Chapter 1

Introduction
1.1 Introduction

India’s consumer confidence continues to be the highest globally and has improved in the second quarter of calendar year 2015 (Q2), riding on a positive economic environment and low inflation. Nielsen’s findings reveal that the consumer confidence of urban India increased by one point in the second quarter of 2015 from that in the preceding quarter. Urban India’s consumer confidence is 131 in the second quarter of 2015, up three points from 128 in the previous corresponding period. The current score helps India stay on top of the global consumer confidence index for the quarter and is followed by the Philippines (122) and Indonesia (120). Confidence in India has risen for the seven consecutive quarters.

Global corporations view India as one of the key markets from where future growth is likely to emerge. The growth in India’s consumer market would be primarily driven by a favorable population composition and increasing disposable incomes. A recent study by the McKinsey Global Institute (MGI) suggests that if India continues to grow at the current pace, average household incomes will triple over the next two decades, making the country the world’s fifth-largest consumer economy by 2025, up from the current 12th position.

There is no doubt that India is a huge market in the world. India’s gross domestic product (GDP) was measured as USD $ 2049.5 billion in 2014 and according to a report by Boston Consulting Group (BCG) and the Confederation of Indian Industry (CII), India’s robust economic growth and rising household incomes would increase consumer spending to US$ 3.6 trillion by 2020. The maximum consumer spending is likely to occur in food, housing, consumer durables, and transport and communication sectors. The report further stated that India's share of global consumption would expand more than twice to 5.8 per cent by 2020.

India’s market is consumer driven, with spending anticipated to more than double by 2025. The Indian consumer segment is broadly segregated into urban and rural markets, and is attracting marketers from across the world.
1.1.1 Market Size

The growing purchasing power and rising influence of the social media have enabled Indian consumers to splurge on good things. A study by US-based networking solution giant CISCO, reveals that in India, the second-largest smartphone market globally, the number of smartphones is expected to grow strongly to over 650 million by 2019. According to CISCO’s Visual Networking Index (VNI) global mobile data traffic forecast for 2014–19, in India, one of the world's fastest growing Internet market, the number of tablets is estimated to reach more than 18 million by 2019.

Rating agency CRISIL estimates that online retailing, both direct and through marketplaces, will grow threefold to become an Rs 50,000 crore (US$ 8.06 billion) industry by 2016. Also, the growth in Internet retail is expected to boost offline retail stores.

Following are some major investments and developments in the Indian consumer market sector:

- FMCG major Hindustan Unilever (HUL) announced a reorganization of its go-to-market operations from the traditional four sales branches to 14 consumer clusters in order to provide services to diverse consumers across channels and geographies. The company has termed the initiative as “Winning in Many Indias”.

- Hero Group is set to acquire a majority stake in direct-to-home devices manufacturer Mybox Technologies through its subsidiary Hero Electronix. The deal is the first step by Hero Group, which operates in numerous business verticals, towards entering the consumer electronics market.

- In a series of strategic buy-outs this year, SnapDeal, which acquired online utility service provider Freecharge and financial services portal RupeePower, has signaled its ambition to build a service platform so as to stand out in an online marketplace, which until now was dominated by an array of products from cameras to apparel and furniture.

- Chinese technology major Huawei is entering the consumer broadband networking segment in India, with a range of devices aimed at homes and SOHO customers. With the aim to strengthen its position in the Indian market, online cashback and coupon site CashKaro.com plans to list about 50 global retailers over the next six months, according to one of its founders.
Smartphone brand Gionee is entering the urban market in a big way through tie-ups with India’s top large format retailers. The company’s smartphones will now be available at stores such as Spice, The Mobile Store, Mobiliti World, Jumbo Electronics, Croma Retail and Planet M retail, expanding its overall footprint to over a thousand retail stores.

The Government of India has allowed 100 per cent Foreign Direct Investment (FDI) in the electronics hardware-manufacturing sector through the automatic route. The government has also enabled 51 per cent FDI in multi-brand retail and 100 per cent in single-brand retail so as to attract more foreign investment into the country.

With the demand for skilled labor growing among Indian industries, the government plans to train 500 million people by 2022 and is also encouraging private players and entrepreneurs to invest in the venture. Many government, corporate and educational organizations are working towards providing training and education to create a skilled workforce.

According to the TechSci Research report titled "India Machine-to-Machine (M2M) Modules Market Opportunities & Forecast, 2020", the M2M modules market in India is expected to exceed US$ 4.4 billion by 2020 (TechSciResearch, 2015). The market research firm stated that over the last few years, India has become one of the fastest growing markets for M2M modules in Asia-Pacific (APAC).

Research firm Nielsen projected that rural India’s FMCG market will surpass the US$ 100 billion mark by 2025. Online portals are expected to play a key role for companies trying to enter the hinterlands. The Internet has contributed in a big way, facilitating a cheaper and more convenient means to increase a company’s reach.

As per a joint report by Consumer Electronics and Appliances Manufacturers Association (CEAMA) and consultancy firm EY, India is expected to become the fifth largest consumer durables market in the world by 2025. While the urban market accounts for the majority share (65 per cent of the total revenue) in the consumer durables sector in India, future growth is expected to be driven by the rural market, as the government increases its focus on rural electrification," the report further said. Per capita income in India is expected to expand at a CAGR of approximately 6.6 per cent during 2013-19, from $1,500 in 2013 to $2,200 in 2019. At present, the consumer
The electronics segment constitutes 17 per cent of the total Indian electronic products, which is the third-highest share.

The segment consists of TV, DVD players, Set Top Boxes, home theater systems, MP3 players, audio equipment, digital cameras and household appliances as washing machine, ACs, microwave, refrigerators etc.

Moreover, the retailers are also providing easy financing options to the consumers by partnering with the banks. "Organized retail industry is expected to cover a market share of 15 to 18 per cent by 2020, from around 3 per cent currently and would not only streamline the supply chain but also facilitate increased demand," the report said.

According to CEAMA estimates, the LED/LCD market is expected to grow at around 20 per cent from 2014 till 2020, while refrigerators are expected to grow at around 10 per cent in that period.

The growth of Air-conditioners are expected to rise between 6 to 7 per cent during 2014 to 2020, while washing machines are expected to grow up to 9 per cent during the period. However, Set Top Boxes are the one which is expected to grow fastest on account of digitization of the cable delivery system.

"The total STB market was 18.4 million units in 2012 and is expected to grow at a CAGR of 28.8 per cent to reach 39.4 million units by 2015. The number of DTH subscriber in India is expected to increase from 73.1 million in December 2014 to 200 million by 2018," it added.

However, the industry is facing challenges such as rising freight cost, infrastructure bottlenecks and under-developed ecosystems, among others.

The consumer electronics market is expected to increase to US$ 400 billion by 2020. The production is expected to reach US$ 104 billion by 2016. The sector is expected to double at 14.7 per cent compound annual growth rate (CAGR) to USD 12.5 billion in FY15 from USD 6.3 billion in FY10. Urban markets account for the major share (65 per cent) of total revenues in the consumer durables sector in the country. Demand in urban markets is expected to increase for non-essential products such as LED TVs, laptops, split ACs and, beauty and wellness products. In rural markets, durables like refrigerators as well as consumer electronic goods are likely to witness growing demand.
in the coming years as the government plans to invest significantly in rural electrification.

