BOMBAY CHAMBER
Bombay Chamber of Commerce & Industry

SQ

raising the Sustainability Quotient

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Editorial

Businesses today are faced with many competing priorities and too many conflicting views across the world on the role of businesses and governments in furthering the interests of society. There are many new and emerging issues that have already started influencing global security and the economy, which will only intensify during this decade. The direct impact of these issues on businesses is imminent and calls for immediate action to ensure sustainable and long term growth.

This is a universal challenge - but a much more daunting one for a developing country like India, despite which Indian businesses have not viewed it with the seriousness it deserves. The Sustainability Committee of Bombay Chamber of Commerce and Industry therefore felt that generating focused awareness about developing sustainable enterprises and enhancing the 'Sustainability Quotient' of the members was very important. This task has been passed on to a core group which has formed an Editorial Board.

The scope of the erstwhile SHE Bulletin has therefore been enhanced to cover the larger issues far beyond, Safety, Health and Environment, and has been re-christened as **SQ** - Raising the Sustainability Quotient.

Through this quarterly bulletin, the Editorial Board will endeavor to bring forth the various dimensions and challenges of Sustainable Development, covering knowledge based articles, success stories, best practices, legal & policy updates etc which we hope would benefit all our member companies. In order to be able to measure up to your expectations, the Board would appreciate a frank and forthright feedback from all our readers which may be sent to ***um@bombaychamber.com***

"On behalf of the Editorial Board, I wish our readers, a fulfilling 2012, which brings prosperity and marks a new beginning for a sustainable future for all".

- Ms. Beroz Gazdar

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Reader's Column

We invite feedback suggestions,
and articles from our readers
Please write to um@bombaychamber.com

Note : *General articles published in this Bulletin do not necessarily reflect the views of the Bombay Chamber of Commerce and Industry*

I am pleased to introduce the first edition of Sustainability Quotient, on behalf of Sustainability Committee of Bombay Chamber. SQ is aiming to understand the opportunities, risks and bottom line implications of sustainability initiatives and strategies. The Sustainability Quotient series will help members to keep abreast of latest developments and delve into factors which are triggering transformation in the Sustainability space.

- Russell Parera, Chairman, Sustainability Committee & CEO, KPMG - India

As members are aware, one of Bombay Chamber's publications is called the SHE Bulletin in which we used to feature articles on issues related to the environment, safety in the workplace and health, typically occupational health. With the reorganisation of committees, three committees namely Safety and Security, CSR and Environment, Safety and Health have been consolidated and renamed as the Sustainability Committee. The ESH Committee's quarterly publication was named as the SHE Bulletin. The reconstituted and larger Committee felt that the publication should also carry a new name and feature issues on Sustainability which today over rides even the term CSR. The first issue of the new SQ Bulletin is now in your hands, we look forward to your comments and suggestions to improve it further.

- Dr. Atindra Sen, Director General, Bombay Chamber

Sustainability today is becoming a core strategy for business and governance. For the business, sustainability pays. Governance with mainstreaming of sustainability is found to be smart and more effective. I am glad that Bombay Chamber has widened the scope of its newsletter beyond Environment, Health & Safety by addressing the "sustainability canvas". I am sure that the members of Bombay Chamber will find this shift both enriching and stimulating. We at Environmental Management Centre (EMC) feel proud that Bombay Chamber has chosen us as the knowledge partner in this process.

- Dr. Prasad Modak

Sustainability has emerged as a key element in our persuit of progress. Discipline, dedication and innovation in the use of all resources in our developments are at the root of it. Corporate world, who are the principal appropriators of resources, have a significant role to play. No effort will be viable, which does not stand the test of sustainability. This bulletin from Bombay Chamber can serve the purpose of enhancing our perspective.

- D. K. Deshpande

The last two decades revealed that climate change posed significant risks to society at large. Progressive organizations are striving to convert such challenges into opportunities for growth and for the benefit of society through Sustainability initiatives. Organizations are innovating to introduce clean technologies, products and processes in this endeavor. This would ensure meaningful growth without depleting the environmental and social capital. We wish very best to SQ team.

- Alok Sharma

Aligning organizational growth to make it harmonious with environmental issues such as improved energy efficiency, reduction of green house gas emissions, other detrimental environmental impacts and social issues is a need of the day. We all must encourage positive contribution to the community by supporting a socio economic health and educational initiatives. This publication will essentially help in creating awareness for sustainability by responsible behavior, not to use more resources than required but even putting back in system more than we consume.

- Satish Karnik

What is SQ All About?

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The concept of sustainability uses three principal capitals - environmental, economic and social. "Capital" is a stock of anything that leads to a flow of valuable goods or services to people who need them. Sustainability ensures that capital is produced and maintained to meet the needs of people. In order to sustain, these three capitals must operate in limits and support each other. Above all, since the resources are limited, people or the mankind must keep the needs to the barest minimum possible.

Box 1 describes the three vital capitals of sustainability.

Sustainability Quotient (SQ) quantitatively expresses sustainability performance of an organization by examining how the above vital capitals are managed

Numerators of SQ represent actual impacts of the organizations activity on the vital capitals while denominators represent normative impacts (i.e. what they should be) on the same vital capitals. It is the denominator that puts organizations activities and its sustainability related performance in the context or the setting. For SQ, the context matters as this sets the limits as well as unfolds opportunities.

