainnipon Screen MFG. Co. Ltd., Japan
7. Porsche, Germany
8. Samsung Electronics, South Korea
9. Sunhope Photoelectricity Co., Taiwan
10. LG Electronics, India (BS EN 16001)
11. Shree Cement, India (BS EN 16001)

Benefits of ISO 50001 are many, as shown in the Figure 6:

Like all other management systems, this standard also revolves around the plan-do-check-act (PDCA) cycle of continual improvement, as depicted in Figure 7. 

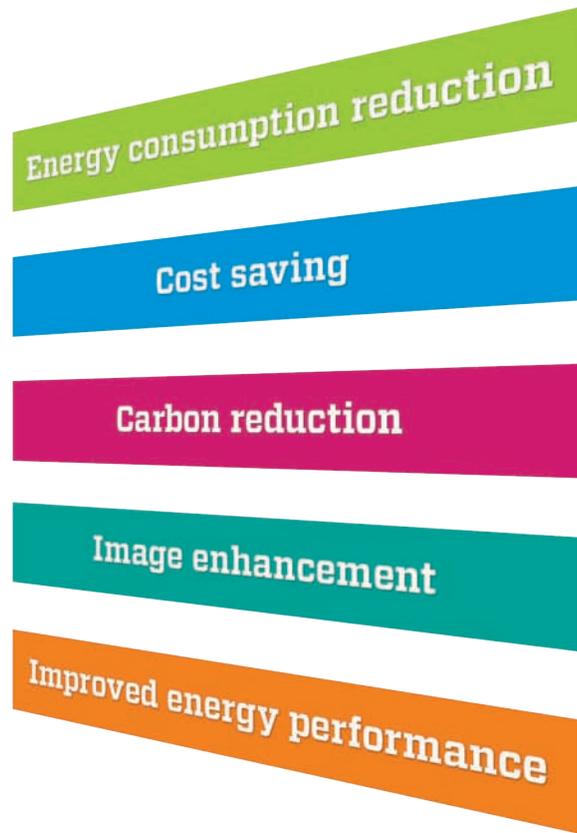


Figure 6: Benefits of implementing ISO 50001



Figure 7: ISO 50001 within PDCA cycle (continual improvement)

Example of some green IT deployments:

ORGANIZATION	GREEN IT ACTIVITY	BENEFIT/ BENEFIT AREA
Doha Bank	Green System Implementation	Carbon footprint reduction Best Green Bank award
European Commission	VDI Implementation	Zero learning efforts Energy saving User satisfaction Software licensing
Surrey County Council	Datacenter efficiency measures	Compliance to CRC Energy Efficiency Scheme Financial savings Carbon reduction Contribution to UK's emission reduction targets
Cambridge University Hospitals	Private Cloud	Stable, resilient and high performance IT DR automation Reduced downtime Improved patient care
Euronet	Enterprise virtualization	Increase in application performance Reduction in transaction rejection rate Increased transaction processing per day
The Funding Corporation	Data backup solution and virtualization	Improved DR Reduced backup times Reduction in number of servers Financial savings
Stevens and Bolton LLP	Network infrastructure upgrade	Efficiency improvement Reliability improvement
Flybe Airline	DR Solution	Improved datacenter efficiency Reduced recovery times
WTB Group	Outsourcing	Scalable high availability infrastructure Improved DR
Viva Infomedia	Cloud implementation	Scalability and cost effectiveness Quick archival Meeting peak time surges
MD Synergy	Google Apps	Enhanced collaboration
ICICI Securities	Paper management	Cost savings Increased employee productivity
HDFC Bank	Server consolidation	Better monitoring and manageability Quick rollout of IT resources Real estate saving Differentiator and competitive edge Reduced number of servers
Shoppers Stop	ITaaS	Savings in licensing costs Improved CPU utilization Reduced number of servers Reduced number of administrators Reduced power and cooling requirements Reduction in provisioning times
Essar	e-Print	Anyplace to any printer printing Enhanced document security Improved convenience to employees

Sevenhills Health City Hospital	Paper management	Improved patient care Reduced operational costs Reduced human errors Anytime anywhere access to patient records Cost savings
Intelenet	Video Touch Mart	Quick go-to-market solution Increased revenues
Royal Orchid Group of hotels	Cloud implementation	Faster customer services Improved collaboration
Manikchand Group	Blade server implementation	Reduced power consumption Reduced capex and opex
Gujarat Government	e-Governance	Improved productivity Improved mother and child health delivery service
Infosys	Enterprise digitization	Improved DR Improved search, retrieval and space requirements
Australian department of Defence	Switch off (when not in use)	Reduced electricity consumption Reduced emissions
Dell	Switch off (when not in use)	Reduced energy consumption Reduced costs
Microsoft	Server virtualization	Reduced server numbers Reduced energy consumption Reduced emissions Reduced maintenance costs
Sustainability Vitoria	Blade server implementation	Reduced power consumption
Toyota Australia	Office automation through IT	Reduced costs Reduced emissions Reduced electricity consumption
Intel	Server consolidation	Reduced datacenter requirements Costs savings
TCS	Paper management	Reduced paper consumption Reduced cartridges consumption
Infosys	Large Green IT Program	Cost savings Reduced datacenter maintenance costs Reduced number of servers Reduced TCO Reduced energy consumption
Coca Cola bottling	Datacenter virtualization	Reduced number of servers Reduced cabling costs Reduced space requirements Reduced power requirements Reduced cooling requirements
Aircel	Datacenter consolidation	Reduced number of datacenters LEED certification for datacenter Reduced carbon footprint
T John Group of Institutions	Green IT initiatives	Reduction in energy consumption Reduction in cooling requirements Reduction in maintenance costs Reduction in break downs
Orbis Financials	Virtualization	Savings in hardware costs Savings in power and cooling requirements Savings in maintenance costs
L&T	Private cloud implementation	Reduction in provisioning time Increased infrastructure capacity