The Government of India has increased liberalization which has favored foreign direct investments (FDI). Also, policies such as National Electronics Mission and digitization of television and setting up of Electronic Hardware Technology Parks (EHTPs) is expected to boost the growth of this sector.

Also, the demand from rural and semi-urban areas is projected to expand at a CAGR of 25 per cent to US$ 6.4 billion in FY15, with rural and semi-urban markets likely contributing majorly to consumer durables sales.

Revenues of consumer durable industry is also growing at healthy pace. The consumer durable sector’s revenue in FY12 was found to be USD 7.3 billion. Healthy growth has been registered for consumer durable industry with a CAGR of 10.8 per cent over FY 03-12. The industry was expected to double at 14.7 per cent CAGR to USD 12.5 billion in FY15 as compared to USD 6.7 billion in FY10.

**Figure 1: CAGR – Compounded Annual Growth Rate (Estimates)**

Income groups in India are classified, based on annual household income, in five broad categories (based on year 1995-96 indices); Lower Income group, three subgroups of
Chapter 1: Introduction

Middle Income group, and Higher Income group. Consumer spending on durables is expected to increase as the household income in top 20 booming cities in India is projected to grow at an annual growth rate of 10 per cent over the next eight years. Today, it has become easy for Indian consumers to afford expensive consumer goods due to easy availability of loan through credit cards, loan over phones, zero equated monthly installment (EMI) charges.

The Indian consumer durable segment can be segmented into three groups:

**Table No. 1**

<table>
<thead>
<tr>
<th>Characterization of Goods</th>
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<tr>
<td><strong>White Goods</strong></td>
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<tr>
<td>• Air Conditioners</td>
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<td>• Refrigerators</td>
</tr>
<tr>
<td>• Washing Machines</td>
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<tr>
<td>• Sewing Machines</td>
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<tr>
<td>• Watches and Clocks</td>
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<tr>
<td>• Cleaning Equipment</td>
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<tr>
<td>• Other domestic appliances</td>
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The above segments are characterized by intense competition due to emergence of new companies (MNCs), and introduction of price discounts and exchange schemes due to state of the art manufacturing facilities. Indian consumer durable segment is dominated by MNCs as near to 65 percent market share holding is with these companies in color television segment. In recent decades, India has witnessed rising income levels, shifts in consumption pattern and changes in life style, easy availability of credit (loans) and increase in the awareness level of the consumers which has resulted in the increase in the demand of the consumer durables.

**1.2 Environmental Issues in Focus**

A lot of hype has been witnessed in past few years, related to the environmental issues. The campaign against the Enron Power Project, which was referred as Narmada Bachao
Chapter 1: Introduction

Andolan; the ban on the usage of plastic bags, the cleaning and protection of pollution in river Ganga (The Ganges Action Plan), implementation of emission norms such as Euro II, Euro III and Euro IV norms, and various judgments by the Supreme Court of India are just few examples of the rise in the concern towards environmental issues and protection of the environment (Jain & Kaur, 2004). Threat of climate change and its consequences are considered as the mainframe concern globally. To stabilize the greenhouse gas concentrations in the atmosphere, United Nations Earth Summit was organized at Rio de Janeiro in 1992 where a treaty on climate change was exercised. The treaty focused on reduction of emissions at any cost. This treaty was signed by more than 186 countries. However, in developing economies like India, the evolution of green economy is in raw stage. This is due to the fact developing economies focus on increasing the national income so that more development projects can be undertaken with a goal of lifting people out of poverty.

India’s National Action Plan on Climate Change (GovernmentOfIndia, 2008) has mentioned that warming of the earth’s climate system in comparison with the time frame of 1850 is unequivocal. It was reported that Carbon dioxide concentration in the atmosphere has increased from 280 ppm to 379 ppm in 2005. The increase in temperature during 2090-2099 in comparison to 1980-1999 is estimated to be in the range of 1.1 degree Celsius to 6.4 degree Celsius. This could be one of the main reasons for the impact of climate change on availability of fresh water, acidification of the oceans, food production, flooding of coastal areas and increase in the water borne diseases associated with the extreme weather events.

Due to industrial revolution, a huge spurge in the growth of industries was witnessed, which resulted in the increased concentration of greenhouse gases in earth’s atmosphere. The increased concentration of greenhouse gases in the atmosphere results in increased temperature and have a large negative impact on the natural environment. At the same time, India is witnessing tremendous growth in its population and this will lead to strain our natural resources; worsening the situation of climate change. Changes in climate will have adverse impact on human health. Increase in temperatures will lead to illness and mortality rate may rise. The supply of food and water will be an area of concern under these situations.
India is one of the largest and fastest growing economy in the world. Ours is a mixed economy with prevailing market structures and have witnessed major changes from time to time. It has now become one of the leading emerging economies in the world. Now the Indian government along with the corporate world have started addressing the issues of climate change and other environmental concerns. India has shown tremendous improvement in undertaking programs towards protection of environment such as water conservation, focusing on the generation and use of renewable energy, and waste management etc.

Ample evidence is available in the past that consumers’ concern toward the environment is one of the major factor that have strong influence on their purchase decisions (Zimmer et al., 1994). Due to the growth of Indian economy, the consumers’ purchasing power has increased due to higher levels of disposal income. Change in the dynamics of urban customers (such as due to the penetration of internet and social media, a radical change is witnessed in the purchase habits of the consumers) have attracted many researchers and have led the organizations to believe that consumers consumption pattern is changing and now they are demanding environment friendly products in comparison with traditional products. Growth in green consumerism is witnessed due to increase in the exposure to the media, increased level of awareness, availability of more number of green substitutes for traditional products, increased usage of green themes in advertising of products (Strong, 1998). Green consumers are limiting their use of natural resources with the aim of environment protection. Consumers are now taking the personal responsibility of the environment protection and are now conserving the scarce resources in their use. Decicco & Thomas (1999) stated that organization must strive for concrete information regarding the impact of product on the environment for implementing market-oriented approaches for the protection of the environment as the green rating of the product helps to shape the consumers’ perception towards the product and also build positive corporate image in the marketplace.

More global players are entering into Indian markets, looking at the economic growth of the country. Indian firms have also shown their competence and have equipped themselves to provide the products of requisite quality and standards. In recent decades, a shift in the consumption pattern is identified by the marketers in India. Today’s marketer operates in highly competitive environment. They need to be innovative to
sustain in the market which is already being explored by global players. Excelling and being above the competition is need of the hour. Businesses need to constantly assess the latest and most attractive marketing trends. Marketing of green products is in transformation phase and it works simultaneously with exchanges between consumer and business houses, and works to improvise the systems to integrate it with the protection of environment (Porter & Reinhardt, 2007). In consumer durable segment, marketers need to be aggressive in communications and promotions, as the customers of consumer durable goods lack loyalty to one organization or brand, and shift from one brand to another at frequent pace. Marketers need to work hard to communicate about the availability of green product and its features, need to broaden their activities, and have to find out various means to communicate the benefits of value and cost, which will help to change the way a business is looked upon, their interaction with human beings and the environment. They need to reframe the consumption with the focus to achieve sustainable satisfaction of human needs and wants. Marketing trends can be found out be continually researching about the changes in consumer behavior in the marketplace. By identifying the changes in the consumer behavior, the businesses can modify their offering to the consumers. Since the beginning of the 21st century, environmental problems have been considered as the most important concerns that will affect the life of the generations to come (Yakup & Sevil, 2011).