Take an example of a region that has a water resource capacity of 1 million cubic meters of freshwater per year. This capacity is water resource's ecological limit (a parameter of SQ's *denominator*).

Sustainability norms suggest that this threshold should not be exceeded as it may lead to problems such as drought, salinization, land subsidence etc. Still, humans in the region draw and consume 1.2 million cubic meters of water per year (that constitutes the *numerator*). The water

Sustainability Quotients = A/N
Where
A is the measure of impact on a vital capital
N reflects standard or norm for what the impact (i.e. the context or situation) on the same vital capital ought to be in order to ensure stakeholder well-being (i.e., for the impact to be sustainable)
Note
- For impacts on *natural* capital, quotient scores of < 1.0 = sustainable, - 1.0 = unsustainable
- For impacts on *human, social* or *constructed* capital, quotient scores of - 1.0 are sustainable, < 1.0 are unsustainable

Box 1-Three Vital Capitals of Sustainability[1]

Environmental Capital	Social Capital	Economic Capital
Environmental capital is the stock of natural ecosystems that yields a flow of valuable ecosystem goods or services into the future. For example, a stock of trees provides a flow of new trees, a flow which ***can be*** sustainable indefinitely if well managed. Environmental capital ***may also provide services*** like recycling wastes, water treatment, attenuation of air pollution and sequestering of carbon.	Social capital includes Human capital - Individual knowledge, skills, and other assets (including human rights) required to take effective individual action. *Community* capital-Shared knowledge and cooperative networks of people committed to achieving common goals (schools, hospitals, government, etc.) *Constructed* capital- The material world that humans produce such as infrastructure (housing, roads), utilities(energy, water, waste management), etc.	While the economic component of the triple bottom line is often assumed to be synonymous with financial performance [i.e., with the financial bottom line], there are significant differences between the two. Economic capital extends beyond the boundaries of an organization. A company's investment in a community can serve as an engine or stimulus of growth in the economy through generation of employment, boosting local supply chains and developing a new skills base. The goods and services that companies produce can also contribute to a higher quality of life to a much broader "catchment" area that need not be contiguous and positioned even globally.

[1] Drawn from presentation on Sustainability Defined by Hector R Rodriguez, Director of Sustainability at Biogen Idec, Adjunct Professor, School of Business at Mount Ida College

consumption is mainly driven by an organization's activity where most humans are employed or derive their livelihoods. SQ on water then works out to 1.2/1=1.2, exceeding 1.0. Anything greater than 1.0 is unsustainable.

Turning to the social capitals, the same concept can be applied. Here we are dealing with impacts on anthro capital and not natural capital. The Anthro capital (human, social and constructed), unlike natural capital, is created by people and can be produced virtually at will. Thus, the applicable norms in the case of anthro capital are not a function of what we are stuck with and what we use; rather, they are a function of what we need and what we have decided to produce, or not produce. For social quotients any score of less than 1.0 is unsustainable.

As an example, a community in an organization's catchment has a need for Rs 10,000,000 a year in order to provide primary education for its children (This need is the *denominator*). The local government in the community is only providing Rs 6,000,000 a year in funding for primary education (This is the *numerator*). SQ on social capitals will be 0.6. Anything *less* than 1.0 is unsustainable. An organization can contribute additional funds through its CSR activities and raise the SQ on social capital.

In computing SQ, the vital capitals are not to be treated like "silos" and intersections as well as interactions need to be factored considering the catchment area or area of influence and the life cycle of goods and services. The entire system of "value chain" needs to be considered that factors extraction and use of natural resources at various stages of life cycle (environment capital), production machinery including packaging and distribution (constructed capital), employment generation across supply chain with *inclusive* considerations (economic and social capital).

In order to improve SQ on water in the case cited above, the organization may undertake several steps that intersect between the three capitals and map the value chain. Rainwater harvesting may be identified as an area to conserve water. Here the organization can promote awareness programs, standardize technical designs, build skills of rainwater harvesters, provide micro-finance etc. Similarly, interventions such as aforestation programs, construction of check-dams or bunds, in-situ treatment of groundwater could be considered as additional projects. Reduction in leakages through pipes, use of water efficient plumbing fixtures, grey water recycling could lead to reduction in the drawal of freshwater. Education programs in schools could include water conservation as projects, topics for poster/essay competitions. Tariffs on water could be set such that there is deterrent on overconsumption and water wastage. All these projects and interventions can provide green jobs, trigger innovation and increase investment flows while improving SQ on water.

But is there a systematic way for an organization to assess its SQ and come up with strategies?

Underwriters Laboratories (UL) just launched a standard for SQ called ULE 880 - Sustainability for Manufacturing Organizations[2]

ULE 880 covers five domains of sustainability:

- ***Sustainability Governance:*** how an organization leads and manages itself in relation to its stakeholders, including its employees, investors, regulatory authorities, customers, and the communities in which it operates
- ***Environment:*** an organization's environmental footprint across its policies, operations, products and services, including its resource use and emissions
- ***Workplace:*** issues related to employee working conditions, organization culture, and effectiveness
- Customers and Suppliers: issues related to an organization's policies and practices on product safety, quality, pricing, and marketing as well as its supply chain policies and practices
- Social and Community Engagement: an organization's impacts on its community in the areas of social equity, ethical conduct, and human rights

ULE uses a schema of 102 questions (or "indicators") with 18 questions for Governance, 45 in Environment, 15 in Workforce, 15 in Customers and Suppliers, and 9 in Social and Community Engagement. Environment covers 80 points, Governance and Customers/Suppliers 40 each, and Workplace and Social/Community 20 each. There are also 18 "Innovation Points" — 3 points each for 6 different indicators — that reward companies for going beyond the standard.