Infosys	Cloud implementation	Reduction in costs and power requirements Ease of implementation Lowered TCO Savings in efforts Reduced OS build time Reduced restoration times
Oxford Bookstore	Cloud implementation	Reduced cost of doing business
123 Greetings	Server virtualization	Reduced deployment costs Elasticity during seasonal spikes
Max New York Life Insurance Co.	Virtualization	Huge RoI Increased server utilization Improved ITDR
Geometric	VDI deployment	Enhanced user experience Increased security and controls Cost savings Reduced maintenance Elongated refresh cycles
Apollo Munich Health Insurance	Server consolidation	Reduced TCO Increased operational efficiency Increased business uptime Increased customer satisfaction
Godrej Consumer Products Limited	Server virtualization	Increased server utilization Reduced costs Lowered power consumption Rapid provisioning of resources Reliable and modularly scalable solution
Sardar Patel Institute of Technology	Private cloud deployment	Reduction in Spend Increased security Optimum usage of bandwidth
Bajaj Finserv	Cloud deployment	Increased business volumes 100% decision accuracy in underwriting function
Intel	Cloud deployment	Cost savings Reduced provisioning times Reduced number of servers Shift from capacity planning to demand forecast model
Emerson	Virtualization	Reduced number of servers Reduced number of datacenters Decreased cost of server operations
APJ Surendra Corporate Services	Virtualization	Increased CPU utilization Cost savings
Pennar Industries	CRM automation on cloud	Better management of information Getting closer to the customer
Nagarjuna Fertilisers	Mobile content management solution	Cost savings
Mind Tree	Managed Print Services	Reduced paper consumption Reduced printing costs
Eaton	Voice over global area network	Reduced telecom costs
Dr. Reddy's	SAP implementation	Cost savings in charge back transaction processing
National Stock Exchange	Office automation	Improved compliance to regulatory requirements

K Raheja Corporation	Virtualization	Reduced number of servers Improved performance Reduced cooling and power requirements
PVMI	SAP implementation	Turnaround time improvement in claims settlement Reduced manpower requirements Improved customer experience Improved business reputation
Premier Inn	Hosted model deployment	Savings in CAPEX Savings in OPEX Zero checkout time
Don Bosco NGO	Cloud implementation	Ability to manage spikes during disasters Finding missing children and putting a smile back into the faces of children and their parents
Vedanta	Private cloud implementation	Cost savings Improved customer services No CAPEX on new projects
HyperCITY	Oracle retail solutions	Improved stores management Centralized inventory Better management of pricing
AEGON Religare	Underwriting automation	Reduced cost per policy Faster policy issuance Improved employee productivity
Dewan Housing Finance Corporation	Cloud based security	Elimination of spam Reduced virus related issues Savings on manpower Redeployment of resources to other key activities
KPIT Cummins	VDI deployment	Reduced desktop management costs Quick provisioning Reduced data loss risks
Standard Chartered Bank	iPhone deployment	Improved productivity Better work-life balance for employees
Godrej Agrovet	SAP implementation	Reduction in manpower resources Improvement in gross margins Improved overall efficiencies
Jindal Agro	ERP on cloud deployment	Reduced CAPEX Streamlined internal business processes Better understanding of customer needs Better inventory control
NDPL	Interoperability framework deployment	Reduced revenue cycle Cost savings Increased market share Reduction in manpower requirements
SBI	Data warehousing	Cost savings Increased product offerings Increased cross selling and up selling opportunities
Bharat Oman Refineries	Unified communications deployment	Reduced communication costs

The list has been compiled by **Daman Dev Sood**



Progress, even after a plenty!

Already an energy surplus state, Gujarat sees huge potential in wind energy and has a growing focus on solar projects too

Ankur Verma

The state of Gujarat has the highest potential for generation of renewable energy from various sources, according to the Energy Statistics 2012 report by the Central Statistical Office (CSO), Government of India. In particular, the state is said to have the highest potential for generation of wind energy in the country, though it lags behind in terms of actual installed capacity.