Today, earth is facing more environmental issues than ever before; hence it is the moral duty of the organizations to produce environmentally friendly products and to market themselves as environmentally friendly. The carbon emissions from the manufacturing facilities around the world is on rise and is expected to rise at rapid rate due to globalization and intense competition amongst the organizations. Various laws are framed by governments of various countries towards reducing carbon emissions and carbon responsibility has become popular on global level. Government has also framed environmental laws for the protection of the environment. Carbon responsibility is now taken seriously by the organizations not only in India but globally. The result is that many Indian organizations have taken this seriously and have started working towards protection of the environment.

World has witnessed several movements showing concern towards environment protection. Apart from government laws and social movements, various economic factors also play important role in environment protection. Both, companies and
consumers, can promote the use of environmentally friendly products and provide solution to the environmental problems within the regulatory framework of the country. Consumers’ consumption pattern (how consumers search, select and use the resources for maintain their lifestyle) and marketers’ efforts in promoting their products have been considered both as the causes and remedies for the degradation of the environment (Fisk, 1974). Going green and environment protection has been a main issue and goal both in the academic and the business worlds for the last four decades. Nowadays, innovations toward environmentally friendly life styles are societies’ main concern. This is because the nations today are experiencing global warming and climate change. Consumers have become more enlightened on environmental issues and negative impact of uses of products and services on environment and have shown concern towards environment protection in last decade. The reason for this concern could be visible climatic changes, global warming and increasing air and water pollution. The result is the increased demand of environmentally friendly products and the evolution of a new concept “Green Marketing”. Green Marketing, as defined by American Marketing Association is the marketing of products that are presumed to be environmentally safe. A wide range of activities are covered under green marketing, which includes modifying the product and/or production process, as well as modifying the packaging, advertising or removing any activity that impacts the environment negatively.

For sustainability and growth, a marketer has to consider innovative environment friendly trends (Singh & Kushwaha, 2010). Green marketing is also termed as Environmental Marketing or Ecological Marketing. Green marketing has emerged as a popular promotional strategy due to increased consumer awareness and concerns. Thus using Green Marketing by the organizations not only provides an opportunity to meet consumer expectations and address their environmental concerns, but also to gain a competitive advantage and a strong consumer base (Renfro, 2010).

Consumers worldwide, have also shown willingness to favor environmentally conscious products and companies manufacturing such products, however action to do so in reality are debatable (Mendleson & Polonsky, 1995). In spite of huge interest in green marketing by researchers and organizations, demand of green products is not as high as expected. Mintel (1995) found a significant gap between consumers concern and actual green purchasing. It is found that still there are considerable barriers towards
the diffusion of more ecologically oriented consumption styles. It indicates a gap between what people say and what actually they do.

In India, green marketing, has now evolved as one of the major area of interest as it may provide competitive advantages. However, it requires investment in terms of technology enhancement, process modification, communicating benefits to customers and many more. India has witnessed shift in the consumption pattern in recent decade due to increase in the purchasing power parity and per capita income of Indian Household. Another reason for shift in consumption pattern is opening of Indian markets to global players as part of India’s global business policy which has led global players to enter and serve Indian markets with superior technology products at much competitive prices as compared to that of their Indian counterparts. Due to this, Indian consumers are now demanding good quality products at sustainable prices.

Many firms in India have now started marketing themselves as green organizations due to certain government regulations and shift in consumer preferences worldwide. They have started exposing their customers to various green claims associated with their products, with a commitment to protect the environment (Gallego-Álvarez et al., 2010). These firms are differentiating themselves by showing commitment towards environmental protection in spite of consumers being skeptic about green claims made by the organizations. However, as stated earlier, significant gap was found in what consumers say and what they do and the demand of green products worldwide is not as high as expected. In terms of green awareness, significant difference is found between developing and developed countries (Tantawi et al., 2009). In western countries, awareness and sustainable consumption is found to be driven by education and high level of awareness of the consumers, yet there are evidences that barriers exists in increase in the green consumption patterns of the consumers. This is due to the effect of cultural, political, economic and infrastructural factors.

From the literature review, it was found that in India, green marketing concept is in nascent stage. The concept of green marketing has not picked up in India in spite of increase in the literacy rate. It was also found that many people are not buying green products even after having the awareness about the state of environment and various environmental concerns. At the same time, not much research with respect to green marketing has been done in India and there is a question about the awareness and
Chapter 1: Introduction

consumption pattern of Indian consumers. The attitude of Indian consumers towards green products and the relationship between attitude and behavior is also questionable. Marketers have become aware about the shift in the consumption pattern of the consumers in recent times and about the impact of their products and policies on environment degradation. Initially the environmental degradation was linked with the organizations business practices; however the onus lies with the consumers as well. Hence it is very important from the organizations point of view to identify the green consumers or segmenting the consumers to green or non-green. It is believed that consumers adopt one which is understood easily by them. The same applies to green marketing. The aim of the green marketing is to enhance the appeal of consumers towards green products for both types of consumers - those who have already started using green products and those who have not yet started consumption of green products. The advertisements or promotional campaigns for green products must communicate the information regarding green features of the products and must be easy to understand by the consumers. However, this is not an easy task for the marketers. As green marketing is different from the marketing in traditional way, marketers need to know the factors that persuade the consumers to buy the green products to assess the consumers’ green behavior.

1.3 Environment Regulations in India

Parliament of India has enacted many laws towards the protection of environment and prevention of pollution. Important acts related to environment regulations in India are as given below:

a. The Water (Prevention and Control of Pollution) Act, 1974
b. The Air (Prevention and Control of Pollution) Act, 1981
c. The Environment (Protection) Act, 1986
d. The National Environment Tribunal Act, 1995
e. The National Environment Appellate Authority Act, 1997
f. National Green Tribunal Act, 2010

1.3.1 The Water (Prevention and Control of Pollution) Act, 1974

The Water (Prevention and Control of Pollution) Act was formulated with the following objectives (Ministry of Environment, 1974):

a. To prevent and control the water pollution.
b. To maintain wholesomeness of water.
c. To establish control on state boards for prevention and control of pollution.
d. To empower the boards for prevention and control of pollution.
e. To provide penalties for contravention of the provisions of the act.
f. To establish control on state water testing laboratories.

State and Central Pollution Control Boards were established to curb the growing problem of environmental pollution. State and Central Pollution Control Boards works in coordination with one another to coordinate technical assistance and to plan and organize training programs related to pollution control and establishment of laboratories for testing.

The boards also plan and control/abate water pollution, provide advice to state governments on matters of water pollution, collect and spread information to the concerned authorities. Their span also include to investigate and conduct research in matters of pollution, to inspect sewerage or trade effluents, to lay down standards of sewerage/trade effluents etc. This act empanelled State governments with the powers to restrict the application of the Act to certain areas. The pollution control board have the powers to enter any factory and inspect for the water pollution. It can prohibit the use of stream or well for disposal of polluting matter. The act also empanelled the control board with the power to impose penalties on defaulting parties.