Systems like ULE 880 could provide framework on SQ. More such systems are expected to come up in the near future. We will keep the readers of BCCI's SQ updated.

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[2] ***Visit*** - http://www.ul.com/global/eng/pages/offerings/businesses/environment/services/sq/
to learn more about UL's Sustainability Quotient (SQ) program and access UL 880 with related resources.

Sustainability - A Strategic Compulsion for Growth

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Since the Industrial Revolution, society has been driven by an increasing pace of change. Change in the way we live, the way we think and hence the way we do business. Every decade or two, new and game changing events or inventions have brought about fundamental shifts, throwing up new opportunities and harsh challenges. The invention of the locomotive, electricity, automobiles, airplanes, television and of course, Information and Communication Technology, are some landmark events which caused fundamental big shifts which repeatedly and radically changed the competitive landscape.

But the greatest disruptive event that is glaring in our face is Climate Change. An event which environmental scientists argue is the result of ruthless exploitation of the natural resources, 'manufactured' demand for goods and services - many of which are not need based for human progress or a fulfilling existence. On the contrary much of this has resulted in displaced communities, increased societal inequities, and besides vitiating the environment, has resulted in conflict situations in many geographies.

And all these issues would affect not only growth but the very survival of all businesses, in some form and some measure. Hence, Sustainable growth and survival has become a new business imperative and a new strategic compulsion which must be understood by every business manager.

Understanding the relevance of Sustainability in business:
More and more business heads and executives are getting familiarized with the concepts associated with sustainability. Yet most of them see this purely as an environment related issue, and hence delegate it to the operations team. Worse still, some still think it's only a fashionable talk point, and indulge in green washing.

It must be understood that Sustainability is not about reducing consumption of conventional energy, reducing waste, using renewable energy, planting trees etc; It's all this and much more. Its about

responsibility towards communities where we operate, good governance, ethical practices, respecting the law of the land. It's about responsibilities towards all stakeholders while generating profits and rewarding shareholders. It's about a clean and green supply chain, local sourcing, and inclusive growth and most importantly, it's about our responsibility to the future generations - all at the same time.

The Top 5 Drivers of Sustainability

As discussed, Sustainability should not be seen as a single dimension option but a multi-dimensional business compulsion. It's only natural that all businesses will see profits as a prime driver for growth, which is perfectly fine. However, there are many other forces pushing toward a more sustainable environment in the business world which can no longer be ignored. Additive in nature, they will provide continual movement toward sustainability. These are:

Investors - have been the first to foresee both the threats and opportunities from climate change. Hence institutional investors, Banks and Venture Capitalists have already come together to see that they invest in businesses that are sustainable and which are early adapters to the emerging challenges of climate change. For example The Carbon Disclosure Project is the coming together of 551 investors with assets of US$71 trillion. They expect the Global top 500 Companies (and top 200 in India) by market cap, to answer uncomfortable questions on carbon emissions and publish the responses for all to see. We now have the Equator Principles set up by various private sector Banks which lay down the code for responsible lending. Hence following the path of sustainability and making voluntary disclosures would open doors for tapping finance necessary for business growth.

Customers - are becoming more and more aware of the environmental footprint of businesses and the negative impact businesses have on the communities where they operate. While consumer surveys may overstate their willingness to pay a premium for green products, shoppers are definitely a force and the push toward green products will continue to move into the mainstream. Companies having B2B businesses however have more to

worry about, as large corporate customers have a pressure from their investors to make disclosures on environmental and social parameters and will expect their suppliers to take action or else lose business.

Employees and workmen: There are a series of laws & regulation protecting the rights of work men and other employees but companies' needs to go beyond compliance with these issues. Moreover, many employees now view a company's corporate sustainability efforts when choosing an employer. Long-term retention of efficient employees is a continuing business imperative, and companies simply cannot afford to underplay this aspect.

Civil Society has now found a new voice through active and vigilant NGOs and local /national media. Every business now needs a social license to operate. This social license comes from being a good corporate citizen, responsibly share natural resources like water with the neighboring communities. Just building a local school or hospital is not good enough. Companies have to deploy a proper strategy that would foster inclusive growth and enhance prosperity.

Government. Despite the harsh criticism that our Government has been under for all issues ranging from corruption to foreign investment policies, there are clear signals to show that there is a definite realization that India has to gear up to the challenges of climate change. Under the eight missions of the National Action Plan for Climate Change (NAPCC) lots of regulations are evolving that would regulate carbon emissions by industries. Initiatives like Renewable Energy Certificates (REC) perform Achieve & Trade (PAT), Star Rating for appliances, and National Voluntary Guidelines are some of the approaches by the Government, to regulate and shape corporate behavior.