Out of the country's total renewable energy potential, estimated at 89,760 MW by the end of financial year 2010-11, wind would make up for more than 50% at around 49,130 MW. Other sources include, but are not limited to, small hydro, bagasse cogeneration, biomass and waste to energy.

According to the report, "The geographic distribution of the estimated potential across states reveals that Gujarat has the highest share of about 14% with 12,489 MW, followed by Karnataka with 12% share at 11,071 MW and Maharashtra with 11% share at 9,596 MW, mainly on account of wind power potential." The estimated potentials for Gujarat stand at 10,609 MW for wind power, 197 MW for small hydro power, 1,221 MW for biomass power, 350 MW for cogeneration bagasse and 112 MW for waste to energy.

However, when it comes to installed capacity of grid interactive renewable power Gujarat does not figure among the top three. Tamil Nadu has the highest installed capacity of grid connected renewable power at 6,500 MW, followed by Maharashtra at 3,005 MW and Karnataka at 2,882 MW, mainly on account of wind power. In comparison, Gujarat only had 2,197 MW of installed capacity of grid interactive renewable power as of year ended March 2011. There, however, was a jump of 17% over the previous year. India's total installed capacity of grid interactive renewable power had gone up to 19,971 MW in 2010-11, which was a growth of 18.75% over the previous year. Out of the

Table 1. Renewable Energy Sector in India and Gujarat

Sector	India Potential (MW)	Gujarat Potential (MW)
Wind	49,130	10,609
Small Hydro (up to 25MW)	15,385	197
Bagasse Cogeneration	5,000	350
Biomass	17,538	1,221
Waste to Energy	2,707	112
Solar Power	--	-
Total	89,760	12,489

total installed generation capacity of renewable power for the year ended March 2011, wind power accounted for about 71%, followed by small hydro power at 15.2% and biomass power at 13.3%.

Perfect breeding land for renewable energy

Gujarat has been categorized as among the best places in India to harness solar and wind energies. With high direct normal irradiance (DNI) values of 5.5-6.5 kWh per sq. m, the state has immense capacity for solar power generation. The state is endowed with more than 300 days of clear sun with conducive arid conditions, especially in barren wastelands. Besides this, the average wind power density ranges from 200W per sq. m to 400W per sq. m which is perfectly favorable for wind power generation.

Besides being blessed with abundant natural resources, the state has immensely benefitted from

Table 2. Installed capacity in MW of grid interactive power in Gujarat and India

Region	Sector	2008	2009	2010	2011
Gujarat	Small Hydro Power	7.00	7.00	12.60	15.60
	Solar	-	-	-	5.00
	Biomass	0.5	0.5	0.5	0.5
	Waste to Energy	0.5	0.5	-	-
	Wind	1252.90	1566.5	1863.63	2176.43
	Total	1260.90	1574.50	1876.73	2197.53
India	Small Hydro Power	2180.85	2180.85	2735.42	3042.92
	Solar	2.12	2.12	10.28	35.15
	Biomass	1406.63	1752.33	2199.63	2664.63
	Waste to Energy	55.75	59.00	64.96	72.48
	Wind	8757.40	10242.30	11806.75	14188.85
	Total	12402.75	14486.58	16817.04	19970.76

Table 3. Average DNI values for Gujarat (in kWh/sq. m)

City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg
Rajkot	4.49	5.3	6.1	6.57	6.64	5.77	4.75	4.48	5.13	5.17	4.62	4.18	63.2	5.26
Vadodara	4.53	5.31	6.12	6.59	6.66	5.73	4.48	4.19	4.96	5.21	4.72	4.16	62.66	5.22
Surat	4.5	5.3	6.11	6.43	6.51	5.42	4.4	4.29	5	5.18	4.65	4.13	61.92	5.16
Ahmedabad	4.36	5.08	5.89	6.29	6.56	5.9	4.71	4.39	5.07	5.07	4.52	4.03	61.87	5.15
Bhavnagar	4.5	5.3	6.11	6.43	6.51	5.42	4.4	4.28	5	5.18	4.65	4.13	61.91	5.15

its stable energy policies and project implementation. The Solar Energy Policy 2009 aims at steering the solar-energy growth and will be effective till March 2014. According to the policy, any company, body corporate or body of individuals is eligible for setting up of solar power generators (SPGs) for captive use as well as for selling electricity, of course subject to the Project Approval Committee's approval. Some of the incentives promised are:

- i.** Wheeling charges at 2% to the electricity fed to grid for self-use within the state.
- ii.** Exemption from payment of electricity duty
- iii.** Attractive levelized fixed tariff per unit plans.

As a result, though the Gujarat government had initially visualized only 500 MW of solar power generation by 2014, it has reiterated its commitment towards growth of renewable energy and climate change by allotting 716 MW of solar power to 34 national and international entities. Of the 716 MW allotments, the

shares of solar photovoltaic and solar thermal technologies are 365 MW and 351 MW, respectively.