1.3.2 The Air (Prevention and Control of Pollution) Act, 1981

Under this act, controlling and abatement of pollution is the responsibility of the Central Pollution Board (THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981). It provides advices and assistance to Central government for improvement of Air quality. The act was formed with the objective to control and reduce the air pollution. Central Pollution Board co-ordinates the activity with state pollution control boards.

This act also provides the emission norms for control of pollution from automobiles. The act provides the power to the board which can restricts certain industries on the basis of air pollution. It declares the level of air pollutants as per standards. Just like Water Act, this act also provides power to pollution control boards to enter and inspect the factory.
1.3.3 **The Environment (Protection) Act, 1986**

The Department of Environment was established in India in 1980 (THE ENVIRONMENT (PROTECTION) ACT, 1986). This later became the Ministry of Environment and Forests in 1985. The EPA (Environment Protection Act), 1986 came into force soon after the Bhopal Gas Tragedy. It was passed in March 1986 and came into force on 19th November 1986. The requirement of the act was felt because of increase in the number of industries in rural areas, lack of facility of disposal of harmful gases from the industries, lack of methods of disposal of waste materials/chemicals/heavy metals, lack of methods of treatment of harmful water and due to lack of suitable methods for safety, prevention and hazards of persons. The act was established with the following objectives:

a. Manage the use, development and protection of the environment in a way that will enable people for their economic, social and physical well-being and for their health and safety.

b. Safeguarding the life-supporting capacity of air, water and land.

c. Avoiding, remedying any adverse effects of activities on the environment.

d. To prevent, reduce, minimize, and where practicable, eliminate harm to the environment.

e. To ensure that all reasonable and practicable measures are taken to protect, restore and enhance the quality of the environment.

f. To promote industry and community education and involvement in decision about protection, restoration and enhancement of environment.

g. To co-ordinate activities, policies, and programs necessary to prevent, reduce, minimize or eliminate environmental harm and ensure effective environmental protection, restoration and enhancement.

According to this act, the central government have the power to take all such measures as it deems necessary for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. These matters include

i. Coordination of actions by the State Governments, officers and other authorities.

ii. Planning and execution of nationwide program for prevention, control and abatement of environmental pollution.
iii. Laying down standards for the quality of environment in its various aspects.

iv. Laying down standards for emission or discharge of environmental pollutants from various sources.

v. Restriction of areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards.

vi. Laying down procedures and safeguards for the prevention of accidents which may cause environmental pollution and remedial measures for such accidents.

vii. Laying down procedures and safeguards for the handling of hazardous substances.

viii. Examination of such manufacturing processes, materials and substances as are likely to cause environmental pollution.

ix. Carrying out and sponsoring investigations and research relating to problems of environmental pollution.

x. Inspection of any premises, plant, equipment, machinery, manufacturing or other processes, materials or substances and giving, by order, of such directions to such authorities, officers or persons as it may consider necessary to take steps for prevention, control and abatement of environmental pollution.

xi. Establishment and recognition of environmental laboratories and institute to carry out the functions entrusted to such environmental laboratories and institutes under this act.

xii. Collection and dissemination of information in respect of matters relating to environmental pollution.

xiii. Preparation of manuals, codes or guides relating to prevention, control and abatement of environmental pollution.

xiv. Such other matters as the Central Government deems necessary or expedient for the purpose of securing the effective implementation of the provisions of the act.

Section 15 of the Act provides the provision of penalty. It provides that any person who fails to comply or contravenes any of the provisions of the act, or the rules
made or orders or directions issued under the act or rules, then for such failure or contravention, the person shall be punishable:-

i. With imprisonment for a term which may extend to 5 years.

ii. With a fine which may extend to one lakh rupees.

iii. With both.

In case the failure or contravention continues after the conviction for first failure or contravention, an additional fine which may extend to five thousand rupees for every day, can be imposed for a period during which failure or contravention continues. If the failure or contravention continues beyond a period of one year after conviction, the offender shall be punishable with imprisonment for a term which may extend to seven years.

1.3.4 The National Environment Tribunal Act, 1995

This Act provides for strict liability for damages arising out of any accident occurring while handling any hazardous substance and for the establishment of a National Environment Tribunal for effective and expeditious disposal of cases arising from such accident, with a view to giving relief and compensation for damages to persons, property and the environment and for matters connected therewith or incidental thereto (THE NATIONAL ENVIRONMENT TRIBUNAL ACT, 1995).

1.3.5 The National Environment Appellate Authority Act, 1997

This act came into force on 30th day of January, 1997 (THE NATIONAL ENVIRONMENT APPELLATE AUTHORITY ACT, 1997). This act was established for the person who is aggrieved by an order granting environmental clearance in the areas in which any industries, operations or processes or class of industries, operations and processes shall not be carried out or shall be carried out subject to certain safeguards, may within thirty days from the date of such order, prefer an appeal to the Authority in a prescribed form. On receipt of an appeal preferred under sub-section (1), the Authority shall, after giving the appellant an opportunity of being heard, pass such orders, as it thinks fit. The Authority shall dispose of the appeal within ninety days from the date of filing the appeal, provided that the Authority may for reasons to be recorded in writing, dispose of the appeal within a further period of thirty days.
1.3.6 **National Green Tribunal Act, 2010**

This act came into existence on 2\textsuperscript{nd} June 2010 (Ministry of Law and Justice, 2010). This act was established for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to person and property and for matters connected therewith or incidental thereto.

Rational behind National Green Tribunal Include:

i. Increasing complexity of environmental litigation.

ii. Frequent need to seek assistance of environmental experts.

iii. Mounting pendency in courts.

iv. Lack of dedicated jurisdiction.

v. Rigidity of existing court procedures to deal with environmental cases.

vi. To maintain proper balance between sustainable development and environmental regulations.


The tribunal have jurisdiction on all civil cases where:

i. A substantial question relating to environment is involved, and

ii. Such question arises out of the implementation of the enactments specified in Schedule I appended to NGT Act.

The tribunal shall settle disputes, provide relief and compensation and may order restitution of damaged environment.

1.4 **Kyoto Protocol**

With the aim to tackle the issue of global warming, United Nations Framework Convention on Climate Change (UNFCCC) developed a protocol which was termed as “Kyoto Protocol”. The UNFCCC is an international environmental treaty with the prime aim of achieving “stabilization of concentration of greenhouse gases in the atmosphere to a level which would prevent dangerous anthropogenic interference with the climate system”. The so called Kyoto Protocol was initially adopted on 11\textsuperscript{th} December 1997 in Kyoto, Japan. Till 2010, 191 countries have signed and ratified this protocol. There are 37 countries which comes under the category of Annex I countries and these 37 Annex I countries have committed themselves for the reduction of four greenhouse gases viz., Carbon dioxide (CO\textsubscript{2}) Methane (CH\textsubscript{4}), Nitrous Oxide (N\textsubscript{2}O),
and Sulphur Hexafluoride (SF$_6$) along with Hydrofluorocarbons and Perfluorocarbons produced by them. These Annex I countries have committed to reduce their greenhouse gases emission by 5.2 percent from the level prevailing in 1990. The protocol allows the Annex I countries for various flexible mechanisms such as “emission trading”, clean development mechanism (CDM) to meet their greenhouse gases emission limitation. This allows Annex I countries to purchase greenhouse gases emission reduction credits from some elsewhere, by means of financial exchanges.