These drivers will continue to work together to push sustainability forward for public corporations. For some companies there may be other drivers as well like natural resource constraints, political dimensions etc and the best approach would be to identify and prioritize these drivers so as to and plan for mitigating sustainability risks and find new opportunities.

Some lessons from the last big shift

And as mentioned earlier, it is not the first time that Business managers have had to deal with big shifts in the business environment. So lets see what happened at the last big shift that occurred in our living memory - The Information Technology (IT). It took companies by storm with continuous shrinking of the size of gadgets as well as distances. The corporate landscape the world over changed. Some companies survived, many others were demolished and new players emerged. The winners were the ones that saw the change coming and were quick to realize that it was a big shift. They saw more opportunities than risks, strategized, and came out as winners. The sceptics lagged behind.

The biggest example was the Indian Banking Sector. In the early 1990s when private banks were allowed to operate, banks like ICICI Bank and HDFC Bank almost revitalized the banking sector in India by bringing in a paradigm shift in customer care and introduced new banking services using IT as the main platform. Today they stand tall and provide stiff competition to the age old nationalized Banks as well as large foreign banks.

Many Indian Companies saw huge business opportunities in IT and either entered in this business or used IT as a platform for growth. In both cases huge investments were made in Capex, and developing capabilities. IT was integrated as a part of growth strategy as well as for improving operational efficiencies, touching every function, every business line and every customer.

Similarly, in order to evolve into a sustainable enterprise, businesses will have to design their strategy taking into consideration the risks and opportunities from climate change, build capabilities, create an innovation led environment within the organisation, and make investments in new technologies to create a sustainable growth trajectory.

It's Time to act

Business managers know the threats of Climate change, but they still seem to be hesitant to address the issues. It's like seeing a boulder in the middle of the road but hesitating to avoid the crash!

Now that Climate Change and related issues have become a clear business risk, businesses need to put their acts together, and address it with the seriousness it deserves. It's better to act now while issues are still emerging and build corporate strategies and action plans before things become excessively overwhelming. And I would like to end with some words of ancient wisdom from the Chinese classic "The Art of War" by Sun Tzu

> *"Plan what is difficult while it is easy, do what is great while it is small. The most difficult things in the world must be done while they are still easy; the greatest things in the world must be done while they are small."*

For this reason sages never do what is great, and that is why they can achieve that greatness.

The importance of measuring carbon emissions by businesses for sustainable growth

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Background

The world's climate has varied naturally throughout the course of history. During the recent years, compelling evidence gathered from around the world indicates that the impact of climate change would have drastic impacts on economies and entire ecosystems. Levels of carbon dioxide (CO_2) and other 'greenhouse gases' (GHGs) in the atmosphere have risen steeply during the industrial era due to unplanned human activities like deforestation or heavy fossil fuel use, driven by unrestrained economic and population growth.

The need for measuring emissions

Due to this, certain responsible stakeholder groups especially investors and corporate customers have taken the lead to try and see how carbon emissions can be contained across the lifecycle of products and services i.e. from 'cradle to grave'. Various Governments, including the Government of India has started structuring a regulatory framework to encourage reduced emissions through tax structures and regulation. This has put businesses under considerable pressure to monitor, mitigate and report their actions in this regard. The pressure is only likely to mount and hence businesses have to begin to consider climate change as a critical business risk . This has led to the need for monitoring, managing and reporting of environmental foot print, more popularly Carbon Foot-print.

Hence, the Carbon Foot-print assessment will help companies to identify:

- GHG intensive areas of their operations and help develop long term strategies for a sustainable growth.
- Opportunities for reducing emissions. This would have a direct impact on cost reduction.
- Strategize its operations to abide with new national and international regulations.
- Business growth opportunities especially in developing countries.

This will surely enhance the brand image of the organization.

What is Carbon Foot-print?

Carbon Foot-print is defined as the "measure of the impact human activities have on the environment in terms of the amount of green house gases produced, measured in units of carbon dioxide". It is a subset of the ecological footprint and of the more comprehensive Life Cycle Assessment. It encompasses all possible causes that gives rise to GHG emissions, namely: direct (on-site, internal) and indirect emissions (off-site, external, embodied, upstream, and downstream).

Concept of "Scope"

In order to facilitate delineation of direct and indirect emission sources, improve transparency, and provide a common tool for different types of organizations and different types of climate policies and business goals, WBCSD has defined three "scopes" (scope 1, scope 2, and scope 3) for GHG accounting and reporting purposes. Scopes 1 and 2 have been defined by the standard in a manner to ensure that two or more companies will not account for emissions in the same scope. An overview of the three scopes defined by the standard is provided below:

- **Scope 1:**
  All direct GHG emissions.
- **Scope 2:**
  Indirect GHG emissions from consumption of purchased electricity, heat or steam.
- **Scope 3:**
  Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, outsourced activities, waste disposal, etc.

The basic characteristics of Carbon Foot-print Assessment are highlighted below:

- Measure of impact of human activities on environment in terms of the quantum of green house gases (GHG) generated,

measured in carbon dioxide (CO_2) equivalent units or in other words mapping the Organization wide GHG emissions over a specific period of time

- Total amount of CO_2 attributable to the actions of an individual/ organization (mainly through energy use) over a period of one year.