Apart from the policy incentives, several solar energy projects in the pipeline in state are:

A. Solar park: The government of Gujarat has announced the establishment of Asia's largest 500 MW solar park. The state-owned Gujarat Solar Power Corporation is developing the park, and companies like GMR and Lanco would be investing \$1.78 billion in this project. In the first phase of the operation, Gujarat Energy Transmission Corporation will set up a power pooling station. The power pooling station will collect the generated power from 150 solar power production companies that will collectively generate around 176 MW. Out of the total allotted amount of \$286 million, an amount of \$78 million will be spent on the purchase of land and setting up of the power infrastructure. Another \$139 million will be spent for evacuation facilities.

B. Gujarat solar cities - Gandhinagar: Gandhinagar is to become Gujarat's first solar city. The concept of Gandhinagar as a solar city by virtue of making it carbon neutral is an idea that has been put in place by The Energy and Research Institute (TERI). The primary goals of this project are to integrate energy conversion measures and to reduce energy demand and utilize locally available energy resources like solar to meet the reduced energy demands.

As a part of the state government's plan to make Gandhinagar a solar city, solar power generation systems have been installed in the bungalows of ministers and senior officers. They are also preparing to expand the solar power system to other government buildings in Gandhinagar. Gujarat Energy Development Agency (GEDA) has been instrumental as a government nodal agency, bringing in incentives and encouraging solar energy generation.

The first phase aims to generate 46 MW of solar electricity under the rooftop solar electricity generation project in Gandhinagar. The project will be under a public private partnership. An integrated development plan (IDP) has been drawn with the participation of GEDA, PWD, Torrent Power Ltd. private businesses, forest department, Gandhinagar circle, and other agencies with energy related responsibilities. Also, GEDA is





planning to install solar powered air conditioners in the secretariat to further showcase the commitment to solar energy. Houses will have rooftop solar panels to generate power, which the state government will buy. Initially 5,000 houses in Gandhinagar will be covered under the project.

Solar panels fitted on the rooftops will generate electricity from seven in the morning till four in the evening. House owners will be given two meters – one to measure the solar energy generated by the solar panels and the other to measure the household electricity consumption.

C. Integrated solar city: The US-based Clinton Foundation is in talks with the Gujarat government to set up an integrated solar city project with a capacity to generate 5,000 MW over a period of time. The project, the largest foreign direct investment (FDI) into the state, will also be a landmark project as the cost of power generation is likely to be 70% less — around Rs 20,000 crore — than the conventional cost of generation.

The project envisages an integrated solar city wherein all the raw materials including glass and panels will be produced by them, bringing down the cost substantially, said a senior government official. The power produced in the solar city will cost around Rs 4 per unit. The Gujarat government has roped in US-based Nobel Laureate John Byrne for charting the state's solar roadmap and is considering Kutch and Banaskantha as favorable locations for the mega project.

At an estimated potential of 12,489 MW, Gujarat led all states with 14% share of the country's total potential last fiscal



D. Solar city - Surat: The Surat Municipal Corporation (SMC) has decided to turn Surat into a solar city. The master plan will be prepared by 2012. Ministry of New and Renewable Energy (MNRE) would provide a grant of Rs 10 lakh per annum to SMC for implementing the project. Under the project, streetlights, energy used for water pumping and supply and maintenance of office lighting would be met through solar energy. This is expected to bring down the energy expenditure by 10 per cent.

E. Rooftop solar power in Gujarat: Gujarat government is planning to introduce rooftop solar power in Ahmedabad, Gandhi Nagar, Surat and Rajkot, among other cities. This plan is to encourage private residential, commercial and industrial property owners to put small solar power generation plants on roofs of their buildings. The electricity generated will be transferred to various grids. Government is also planning to chalk out various incentive schemes to attract people to participate in rooftop solar power generation project. Ahmedabad has the capacity to generate around 100 to 150 MW power through a rooftop network.

F. Gandhinagar photovoltaic rooftop program: Gujarat government has launched India's first household level program in Gandhi Nagar. The Gandhinagar Photovoltaic Rooftop Program is aimed at maximizing installation of solar photovoltaic (SPV) systems on rooftops and terraces of private homes, commercial and institutional buildings as well as government buildings. Incentives under this scheme would be announced soon. The project developers, while utilizing the rooftops and terraces of property owners, will pay to them as 'green incentive' a monetary amount on a monthly or bi-monthly basis, depending on the solar electricity generated by the photovoltaic system and fed into the electricity grid. The developer will install



Propellers for the state's renewable energy momentum would be its abundant natural resources, yes, but also stable policies



an energy meter with the photovoltaic system on the premises through which electricity will be injected into the electrical grid. This energy meter will directly show how many units have been injected into the grid. The 'green incentive' will be based on this energy meter reading. In Gandhinagar itself, such systems have been installed on various government buildings like the New Sachivalaya, Udyog Bhavan, Pandit Deendayal Petroleum University and at residences of the Chief Minister as well as other ministers and bureaucrats. This is the first large-scale rooftop program in India.

In the area of wind energy too, the state has announced several guidelines and incentives that attracted lot of attention recently. However, of the available 10,609 MW of wind power potential, only around 2,176 MW has been installed in the state. The state, with second highest number of identified sites for establishment of wind turbines, after Tamil Nadu, has ideal wind speed profile throughout the year, supported by large amounts of semi-arid and wasteland areas.