As per Kyoto protocol (UNFCCC, 1998), each Annex I country is bound to submit an annual report of inventories of sources of greenhouse gases. These countries are required to nominate an authorized personnel who will be responsible to create and manage the greenhouse gases’ inventory. Each Annex I country is also required to establish a designated national authority responsible to manage its Kyoto obligations.

The countries who have signed the protocol are allowed to use credits generated either by sequestering carbon or by reducing carbon emissions, to reach reduce their reduction in the target of emissions. Carbon credits can be produced by these countries as per Joint Implementation (JI), Article 6 of the Kyoto Protocol. Clean Development Mechanism of the Kyoto Protocol provides flexibility to Annex I nations to offset some of their emissions by investing in projects in non-Annex I nations. The CDM is a carbon-neutral process which allows the Annex I and non-Annex I countries to co-operate and carry out a project in non-Annex I country that will sequester carbon. This helps Annex I countries to meet their emission reduction targets and non-Annex I countries are benefited in terms of meeting their sustainable development goals.

1.5 **Introduction to the term “Green”**

Green marketing is generally perceived as of a brand which is advertising its environmental characteristics. People associate words like “recyclable”, “bio-degradable”, “organic”, “environmental friendly” or “100 percent natural” when it comes to defining green. However, this is only the visible aspect of green marketing and green marketing is much broader term. Green marketing consists of all the activities that are designed to generate and facilitate any exchanges intended to satisfy the needs of the human beings in such a manner that this satisfaction occurs with minimum detrimental impact on the natural environment. In short, we can say that, anything/any
act done in such a manner that it causes minimum impact to the environment, is covered under green practice.

Green marketing covers a wide range of activities which includes modifying the product, making changing in production process and packaging, as well as modifying advertisements or removing any activity that impacts the environment in a negative way.

Defining the term green is not an easy task. There is no consensus about what exactly can be termed as green. However, there are certain characteristics of the products which help them to be defined as green due to them being environmentally friendly. Based on the characteristics of environmentally friendly, the products which cause minimal detrimental impact on the natural environment are considered as green products. Green products are also termed as ecologically safe or environmentally friendly products. And the marketing of green products is termed as Green Marketing. It is also termed as environmental marketing or ecological marketing. It is considered as one of the key components in communicating about the green products/practices/efforts to the customers/stakeholders of the organization (Cronin Jr. et al., 2011). Many researchers have given various definitions of green marketing. Green marketing is considered as a style of marketing aroused in response to the increased concern towards the state of global environment (Peattie & Crane, 2005).

Another author Polonsky (1994) has defined green marketing as “green or environmental marketing that consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs with minimal detrimental impact on the natural environment”. American Marketing Association, has defined green or ecological marketing as the marketing of products that are presumed to be environmentally safe. Green marketing considers the impact on natural environment due to marketing activities undertaken by the corporates and its significance in corporate decision making (Chamorro et al., 2009). It is an attempt to characterize a product as being environmentally friendly. It states that marketing of a product is not a part of a business, only to satisfy the needs of the consumers; rather it also considers the society’s interest in general. Green marketing also plays an important role in implementing corporate social responsibility activities (Dahlsrud, 2008). Green
marketing, like the conventional marketing, is aiming at influencing the purchase decisions of the consumers, but it must incorporate features such as environmental issues and their remedies, social responsibility and protection of environment. Just as conventional marketing focusses on making the consumer loyal by offering incentives (such as loyalty bonus) associated with the purchase of conventional product, green marketing focusses on doing the same but by presenting itself as a socially responsible brand creating awareness amongst the consumers about the state of environment and its protection by limiting the use of conventional product which are not eco-friendly. Thus wide range of activities are covered under green marketing, which includes modifying the product, making changes in the production process and packaging, as well as modifying advertising or removing any activity that impacts the environment in negative way. Although the wordings of the definitions presented above are different but they express similar concepts.

1.6 History of Green Marketing
The roots of the green marketing can be traced back to 1970’s which spawned the ecological marketing concept (Baker, 2003). This is considered to be the first phase of evolution of green marketing. During this phase, the concern for environmental problems was given highest importance and the marketing activities were directed to provide remedies for the said problems. In the second phase, Green Marketing came into prominence in the late 1980s and early 1990s and the focus was on developing clean technology and designing innovative and environment friendly products causing minimum impact on the natural environment. However, the first book which was titled as “Ecological Marketing” was the outcome of first workshop on “Ecological Marketing”, held by American Marketing Association (AMA) in 1975. However Green Marketing acquired an eminent status since early 1990s. In late 1990s and early 2000, the concept of sustainable green marketing came into prominence, where focus was shifted towards sustainability of green marketing owing to high cost of green technology and green products.

There has been a mention regarding green consumers and green consumerism in 1970s and 1980s. Henion & Kinnear (1976) defined green consumers as environmentally conscious consumers while Antil (1984) described green consumerism as a specific type of socially conscious consumer behavior with prime focus on protection of
environment. Green consumerism was described as a form of “pro-social” consumer behavior (Wiener & Doescher, 1991).

1.7 Need for Green Marketing

As the resources are limited and human needs and wants are unlimited, resources has to be utilized economically and in environment friendly way. Various studies support the assertion that consumers today prefer environmentally safe products and have a positive disposition towards companies following such practices. Ritchi & McDougall (1985) emphasized that consumers are showing pro-environmental behavior due to social pressures to be green.

A strong willingness is shown by consumers to favor environmentally conscious products and companies as per various opinion polls taken in US and elsewhere, however action to do so in reality are debatable (Mendleson & Polonsky, 1995). In spite of huge interest in green marketing by researchers and organizations, demand of green products is not as high as expected (Mintel, 1995) found a significant gap between consumers concern and actual green purchasing. It is found that still there are considerable barriers towards the diffusion of more ecologically oriented consumption styles.

According to Michael J Polonsky, environmental marketing has been perceived as an opportunity by the organizations to achieve their objectives [stated by (Keller, 1987), (Shearer, 1990)]. It was believed that organizations have moral obligation to serve the society in more environmental friendly way [ (Davis, 1992), (Freeman & Liedtka, 1991), (Keller, 1987) and (Shearer, 1990)]. Green marketing must focus on two objectives. The first objective is improved environmental quality and the second objective is the satisfaction of the customers in sustainable way. If any one of the objective is misjudged or the second one is over emphasized, it may lead of “green marketing myopia” (Ottman et al., 2006). Firms are also forced to become more socially responsible due to the laws laid by the government towards the protection of the environment. Firms are also pressurized by the environmental activities adapted by competitors that demand the firms to change their marketing activities to environmental marketing activities.