Carbon Foot-print estimation/ calculation

The Carbon Foot-print of the specified operational boundary of the organization is calculated by accounting for the emissions (expressed in terms of CO_2 equivalent) from the various GHG emission sources within the boundary. The amount of emissions from various GHGs is converted in equivalent tonnes of carbon dioxide. The global warming potential of various GHGs is as follows:

Box : Global warming potential in CO_2 equivalent

Sr. No.	Green House Gases	Global warming potential in CO_2 equivalent
1	Carbon dioxide	1
2	Methane	21
3	Nitrous oxide	310
4	HFC-23	11700
5	Sulphur hexafluoride SF_6	23900
6	Perfluoro methane	6500

Reducing one ton of SF_6 emission is equivalent to reducing 23,900 tons of CO_2 or 1 ton of HFC emission is equal to 11,700 tons of CO_2. *[Refer the box for global warming potential for the GHG gases.]*

After estimating or calculating the carbon dioxide equivalent (CO_{2e}) the next obvious step would be to plan emission reduction through identifying and implementing potential GHG reduction opportunities. Companies can also consider the offsetting option by negating or "neutralizing" a tonne of carbon dioxide equivalent (CO_{2e}) emitted in one place by avoiding the release of a tonne of CO_{2e} elsewhere. The neutralization can also be done by absorbing / sequestering CO_{2e} that would have otherwise remained in the atmosphere.

Tools to calculate Carbon Foot-print

The Greenhouse Gas Protocol (GHG Protocol) is the most widely used international accounting tool for government and business leaders to understand, quantify, and manage greenhouse gas emissions. It provides the accounting framework for nearly every GHG standard and program in the world - from the International Standards Organization to The Climate Registry - as well as hundreds of GHG inventories prepared by individual companies. The GHG Protocol also offers developing countries an internationally accepted management tool to help their businesses to compete in the global marketplace and their governments to make informed decisions about climate change. The protocol also provides an exhaustive list of emissions pertaining to travel & logistics.

In mid-2002, the International Organization for Standardization (ISO) identified a need to standardize aspects of GHG accounting and Carbon Foot-Print estimation. Technical development of the standard was initiated in mid-2002 and a draft was completed in mid-2004. In March 2006, ISO launched its green house gas (GHG) accounting and verification standards ISO14064:2006.

A third party assurance can be carried out through External Assurance Agency. The external assurance provider does the data review during the site visits. The back-up documents and monitoring mechanisms for the reported values, calculation methodologies are verified.

Advantages of measuring the Carbon Foot-print

The Carbon Foot-print is useful for individuals and organizations to conceptualize their own (or organizational) impact in contributing to global warming. It provides basis/ directions for further action like identification/ implementation of emission reduction opportunities, identification of emission offset avenues and development of carbon management strategy for the organization. For example, at Tata Motors, 4.54% of energy used in production is from renewable energy. The company has invested in 20.85 MW wind power, thereby reducing GHG emissions of 48,620 tonnes of CO_{2e}. This prepares them for the future statutory compulsions, which are very much on the cards. Such an approach also resulted in a financial benefit by issuing 27,554 certified emission reductions from United Nations Framework Convention for Climate Change (UNFCCC).

HSE Practice at HPCL

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A comprehensive Health, Safety & Environment (HSE) policy has been adopted to follow high standards of safety, health and environmental care in all its activities in Hindustan Petroleum Corporation of India (HPCL). It is always ensured that increasing scale of operations have no negative impact on the standards of HSE and the goal of zero injuries, incidents/ accidents/environmental violations, is focused upon.

Significant improvements have been made in safety performance over the years and strengthen its' commitment to conducting business with a strong focus on preserving the environment, sustainable development, safe work place and enrichment of the quality of life of employees, customers and the community. Established HSE systems and procedures are constantly revised for continual improvement.

Health

HPCL focuses on achieving excellence in occupational and personal health of its employees across locations. The Company has state-of-the-art Occupational Health Centers (OHC) at its refineries and major offices. These OHCs are equipped with state-of-the-art diagnostic and therapeutic equipment and are manned by qualified occupational health specialists. Periodic Health examinations and critical health monitoring programs are covered in wellness programs to all employees. HPCL's medical and occupational health departments are also in the forefront to identify and to prevent lifestyle diseases such as heart problems, hypertension, diabetes through a series of regular health awareness sessions.

Safety

HPCL believes in disseminating HSE information to all field employees thru training and awareness programs and encourage take appropriate risk reduction methods to an acceptable level. HSE management Systems benchmarked with international best practices and developed 20 HSE corporate standards for effective implementation. HPCL implemented various safety management systems and achieved Level 8 in implementing International Safety Rating System (ISRS) at refinery locations. Process Safety Management (PSM) has been further strengthened thru strategic initiatives for sustenance.

All incidents are investigated systematically and analysed for root-causes to learn and improve HSE management. Internal monitoring systems are in place to ensure compliance to all applicable statutory/ legal regulations. Safety performance is identified as key performance indicator in all activities and career progression. Behavioral based safety is identified as a tool to improve safety awareness and enhance safety performance.

In HPCL improvement efforts, audits play an important role. The Company has developed three-tier audit systems. Trained and qualified internal auditors perform internal or

first party safety audits of the safety management system at regular intervals.