Windows of opportunity

Though the state doesn't have much coal reserves, with only 6.6% of country's total lignite reserves, it accounts for about 18% of crude oil and 6% of natural gas reserves. Already an energy surplus state in 2011, Gujarat plans to sell its 1,100 MW of surplus power lying unutilized in its gas-based power plants to other power-starved states in India. Besides this, the state is moving forward strongly towards renewable energy, inviting applications to establish projects under REC to make best use of the largely untapped solar and wind energy potentials.

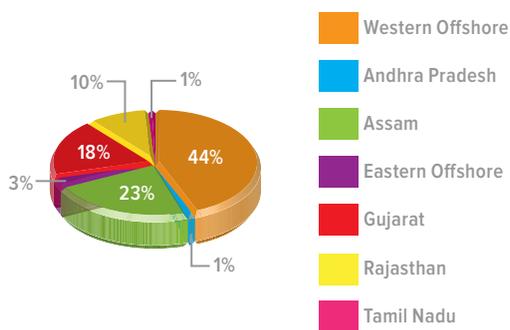
Besides the grid-connected power, there also is lot of potential in installation of off-grid and decentralized renewable energy systems.

With around 4.2 lakh biogas plants, the state



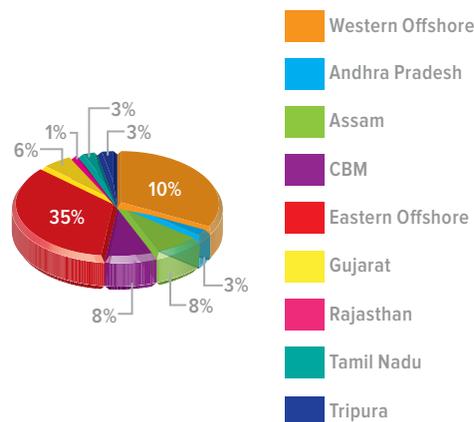
features at number four, behind Andhra Pradesh at 4.7 lakh, Karnataka 4.3 lakh and Uttar Pradesh around 4.3 lakh plants. It leads in terms of installation of water pumping wind mills, with 869 of those in the state while the country's total stands at 1,352. However, there is still lot of scope in installation of decentralized solar energy devices. There are merely 85 solar PV pumps in the state, while Punjab leads with a total of 1,857 such pumps. Total number of street lighting and home lighting systems in Gujarat are 2,004 and 9,231 respectively, whereas there are 89,160 and 132,203 systems in Uttar Pradesh and 20,074 and 49,418 in Haryana, respectively. The number of solar lamps is also still low at 31,603, well behind Haryana at 73,116 and Bihar at 50,117, while the peak power is 336 KWP, as compared to Chhattisgarh 1,948 KWP and Uttar Pradesh 1,311 KWP. 

Estimated Reserves of Crude Oil in India as on 31.03.11



Total Reserves = 757.44 Million Tonnes

Estimated Reserves of Natural Gas in India as on 31.03.11



Total Reserves = 1240.92 Billion Cubic Metres

Golden rules should

Tourist warmth for ecotourism has grown but needs to be kindled with coordinated public-private efforts

Sailee Karnik



Illustration: Chaitanya Surpur

guide eco-tourism

In 1983, Hector Ceballos-Lascurain of Mexico popularized the term 'ecotourism,' describing it as nature-oriented tourism. It has since gained ground as one of the fastest growing sub-sectors of tourism.

According to sustainable tourism development specialist John N. Shores, tourism sector in developing countries contributes US \$50 billion annually, and has managed to stand strongly even in the phase of economic depression and recession. Nature-oriented tourism is one of the hottest segments, and unlike mass tourism, presents tourists with the opportunity to savour the natural environments. While conventional tourism has been criticised of putting the environment in danger, eco-tourism aims to preserve the elements of nature.

Eco-tourism or sustainable tourism is also known as 'green' tourism. It underlines the concept of being eco-friendly. Its holistic approach takes view not only of the local culture, social sustainability and ecology, but also of the economy. A widely accepted definition of sustainable tourism describes it as the "tourism to natural areas that fosters environmental understanding, appreciation and conservation and sustains the culture and well-being of communities."

Sustainable tourism has also been seen as one of the solutions to the underfunding of national parks and other protected areas. It can create greater opportunities for employment of the local people and encompasses to preserve the culture and ecology of an area.

It's easier said than done

Sustainable tourism has its sets of challenges too! First and foremost is that of converting the theory into a practice, which requires not just detailed planning and research but also access to advanced technologies and other resources. It is important that various private bodies should come forward for the conservation of areas like national parks, sanctuaries, marine parks, state forests, catchments and water supply reservoirs. To facilitate contributions from the private sector, the need and role of a coordinating body very much exists.