Consumers are substantially aware about green products; however applying green marketing practices in business operations is not an easy task (Juwaheer, 2005).
Antonio et al., (2009) suggested that due to environmental consciousness that has evolved over time, studies on green consumerism will be the main focus point in future leading to identifying the consumer attitudes, behaviors and intentions. Braimah & Tweneboah-Koduah (2011) studied Ghanaian consumers and have found low level of awareness towards green marketing issues which affected that purchase decision of the consumers. Price of green products was also found to be one of the factor that influence the purchase of green products. However, it was found that young consumers are more likely to be influenced by green issues. Cherian & Jacob (2012) found that consumers lack green knowledge and because of this low awareness, organizations are still not focusing towards development of green products.

In addition to steps taken by governments and social movements, economic factors have an important role to play in the protection of the natural environment: both companies and consumers since – through their everyday decisions – they can promote or hinder solutions to environmental problems within the framework of the developed regulatory system. Traditional marketing is also blamed for ecological problems, because:

- “The consumer is king” approach leads to the overconsumption of goods;
- The system ignores environmental factors;
- The stress is on the primacy of the satisfaction of needs by material goods and social status is demonstrated by material goods;
- It is characterized by short-term profit maximization and turnover centricity;
- Product life cycles are shorter and shorter due to the resource-wasting fashion.

The environmentally friendly products were considered to be something new and almost exotic by consumers. Alert players on the markets realized this particular window of opportunity and saw the possibility of launching new, environmentally friendly products and services that were charged for at a higher price (Peattie & Crane, 2005). Companies have realized that becoming environmentally friendly may be a profitable way to differentiate themselves from their competitors as well as to create a better company image. In turn, this could lead to an even more appreciative attitude toward their advertising efforts (Davis, 1992). Research has shown that consumers want claims to be product specific and provide detailed information regarding their
true benefits, especially when dealing with advertising of green products (Davis, 1992). Also, due to government regulations and shift in the consumption pattern of the consumers, there is an increase in the pressure of environment protection which is affecting many businesses, firms have started to taken the constructive steps towards environment protection and have become more socially responsible and have started developing green products catering the demands of the environmentally conscious consumers. As the purchase of green products depends on many factors, the firms are striving hard to identify the determinants of green purchase behavior so that they can develop and communicate the marketing communication of the green product to the consumers in the best effective manner. However, this is not as easy as it seems to be as the research has shown that there is a huge gap what consumers say and what they do. The environmentally conscious consumers do not always end up purchasing green products (Mainiery, Barnett, Valdera, Unipan, & Oskamp, 1997). Researchers have also found that consumers’ engagement in pro-environment activities depends on the perception whether the outcome of the environmental activities are effective or not (Kim & Choi, 2005).

1.8 Importance of Green Marketing
Green marketing has evolved as one of the main area of interest for the academicians as well as for the organizations. One of the reasons for going green is that today marketing to consumer is totally different from what it was 20 years ago. Today’s consumers are much aware about green products and their benefits to the environment and preserving the environment is on the top of modern consumers’ mind. Conventionally marketing in these situations will not work. And hence it is very much crucial for the businesses to market themselves and their products as eco-friendly. This also enhances the sales of the organization (Ottman J., 1998).

Another reason for going green is that it is considered as the most mainstream and modern ways to market a product and an organization as consumers are now aware of the benefits of green products and they are much concerned about the environment. Hence any organization operating green practices in their processes and products is considered as environmentally friendly by the consumers and they prefer to purchase the products of the organization that are marketing themselves as green organizations.
According to Michael J Polonsky, organizations perceive environmental marketing as an opportunity to be used to achieve its objectives stated by Keller (1987) and Shearer (1990). They also believe that they have moral obligation to serve the society in more environmentally friendly way [ (Keller, 1987), (Shearer, 1990), (Freeman & Liedtka, 1991) and (Davis, 1992)]. Certain laws are laid by the government towards the protection of the environment that forces the firms to become more socially responsible. At the same time, the environmental activities adapted by competitors also pressure the firms to change their marketing activities to environmental marketing activities.

Green products have also proven to be recession proof through the economic downturn of 2008 an 2009. According to Datamonitor study (DataMonitor, 2009), in the first six months of 2009, there were over 500 new product launches of goods that claim themselves as eco-friendly.

1.9 Green Marketing Practices

Owing to global warming and various environmental concerns identified in recent decades, many of the organization have now adapted the green practices in manufacturing as well as in promoting and distribution of their products. Organizations have come forward towards the protection of the environment and have shown concern towards various environmental concerns and are now promoting themselves as green organizations.

Philips is marketing its Compact Fluorescent Light (CFL) as “Marathon”, highlighting its new “super long life”, energy efficient and U.S. EPA’s Energy Star label which added to its credibility and the product easily got accepted in the market.

**Figure 2: Green Product of Philips (CFL Marathon)**
Many consumer durable companies are now marketing their products with Energy Star Label stating that their use will reduce the energy consumption and consumers can save a lot of money on electricity consumption over a period of time.

**Figure 3: Energy Rating for Appliances**

For e.g. Godrej Consumer Products is marketing its product through green marketing and gives additional incentive to buyers to exchange their old products with latest green and environmental friendly products. The advertisements try to persuade the buyers to adopt a green lifestyle and contribute in development of a greener planet.

**Figure 4: Godrej eon Green Technology**

LG is marketing their air conditioners as green product saving up to 66% energy with its inverter V technology.
Many companies are now offering more eco-friendly alternatives for their customers such as recycled products are one of the most popular alternatives that benefit the environment. Companies are now focusing on not to use plastic bags, instead they use carry bag made up of recycled paper (for example, Titan, Tanishq have made a corporate policy that the goods will be delivered or given to consumers only in the carry bags made out of recycled paper). Idea Cellular Limited also launched an advertisement stating saving trees towards their corporate social responsibility.

New Delhi, Indian capital, was one of the most polluted cities until Supreme Court of India intervened to change to alternative fuels. In 2002, Supreme Court issued a directive to completely adopt CNG in all public transport systems to curb pollution.

Many greenhouse gas reduction markets have emerged over a period of time that can catalyze projects with important local, environmental, economic, and quality-of-life benefits. Kyoto Protocol’s Clean Development Mechanism (CDM) is one of the steps towards greenhouse gas reduction. One of the barrier in facilitating participation and broaden the benefits of Kyoto Protocol’s Clean Development Mechanism, is the lack of market awareness among stakeholders and prospective participants, somewhat complicated participation rules; and the need for simplified participation mechanism for small projects.
Chapter 1: Introduction

NDTV a major media group promotes green values through its campaign Greenathon. NDTV Greenathon (2012) as they call it organizes various philanthropic and social activities to raise awareness regarding environmental issues at the same time contribute to the social causes like electrification of rural areas etc. NDTV-Toyota Greenathon was launched in 2008 and it was India’s first ever nationwide campaign towards protection of environment. The aim of the campaign is make people aware about environmental issues. As part of this environmental campaign, the first Telethon was organized by NDTV in 2009 which was a 24 hour live fund-raising event where people came together to donate money which was used to support TERI’s Lighting a Billion Lives initiative by providing solar power to villages without electricity.

Nokia has come up with the concept of recycling of phones to save the natural resources to a large extent.