HSE corporate audit programme is a critical component of the HSE governance process, which has been specifically designed to ensure that stakeholder expectations are met. HPCL has established emergency management systems and is checking and improving the efficacy of the same through periodic mock drills at all facilities.

The refineries have been certified to ISO 14001:2004 certification of Environmental Management Systems (EMS) and some marketing locations are OHSAS 18001:2007 certified which is certification of Safety Management Systems.

Environment

In its pursuit of excellence in environmental management towards sustainable business development, HPCL continues to be committed to develop and implement EMS (as mentioned above) in its true sense across all its operations and processes. ECO – friendly process initiatives has been adopted such as solvent changeover from phenol to Normal Methyl Pirrolidone (NMP) and changeover from Oleum to NMP, Diesel Desulphurisation facilities are fully operational in both the refineries. Significant reduction in SO_2 emission has been brought about in both the refineries through design and operating strategies. Both the refineries are producing EURO – III Diesel and Euro – III Petrol. These initiatives have been widely appreciated and have won for HPCL various national & international awards / citations.

HPCL-Mumbai Refinery which is one of the oldest plants, recently commissioned"Integrated Effluent Treatment Plant (IETP)". It is the first of its kind in 'petroleum industry' in India and with the latest state of art of technologies such as Sequential Batch Reactors (SBRs) and Membrane Bio-Reactors (MBRs). This plant meets the CPCB's MINAS standards, ensures minimal discharge liquid effluent and recycle maximum quantity of treated effluent. Collaboration with M/s TERI, oily sludge/silt, left over low oily sediments after mechanical recovery from API separators of IETP are bio-remediated using a bacterial culture called "Oil Zapper."

Solid Waste Disposal poses a great challenge to oil industry. Hazardous waste like spent catalysts oily silt; non-oily insulations etc. are being disposed to common treatment, storage & disposal facilities approved by State Pollution Control Board. Leak Detection & Repair programmes are conducted to quantify the Volatile Organic Compound (VOC) emissions, based on which the preventive measures are taken.

HPCL is compliant with various environmental protection and health and safety laws and regulations.

Prior to the implementation of new projects the potential environmental impacts are assessed. The environment impact assessment and risk analysis are performed for all new and major expansion projects. Necessary measures are incorporated to mitigate adverse environmental impacts at the planning stage of project itself.

HPCL believes in stringent norms to be followed at all its operation where HSE is concerned as it is committed for the welfare of all its employees and the society at large.

What happened at Durban?

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Climate change is one of the most complex issues which the international community is seeking to deal with. Responding to this complex issue requires a collective effort across the world on a significantly large scale. Every year, the United Nations Framework Convention on Climate Change (UNFCCC) sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change.

Two weeks of intense negotiations have recently concluded in Durban at the seventeenth Conference of the Parties to the United Nations Climate Change Convention (UNFCCC), also meeting as the seventh conference of the parties to the Kyoto Protocol (COP17/CMP7). This conference of parties at Durban was of particular interest to India and all other developing countries because there was expectation on much awaited announcement on second commitment period of Kyoto Protocol.

While expectations were high, it seemed that the Kyoto Protocol, the world's only legally-binding climate change treaty, was faltering at Durban. Three members - Canada, Russia, and Japan - had declared that they were not going to make further emissions reduction commitments for a second five-year commitment period. The European Union demanded that all countries, especially developing countries, agree to a negotiations "roadmap" that would lead to some kind of global emissions reduction scheme binding on both developed and developing countries.

As a result, the Durban Platform for Enhanced Action was formulated under which, for the first time, all countries were asked to commit on cutting their greenhouse gas emissions, chiefly carbon dioxide. To achieve this it was agreed to negotiate "a protocol, another legal instrument or an agreed outcome with legal force" by 2015. Whatever deal is reached then will have five years to be ratified and come into force by 2020.

In the case of developed countries, their economy wide emission reduction targets and commitments will be reviewed and assessed, and in the case of developing countries, UNFCCC will increase the transparency of the voluntary and nationally appropriate mitigation actions (NAMAs) of developing countries. Countries are also encouraged to prepare low emission development strategies or plans in the context of sustainable development.

Amidst these discussions on new legal instrument, India managed to dilute the Berlin Mandate terminology to include "or an agreed outcome with legal force" by forcing inclusion of "equity" in future talks. It is believed that whatever climate negotiations do achieve by 2015, the result will be that India still will have fewer obligations to reduce its greenhouse gas emissions than will rich developing countries.

Some of the key decisions that were made at the conference were:

1. Extending the Kyoto Protocol for a second round of commitments by developed countries - unfortunately, the US never ratified the Kyoto protocol and some developed countries are unlikely to participate in the second round. Durban provided a process and time frames for arriving at a new agreement that will include all countries by the time the second round of Kyoto expires in 2018;
    a. Although Kyoto period has been extended, it may have meager/no impact on the Carbon Price primarily due to demand supply gap and some players opting out of second commitment period.
2. The new agreement is intended to ensure that commitments to reduce emissions are sufficient to keep average temperature increase to below 2 degrees, which is not the case with current commitments;
    a. A Green Climate Fund to help developing countries make the Shift to low carbon economies has been setup, although there is still some doubt about how it will be financed. This fund is intended to reach $100 billion annually by 2020;
    b. Structures to provide technological support and exchange of climate-friendly technologies between developed and developing countries have been setup; and,
3. An Adaptation Committee has been setup and financing mechanisms for an Adaptation Fund have been secured. This is intended to help poor countries that are vulnerable to the impacts of climate change fund measures that make their countries more resilient.