Equally important is to ensure that there is no mis-interpretation of the information when it flows from the sender to the receiver. It is crucial to deliver the correct interpretation of cultural and environmental principles enhancing ecotourism. It should not be just one-way transfer of information but should be a two-way dialogue between, say, a tour operator and the tourist. To personally involve the tourist in an interesting and enjoyable tour, there should be environment related explanations, stimulations, revelations and

provocations. It might be difficult to have a face-to-face contact every time, so the interpreters have to take help of non-personal assets like brochures and signage. While being a challenge, this also is an opportunity to change and enhance the attitudes of people towards ecology, but any errors in the receipt of communication can cause sizable problems.

More commitment is needed

There still is a lack of sufficient commitment in the eco-tourism industry. It is rewarding to work in partnerships and bring different cultures, beliefs and ideas together. The communities that are surrounded by both western and local traditional cultures will likely develop attributes of harmony, integrity and peaceful co-existence. To make that happen, both public and private bodies in the eco-tourism industry should develop a good working relationship and come together for the betterment of economic and environmental development of the communities they engage with.

At present, much of the resources and reserves are under various government bodies. There is poor communication as well as lack of required understanding between the public and private sectors. There certainly is enough room to improve coordination and to frame the right policies for the development of this sector.

It is also important for the stakeholders to be conscious of the fact that the term ecotourism is often misused today and has turned out to be only an attractive tag to grab profitable business opportunities.

Growing tourist interest is a positive

A good thing is that tourists have been more conscious about going green. They however, need to be well-informed about the appropriate choices in case of undertaking an eco-travel. Use of standardized frameworks can help ecotourism bodies deliver relevant communication to intending and potential eco-travellers.

Some tour operators did put in efforts to build principles of ecotourism. One such organization Journeys International, of Ann Arbor, Michigan introduced the program of Earth Preservation Fund. Finance conservation procedures were carried out by Journeys and the funds gathered supported the activities of tree plantation, clean-ups and environmental sanitation. Similarly, to maintain high standards, the American Societies of Travel Agents has laid some guidelines in association with Club Med.

A greater - and collective - effort will do even more good to the industry while also preserving the environment and the culture. 