**Figure 6: Nokia Phone Re-cycling**

Xolo, a mobile phone manufacturer came up with the Safe E-waste Disposal Green Initiative. Under this program, the company encourages their customers and business allies to dispose their end of life electronics with responsibility and not to mix the e-waste with other household waste items, to have a minimum impact on the environment. They have also developed the take back system for the end customers who are willing to responsibly dispose their e-waste, by creating several drop off points.
Philips is marketing its Compact Fluorescent Light (CFL) as “Marathon”, highlighting its new “super long life”, energy efficient and U.S. EPA’s Energy Star label which added to its credibility and the product easily got accepted in the market.

In Real Estate sector, property developers are now using fly ash bricks to reduce soil erosion due to manufacturing of traditional bricks. They are also using solar panels to generate electricity for common passage lighting, elevators to reduce the traditional electricity consumption.

Footwear Design and Development Institute (FDDI) is focusing on re-use of tyres, using unconventional methods and innovatively creating footwear and accessories from old and recycled tyres.

1.10 Global Green Marketing Practices

McDonald’s replaced its clam shell packaging with waxed paper because of increased consumer concern relating to polystyrene production and Ozone depletion.

Tuna manufacturers modified their fishing techniques because of increased concern over driftnet fishing, and the resulting death of dolphins.

Xerox introduced a “high quality” recycled photocopier in an attempt to satisfy the demands of firms for less environmentally harmful products.

PepsiCo, made a company-wide commitment to the environment in terms of their business operation and since 2007, PepsiCo has implemented solar energy into their buildings and recycles water from their factories.

Timberland (a shoe and apparel company) used eco-friendly means in terms of the packaging of their products by making their shoe boxes out of 100% recycled material along with the introduction of a new label on their shoes, similar to a food nutrition label, which listed the shoe’s organic, recycled, and renewable materials content (Renfro, 2010)

1.11 Green Products

Actually there is no consensus on what exactly is green. There is no accepted definition of green product. However based on different definitions of green marketing, some
common characteristics of products generally accepted as green, including the products are:

1. Energy efficient (both in use and in production).
2. Water efficient (both in use and in production).
3. Low emitting (low on hazardous emission).
4. Safe and/or healthy products.
5. Recyclable and/or with recycled content.
6. Durable (long-lasing)
8. Renewable.
10. Third party certified to public or transport standard (e.g. organic, certified wood).
11. Locally procured.

1.12 Green Product Certification in India

India is considered as one of the fastest growing economy of the world. Alongside the economic growth, India has witnessed tremendous increase in the consumption of natural resources resulting in associated environmental impacts. Pursuing “Green” is the only way to address these challenges. Major manufactures of products and equipment have realized the need for becoming greener as it is believed that in future, there will be a wider application of green products, equipment and technology. Government of India has taken many initiatives for increasing the level of awareness among the consumers. However, the level of awareness among Indian consumers is very low in terms of the Ecomark. Even the Indian Standard Institute (ISI) mark was adopted only when it was made compulsory by the government. The availability of standards exists but there enforcement is not proper. BIS (Bureau of Indian Standards) mark is also not effective in terms of making the consumer aware. It can be concluded that standardization mark on the products does not attract consumers as the consumers’ level of awareness to these standards is almost negligible. It is assumed that the consumers are driven by the price of the product rather than there conviction towards environment protection.
To cater the needs of environment protection, Green Products and Services Council of CII-Sohrabji Godrej Green Business Centre has launched the Green Product Certification. The Confederation of India Industry (CII) works to create a sustainable environment conducive to the development and growth of our country. CII along with other government and non-government organizations have been working towards influencing and promoting green concepts. Their aim is to focus on the green buildings, energy-efficient technologies, generation and usage of renewable energy, management of solid waste, water conservation and developing measures for pollution control. CII is a non-government, not-for-profit, industry-led and industry-managed organization.

CII was founded in 1895 and has over 8000 members from the private as well as public sectors, and an indirect membership of over 200,000 enterprises from around 240 national and regional sectoral industry bodies. CII-Godrej GBC as part of its Green initiatives has formed the Environment & Recycling Council constituting committed and eminent experts from manufacturing and service sector. CII-Sohrabji Godrej Green Business Centre (CII-Godrej GBC) was established in the year 2004, as CII's Developmental Institute on Green Practices & Businesses, aimed at offering world class advisory services on conservation of natural resources. The Green Business Centre in Hyderabad is housed in one of the greenest buildings in the world and through Indian Green Building Council (IGBC) is spearheading the Green Building movement in the country.

The Green Products Certification adopts a holistic approach based on the life cycle of the product. The manufactures of the products are encouraged to implement green measures in product design, raw material, and manufacturing process, product performance during use and recycling/disposal for the product to be certified green by the Green Business Centre. The CII-Sohrabji Godrej Green Business Centre focusses on certification of green buildings, industrial products, technologies, consumer items and services. Various Independent organizations in India are also now certifying the products of various organizations as green products (CII-Sohrabji Godrej Green Business Centre, 2016). A green building is defined as the building which uses less water, optimizes energy efficiency, conserves natural resources, generates less waste and provides healthier spaces for occupants, as compared to that of a conventional building. Wide range of services are being offered by the council which includes, developing new green building rating programs, certification services and green
building training programs. The council is promoting green building concept in the country and it works closely with state governments, central government, World Green Building Council and bilateral multi-lateral agencies. The IGBC is providing green rating not only to residential buildings but also to new buildings, existing buildings, homes, schools, factory buildings, townships, SEZs, Landscapes and Mass Rapid Transit Systems also (CII, 2016)

**GRIHA Council** stands for Green Rating for Integrated Habitat Assessment. GRIHA Council, is mandated to promote development of buildings and habitats in India. GRIHA Council is an independent platform for the interaction on scientific and administrative issues related to sustainable habitats in the Indian subcontinent. It was founded by TERI (The Energy and Resource Institute, New Delhi) with support from MNRE (Ministry of New and Renewable Energy, Government of India) along with various experts in sustainability across India. TERI-GRIHA was initially developed by TERI for new commercial, institutional and residential buildings, however after adapted by MNRE as GRIHA, the rating system was further modified. The Centre for Environmental Sciences and Engineering, IIT Kanpur (2009), ITC Grand Chola and several projects of Infosys are 5 Star GRIHA rated (GRIHA, 2016).

**GreenCo Rating System** provides green ratings to the companies. The Green Rating System for Companies advocates a performance based approach. It aims to provide leadership and guidance to businesses on how to implement green strategies. These strategies are designed based on an iterative and consultative process that includes building partnerships with stakeholders and employing their cumulative knowledge and experience to address issues related to ecological sustainability. The rating system employs a holistic approach, wherein, it not only advises businesses on strategy and actions required but also provides mechanisms to quantify the impact of such actions and make course corrections if required. Weightages (points) are assigned to varying degrees of goals that are set for each of these parameters. For example, the points are awarded for reducing energy consumption. But points awarded will be higher for a business that demonstrates a higher degree of reduction in energy consumption compared to another business that demonstrates a lower degree of reduction in energy consumption. The companies at various levels of efficiency (for example; Top 5 energy efficient plants in the world) are also suitably recognized in this rating system. As a
first step the Greenco rating system is being launched on a pilot mode. The threshold criteria for certification levels are as given in below table no. 2.