Despite these key outcomes, developing countries perception is that too much burden has been shifted onto their shoulders. In addition, the last-minute compromise on legal form was a missed opportunity to clearly establish "equity" as a basis for the coming negotiations, and the principle of common but differentiated responsibilities (CBDR) has been undermined to some degree, rather than strengthened.

The comfort level post Durban is that the multilateral process has been made stronger and there is more clarity on the legal form of the future climate change agreement.

Sustainability not yet mainstreamed in Indian business - FICCI's Survey on Sustainability

A report, titled 'Leveraging Value: Corporate Response to Sustainability Challenge' has been recently brought out by Federation of Indian Chambers of Commerce and Industry (FICCI) in association with Ernst & Young. This report covers the sustainability journey of some of India's largest companies and attempts to understand how the sustainability challenge is impacting their businesses.

The report is based on a survey that included about 60 companies that have identified their sustainability challenges and are at various stages of graduating to become sustainable enterprises. While 90 per cent of these companies reportedly assess their sustainability-related risk, only half have a formal mechanism to assess these risks. The survey also indicates that there is a gap in the under-standing of the holistic components of sustainability. Most companies tend to consider discrete elements such as environment, social responsibility or health and safety as being equivalent to sustainability.

The report can be obtained from the publication division of FICCI.

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Phone: 011-23753125

Sustainability Investments Doubling up in Information and Communication Technology industry

Information and Communication Technology Industry (ICT) is often considered as inherently green however the impact footprints are not small given the energy intensive data centres, air controlled office complexes and significant water consumption. Green IT and sustainability have now found their way into the IT organizations of many industries in India.According to Gartner, Inc., India's spending on green IT and sustainability initiatives will double from $ 35 billion in 2010 to $ 70 billion in 2015. Many IT companies have started use of energy-efficient technology in data centers, manufacturing facilities and public buildings with cells set up on sustainability.

Computer Society of India (CSI) has formed a Special Interest Group (SIG). The Green SIG has plans to hold Green IT Event, conduct awareness programmes in companies to promote practice of, and share ideas about Climate Change, hold workshops and Training programmes on Green IT, ICT Asset Optimization and Green Data Centre, which will lead to Certifications in Green Computing disciplines.

See Hype Cycle for Green IT and Sustainability in India, 2011

(http://www.gartner.com/technology/research/hype-cycles/and http://www.csi-india.org/web/csi/sig-green-it)

Carbon Indexing Project at Bombay Stock Exchange (BSE)

BSE has launched the first ever 'Carbon Indexing Project' in collaboration with the UK government recently. This project will use data from the recently released 'Carbon Disclosure Project (CDP) Report 2011 – India 200' to rate BSE-listed companies on the basis of their carbon emissions and compare it to their performance on the stock exchange.

This project will build expertise in analyzing risks and opportunities associated with climate change and laws and regulations related to carbon. The project will also create a database that would enable investors to compare the environmental and fiscal performance of companies. The linkage of carbon and sustainability performance of the companies to their fiscal performance needs to be clearly established to create a business case for sustainability. This project will create the requisite database for achieving this purpose.

Get on to Sustainability: Global Environment Management Initiatives Solution Tools Matrix

The GEMI Solution Tools Matrix™ is an interactive, web solution for users around the world to access the +30 publicly-available, solutions-based tools designed to help companies and organizations in their own pursuit of EHS and sustainability excellence. The Matrix guides users around GEMI's diverse portfolio of solutions-based tools that the organization has developed over the past 20 years.

The **Guided Discovery** section of the GEMI Solution Tools Matrix™ is designed to help users into determining which of the GEMI solution tools will be most relevant based on their responses. Upon completing each of the 7 questions, the user is presented with a set of results based on their previous responses and be able to view a result list of relevant GEMI solution tools, view the pop-up description as well as click through to the item detail page for that solution tool.

Visit http://www.gemi.org/ gemihome.aspx to access the Tools.

The updates have been contributed by Dr. Prasad Modak, Executive President, Environmental Management Centre.

Poster Festival :
A Competition on Sustainability for Business

Growing complexities of the modern world due to demographic shifts, climate change and increasing pressure on natural resources have all brought sustainability issues to the forefront of the business agenda. Sustainability presents both challenges and tremendous opportunities for businesses.

Businesses, which assess the gamut of sustainability issues and respond by mitigating risks and leveraging opportunities, are the ones that create competitive advantages. Such businesses respond to the changing needs and demands of the society and accordingly develop successful business models, which focus on creating long-term shareholder and societal value.

Integrating sustainability perspective in business education for future managers who are equipped with sustainability mind-set is of prime importance. It is in this context, the Sustainability Committee of Bombay Chamber of Commerce and Industry in partnership with NMIMS, Mumbai designed a Pan India level 'Digital Poster Presentation' Competition in September 2011. The prizes worth Rs. 60,000/- were announced to the twelve winners. In addition to this the Managing Committee of the Bombay Chamber decided that the best twelve posters will feature the leaves of the Bombay Chamber Calendar 2012. The competition was based on students' analysis of the sustainability practices adopted by the company based on the review of literature available in the public domain and their subsequent interpretation of the same to be presented in a creative image form on a poster.