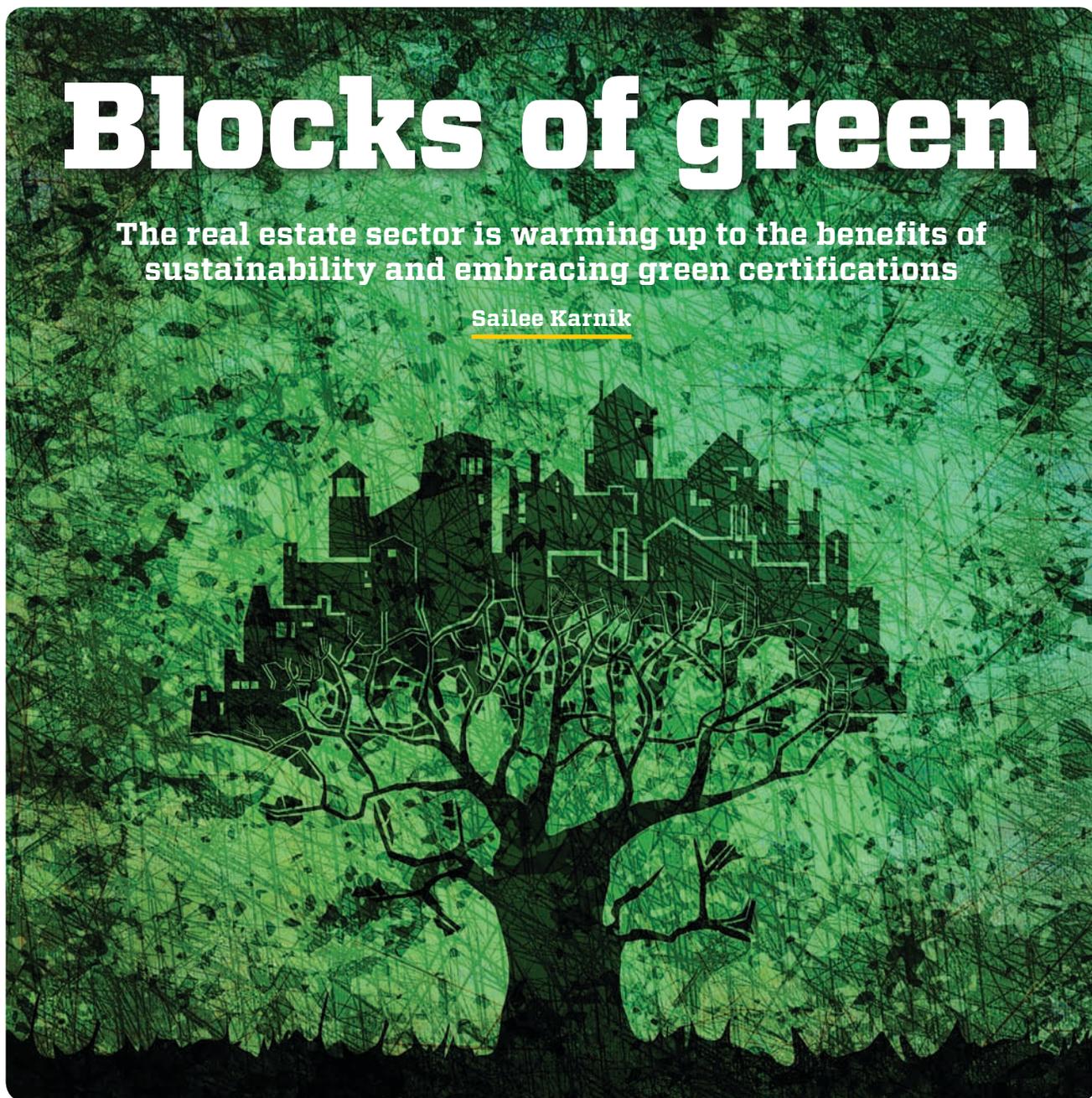


Operators should undertake to make intending travellers well aware of the key principles of ecotourism

Blocks of green

The real estate sector is warming up to the benefits of sustainability and embracing green certifications

Sailee Karnik



The real estate sector in India has been one of the spurs of economic growth. It encourages large-scale employment and contributes 5% to the GDP. This sector is the second largest employment provider after agriculture and is predicted to grow at the rate of 30% over the next decade. It is progressively moving towards being eco-friendly and embracing sustainability.

Environmentalists have long been vocal about the threat of advanced technology to the environment. But all turned deaf ears to their warnings. With the boost in economy, there also is growth in degradation of environment which is not a good sign. To curb the impact of urbanization on ecology, the idea of sustainability has evolved. Sustainability restrains the impact

of real estate development on nature. This is a phase where the real estate has taken the environment and ecology seriously and is striving to keep it green.

The eco-friendly buildings are denoted as certified green buildings. The number of such buildings has witnessed fourfold growth in India in the last four years. According to Indian Green Building Council (IGBC) statistics, there are 233 certified green buildings in our country which is a reflection of the growing adoption of this concept.

Benefits of the green buildings

Green buildings have been characterized as the ones that consume less water and energy, generate

minimum waste, conserve natural capital and provide healthier spaces for residents than the conventional buildings do.

The concept has boosted 14% to 16% of productivity and has cut down the operational cost of the building, which is a major milestone. It has transformed offices into environment-friendly units and has helped in lowering carbon emissions. The remarkable efforts of IGBC have created wide awareness among people, the result of which is that there is an increase in green spaces from 20,000 sq ft to 730 million sq ft.

Most of the benefits are reaped by home owners. Green buildings provide an opportunity for owners to save the expenses. These estates are a perfect choice to enjoy the comforts with minimum expenses. There has been more awareness on the benefits of green certified buildings among the builders and buyers than before. As far as durability of green homes is concerned, these tend to survive longer than the conventional homes due to the usage of green materials in the construction. It significantly saves the expenditure on electricity bills as there is minimum use of cooling systems like ACs and refrigerators. The appropriate ventilation systems keep the house naturally cool.

Expensive aspect of the Green homes

According to project developers, due to some energy-efficient products there is an increase in the building cost between 5% and 15%. But there is no overall impact on the total early costs. It has been researched and stated that the initial extra investment is recovered due to the energy-efficient design and bill savings within five years. Green homes therefore cannot be tagged as expensive.

There is a paradox embedded in the sustainability of the real estates. According to PF McNamara, Director of Research at PRUPIM, greening the new properties is a slow and tedious job when moving towards sustainability in the construction field. Another paradox that has come up is that those who are well-informed on sustainability have no power in their hands and those who possess powers are not well-informed. For attaining sustainability, both power and knowledge are required to go hand in hand.

Sustainability has a huge impact on the investments in real estates. In UK, in the last two years, 20 sustainable policies with financial initiatives have impacted the real estate investments. Study shows that these phenomenal changes will affect the prices of properties now and then. Looking at the situation, it seems that people are more concerned about the energy-efficient buildings than the non-green

buildings. Thus, the non-green homes are predicted to become less desirable and are expected to fetch lower rents than the green ones. The only solutions for investment managers are to convert their assets into green certified buildings to raise the property investments.

Certifications for older buildings

LEED: Green homes are the ones that optimally use energy as well as natural resources. In India, homes are certified as green by Leadership in Energy and Environment Design (LEED). It delivers ratings based on the design and concept of the house as well as the impact on the environment. The certifications are distinguished as gold, silver and platinum ratings on the green parameter. There is independent third-party verification in the project.

The steps for the certification process are as follows:

1. Registration: The project registration is the first step towards the certification.
2. Credit interpretations: In some cases difficulties may arise. In these situations the project developers adopt credit interpretations.
3. Certification and documentation: To attain the certification, the applicant must satisfy all the points.
4. Certification awards: The project team has 15 days to accept or appeal the award.
5. Appeals: If the project team is confident about the ground for the credit appeal denied in Final LEED India Review, it has the power to appeal.
6. Fee summary: The project team has to pay certain amount as certification and registration fee.