### Table No. 2
**Threshold criteria for certification by GreenCo**

<table>
<thead>
<tr>
<th>Level</th>
<th>Points</th>
<th>Greenco Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>350 - 449 points</td>
<td>Certified</td>
</tr>
<tr>
<td>Level 2</td>
<td>450 - 549 points</td>
<td>Bronze</td>
</tr>
<tr>
<td>Level 3</td>
<td>550 - 649 Points</td>
<td>Silver</td>
</tr>
<tr>
<td>Level 4</td>
<td>650 - 749 Points</td>
<td>Gold</td>
</tr>
<tr>
<td>Level 5</td>
<td>&gt; 750 points</td>
<td>Platinum</td>
</tr>
</tbody>
</table>

### Table No. 3
**Criteria and weightages for certification are as given in below table:**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Parameters</th>
<th>Suggested Weightages (Points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Energy Efficiency</td>
<td>150</td>
</tr>
<tr>
<td>2</td>
<td>Water Conservation</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Renewable Energy</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>GHG Emission Reduction</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>Material Conservation, Recycling &amp; Recyclables</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Waste Management</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Green Supply Chain</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>Product Stewardship</td>
<td>75</td>
</tr>
<tr>
<td>9</td>
<td>Life Cycle Assessment</td>
<td>75</td>
</tr>
<tr>
<td>10</td>
<td>Others (Ventilation, Site Selection &amp; Innovation)</td>
<td>100</td>
</tr>
</tbody>
</table>

The rating is periodically communicated and available on the website of CII - Godrej GBC. Rating is reviewed annually to revalidate the rating as well as guide the organization towards improvement. The rating is valid for 3 years and at the end of 3 years the companies will have to apply for the rating again. In between, if the company feels that they have improved their performances they can apply for a fresh rating. During the period of rating, the companies can use 'Greenco' certified company in their letterheads and other corporate communications (GreenCo, 2016).

**ECOMARK:** The Ministry of Environment & Forests, Government of India have instituted a scheme on labeling of Environment Friendly Products through Gazette Notification No. 71 dated 21st February 1991. The scheme is operating on a national
basis and provides accreditation and labeling for household and other consumer products which meet certain environmental criteria along with quality requirements of the Indian Standards for that product. The Scheme is known as "ECOMARK". Any product which is made, used or disposed of in a way that significantly reduces the harm it would otherwise cause to the environment, are categorized as environment friendly product (Ministry of Environment and Forests, 1991). The scheme is voluntary and invites participation from common citizens and concerned industrial sectors in the larger interest of environment.

![Figure 7: Ecomark symbol](image)

The specific objectives of the ECOMARK scheme are as follow:

- To provide an incentive for manufacturers and importers to reduce environmental impact of products.
- To reward genuine initiatives by companies to reduce adverse environmental impact of their products.
- To assist consumers to become environmentally responsible in their daily lives by providing information to take account of environmental factors in their purchase decisions.
- To ensure citizens to purchase products which have less harmful environmental impacts.
- Ultimately to improve the quality of the environment and to encourage the sustainable management of resources.

There are three stages leading to the award of the "ECOMARK":-

1. A steering committee, set up in the Ministry of Environment and Forests, to determine the product categories for coverage under the scheme and also formulate strategies for promotion, implementation, future development and improvements in the working of the scheme.
2. A technical committee, set up in the Central Pollution Control Board, to identify the specific product to be selected and the individual criteria to be adopted, including, wherever possible, inter-se priority between the criteria if there be more than one.

3. The Bureau of Indian Standards to assess and certify the products and draw up a contract with the manufacturers, allowing the use of the label, on payment of a fee.

**Functions of Steering Committee:**

- Selection of the logo for ECOMARK.
- Activities related to creation of mass awareness for promotion and acceptance of the scheme.
- Determining the product category to be taken up under the scheme.
- Coordinating ways of ensuring that industry is actively involved in the scheme.
- Securing the involvement of other Ministries, Government Departments, Industry Associations and other Non-Government Organizations and consumer organizations.
- For emulation of strategies for future development of the scheme.
- Identifying institutions in India or outside which are engaged in the standardization of any article or process or improvement of quality of any article or process and recommending assistance to build consumer awareness.
- Promoting program of comparative testing of products by consumer organizations and disseminate their results to the general public.
- Supporting any research for the formulation of ECOMARK products in the interest of consumer groups

**Table No. 4**

**Composition of Steering Committee**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Authority</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Secretary, Dept. of Environment &amp; Forests</td>
<td>Chairman</td>
</tr>
<tr>
<td>2</td>
<td>Secretary, Ministry of Industry (or his representative)</td>
<td>Member</td>
</tr>
<tr>
<td>3</td>
<td>Secretary, Dept. of Civil Supplies</td>
<td>Member</td>
</tr>
</tbody>
</table>
Functions of the Technical Committee

- Identification of specific products for classifying as environment friendly.
- Reviewing the existing State of knowledge and the environmental criteria being followed in other countries.
- Recommend the most appropriate criteria and parameters to designate various products as environment friendly.
- Review various technologies available for determining criteria.
- Recommend various laboratories and analysis for products assessment to the MoEF.
- Evaluation of Environmental Import of products.
- To review implementation of the scheme by BIS.
- Set up Sub-committee for each product category.
- Setting up of expert panels to advise it for specific products.

Table No. 5
Composition of Technical Committee

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Authority</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chairman, Central Pollution Control Board</td>
<td>Chairman</td>
</tr>
<tr>
<td>2</td>
<td>Director General, Bureau of Indian Standards, New Delhi.</td>
<td>Member</td>
</tr>
<tr>
<td>3</td>
<td>Director, NEERI, Nagpur,</td>
<td>Member</td>
</tr>
<tr>
<td>4</td>
<td>Director, National Chemical Laboratory, Pune</td>
<td>Member</td>
</tr>
</tbody>
</table>
Function of Bureau of Indian Standards

- Assess the product for ECOMARK, certify the product for award of the Ecomark.
- Review, suspend or cancel or license, for the use of Ecomark.
- Inspect and monitor the industries.

Certification and Licensing

For certification under ECOMARK scheme the manufacture requires to apply testing of products which fall under the notified categories along with fee set by BIS. The testing and certification is carried out by BIS. The label is awarded for a minimum period of one year and rolls forward annually.

Criteria for ECOMARK

Primary criteria i.e. parameters to be considered for determining product for ECOMARK is as follows:

- Production process including source of raw material.
- Case of natural resources.
- Likely impact on the environment.
- Energy conservation in the production of product.
- Effect and extent of waste arising from the production process.
- Disposal of the product and its containers.
- Utilization as 'waste' and recycled materials.
- Suitability for recycling or packaging.
- Biodegradability.
**ECOMARK Products**

The MoEF have so far identified 16 products categories to be covered under the scheme of ECOMARK. The products are:

Table No. 6

<table>
<thead>
<tr>
<th>Product Categories Covered under ECOMARK Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soaps and detergents</td>
</tr>
<tr>
<td>Food items</td>
</tr>
<tr>
<td>Textiles</td>
</tr>
<tr>
<td>Packaging</td>
</tr>
<tr>
<td>Cosmetics</td>
</tr>
<tr>
<td>Vegetable Oils</td>
</tr>
</tbody>
</table>