The students had to focus on any of the aspects of Sustainability i.e. Environment, Social and Governance.

Students were requested to select companies operating in India from 6 key sectors:

- Engineering
- FMCG
- Retail
- Pharmaceuticals
- Automotive and
- Extractive Industries

Each participating team along with a creative poster was required to submit a 500-word write-up describing how the leading companies selected by them have successfully adopted the sustainability agenda.

The competition received an overwhelming response from management students from various premier B schools including IIM Ahmedabad, IIM Bangalore, IIT Bombay, NITIE, NMIMS, IIFT, JBIMS, IMT Ghaziabad, Great Lakes and others.

The posters were evaluated by the eminent personalities from the field of corporate world, Media Advertising and Academic institution.

The panel included:

- **Mr. Mayur Varma**
  Creative Services & Design
  Ogilvy & Mather Pvt. Ltd

- **Mr. Haresh Moorjani**
  Creative Director
  Draftfcb + Ulka

- **Mr. Arvind Sharma**
  Director, Advisory-Climate Change and Sustainability
  KPMG

- **Dr. Meena Galliara**
  Chairperson, Social Enterprise Cell, NMIMS

- **Dr. Atindra Sen**
  Director General
  Bombay Chamber of Commerce and Industry

- **Ms. Suchita Rale**
  Bombay Chamber of Commerce and Industry

There were 2 rounds for selection of the posters. In the first round, the posters were reviewed and few suggestions were made to the students. In the second round, the amended posters were further reviewed and thereafter sent to the respective companies for their endorsement.

Though all the posters reflected the students' perception about the company's sustainability practices, only twelve posters based on specific judging criteria of creativity, concept, presentation and write up were selected for publication, which are presented in this Calendar.

The winning posters can be seen on the next page.

TECHNOLOGY
TOYOTA

Coca-Cola
Water Stewardship
Water
Coca-Cola

CUTTING THE CARBON FOOTPRINT

We impart Values..
TATA
TATA STEEL
TEACH VALUES
CREATE VALUES
PROVIDE VALUES
..Values stronger than Steel

Inspiring Change | Enhancing Value | Sustaining Life

BMW i
Farewell The Past
Welcome The Future
The Vision
O2

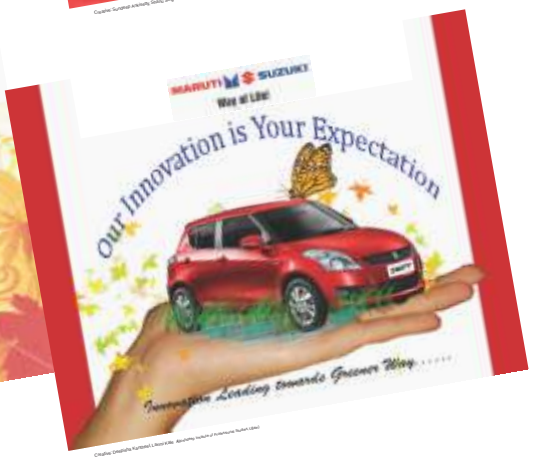
Striving to Deliver the Best
For your today & your child tomorrow.
IndianOil

TESCO
Every Little Helps

Healthy Future
Healthy People
Healthy Planet
Johnson & Johnson

Conservation
Recycling
SAVE WATER, SAVE PLANET
Water Positive for 9 years,
74,000 ha. of land irrigated
ITC Limited

gsk
GlaxoSmithKline
Encapsulating
Sustainability


MARUTI SUZUKI
Our Innovation is Your Expectation

Forthcoming Programmes

PSU Workshop

Date : 16.02.2012
Time :

Round Table Conference for Hazardous Waste Management

Date : April / May 2012
Time :

Workshop on "Office Safety"

Date : April 2012
Time : 9.30 am to 2.00 PM

Programmes organized under Sustainability Committee

Business Continuity Planning and Crisis Management Strategy: Interdependence between Employees, Business Partners and Third Parties

Date : 19.10.2011
Time : 9.30 am to 12 noon

Workshop on "Safety and Precautions for ATM users including banking frauds"

Date : 16.11.2011
Time : 4.00 pm to 5.30 pm

Workshop on "Improving Return on Investment (ROI) of Security Installations"

Date : 24.11.2011
Time : 9.30 am to 12 noon

Workshop on "Mapping and Computing Carbon Footprint: ISO 14064"

Date : 30.11.2011
Time : 9.30 am to 2.00 PM

Symposium on "Challenges and Opportunities of Preparedness & Response for Emergencies and Natural Disasters With a focus on Stakeholder Engagement " - in collaboration with Corporate Disaster Resource Network

Date : 2.12.2011
Time : 9.30 am to 2.00 PM

Panel Discussion on "Recent Environment and Safety Legislations"

Date : 14.12.2011
Time : 9.30 am to 2.00 PM

Business Sustainability: Economic Bottom line and Finance Professional [PLEASE PROVIDE MORE DETAILS]

Date : 13.01.2012
Time : 9.30 am to 12 noon

For details visit at :
http://www.bombaychamber.com/CommitteeEventsList.aspx?Flag=Past&CommitteeId=71