GRIHA: Green Rating for Integrated Habitat Assessment (GRIHA) is another rating system for the certification of a green house. It notes down 34 criteria for qualifying. Each criterion is assigned points. The minimum points to achieve the certification in this system are 50. Some of these criteria are site selection and site planning, conservation and efficient utilization of resources, building operation and maintenance points.

The processes in this certification are—registration, payment of fees, documentation and evaluation process.

These two are the major rating systems in India that certify the green homes. Though this concept still has a few drawbacks, it is a major milestone for the real estate market in taking the initiative to save our environment. 

Green homes tend to survive longer due to use of green materials in construction, and help cut utility bills by minimizing use of cooling systems

A paradox is that those well-informed on sustainability wield little decision making power while those who possess powers are not well-informed

Keep the corner rooms carbon-free!



Organizations taking a green road would go far if their C-suites are devoid of narcissist toxins

Deepak Kumar

A sociopath is fundamentally incapable of empathizing with the society and environment around-the very essence of sustainability

I've long subscribed to a basic idea that an organization's sustainable performance is directly related to the DNA it inherits, grows or acquires. More than anything and anyone else, that DNA is determined by the leadership of the organization.

Ever pondered why some organizations, after making some fantastic initial strides, tend to stagnate, collapse or even implode? Blame it (mostly) on the reigning leadership.

I've seen many businesses not being able to progress up to their potentials because of mediocre personalities sitting in top management roles. But while a mediocre leadership can be detrimental, it's not necessarily cataclysmic.

It is the narcissist and sociopath leadership, types that are most dangerous to the existence of an organization, as they characteristically build toxic organizational DNAs that are self-destructing in nature. Moreover, apathy is so inherent a characteristic to them that they would naturally fail to empathize with the environment and society surrounding the organization.

"A deadly combination of economic rationalism, increasing competition, "downsizing," and the current fashion for tough, dynamic, "macho" management styles have created a culture in which bullying can thrive, producing "toxic" workplaces. Such workplaces perpetuate dysfunction, fear, shame, and embarrassment, intimidating those who dare to speak out and nurturing a silent epidemic," noted an article in the British Medical Journal in 2003 by B.R. McAvoy and J. Murtagh, "Workplace bullying: the silent epidemic."

This bullying behavior has been noted by researchers to be of three broad types: accidental bullying, destructive narcissist bullying, and the serial or sociopathic bullying.

Obviously, the third type is the most dangerous one and if allowed to be in key roles, such individuals can cause diseases

that could lead to an amputation or terminal illness for an organization because "it sets about systematically and subtly to subvert the health, well-being and career prospects of others. There is no concern for the organization and self-interest is paramount. Chaos and conflict follow in their wake. It can take up to two years for people to realize what is happening as these bullies are expert at manipulation and at mimicking the values and objectives of the company. When they finally leave or are dismissed, the organization is in a worse state than before," noted a research paper on workplace bullying while quoting from Keryl Egan, a clinical psychologist of repute.

It's also not easy to wipe out the cancerous impact of such sick influences on an organization.

Expert insights, however, can help identify problems at an early stage. "Working with Monsters: How to identify and protect yourself from the workplace psychopath," by Dr John Clarke provides a fascinating insight into the mind of the workplace psychopath. Dr Clarke draws from "his studies and research in forensic psychology, and experience in criminal profiling for law enforcement agencies as well as corporations experiencing difficulties with an employee."

It is critical for boards as well as for executive search firms therefore to be wary of such individuals, no matter how smart and convincing they appear at interview rounds. Mid-term course corrections can be very costly, so those would be better prevented than cured.

As we take steps to build organizations that are green and sustainable, isn't it of paramount importance that the top leadership is non-toxic and non-polluting? 

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Back in 1661, when Catherine of Braganza (daughter of King of Portugal) married Charles II of England, some 7-odd-island peninsula in the Far East were gifted away as part of the rich dowry. Thus, the island conglomerate known as Bombaim (or 'good little bay' in Portuguese) passed on to the British crown, who took good care of it. Under the British, the city underwent immense changes, the biggest being the amalgamation of all the 7 islands into a single mass, crafting Bombay as we know now.

As time passed, the city's prominence increased manifold, first as a financial centre and subsequently as a cosmopolitan world city. Meantime, Bombay went back to being Mumbai, courtesy an administrative rechristening. Time and tide saw many challenges thrown at the city, from economic to natural ones; nonetheless Mumbai took all in its stride and kept re-growing day after day, through reclamation or redevelopment. But even within the din and chaos, the ethos of Mumbai remained much the same; a city with a big heart, a city that never sleeps, a city where dreams come true.

From an ancient fishing port, to a colonial trade centre, to Asia's one of the largest financial city, Mumbai has indeed come a long way. And now, you can also be a part of the dream city by owning a piece of it, with the city's premier real-estate company, Saaga Infra Projects (P) Ltd. You can choose from the scores of options available with Saaga that showcase the charming city like never before.

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