International Energy Agency

Implementing Agreement on

Demand Side Management Technologies and Programmes

Task XX:

Branding of Energy Efficiency

Report on

"Case Studies in Branding of Energy Efficiency"

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ABBREVIATION

ACCA	Air Conditioning Contractors of America
BEE	Bureau of Energy Efficiency
BGCA	Boys & Girls Clubs of America
BIS	Bureau of Indian Standards
CB	Competent Body
CDCs	Cattle Development Centres
CERT	Committee on Energy Research and Technology
CFL	Compact Florescent Lamp
CNG	Compressed natural gas
DG	Director General
DOE	Department of Energy
DSM	Demand Side Management
EC Act 2001	Energy Conservation Act 2001
EISA	Energy Independence and Security Act
ELI	Efficient Lighting Initiative
EP Act	Energy Policy Act
EPA	Environmental Protection Agency
EU	European Union
EUEB	European Union Eco-labelling Board
FDI	Foreign Direct Investments
FMCG	Fast Moving Consumer Goods
FY	Financial Year
GEF	Global Environment Fund
GEN	Global Eco-labelling Network
GHG	Greenhouse Gas
GW	Gigawatt
Hz	Hertz
IEA	International Energy Agency
IEC	International Electrotechnical Commission
ISR	Inverter Spike Resistant
KMPL	Kilometers Per Litre
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design

LPG	Liquefied Petroleum Gas
MEPS	Minimum Energy Performance Standards
MNC	Multinational Company
MW	Megawatt
NATRiP	National Automotive Testing & R&D Infrastructure Development Project
NCR	National Capital Region, India
NEMA	National Electrical Manufacturers Association
OA	Operating Agent
OECD	Organisation of Economic Cooperation and Development
PSA	Public Service Announcement
PSU	Public Sector Company
PTO	Parent-Teacher Organisation
R&D	Research and Development
RPM	Revolutions per Minute
S&L	Standards and Labelling
TV	Television
UNEP	United Nations Environment Programme
W	Watt
WOW	Wealth Out of Waste

LIST OF FIGURES

INTERNATIONAL ENERGY AGENCY (IEA) DSM PROGRAMME

The International Energy Agency (IEA) was established in 1974 as an autonomous agency within the framework of the Organisation for Economic Cooperation and Development (OECD) to carry out a comprehensive programme of energy cooperation among its 25 Member countries and the Commission of the European Communities.

An important part of the Agency's programme involves collaboration in the research, development, and demonstration of new energy technologies to reduce excessive reliance on imported oil, to increase long-term energy security, and to reduce greenhouse gas emissions. The IEA's R&D activities are headed by the Committee on Energy Research and Technology (CERT) and supported by a small Secretariat staff headquartered in Paris. In addition, three Working Parties are charged with monitoring the various collaborative energy agreements, identifying new areas for cooperation and advising the CERT on policy matters.

Collaborative programmes in the various energy technology areas are conducted under Implementing Agreements, which are signed by contracting parties (government agencies or entities designated by them). There are currently over 40 Implementing Agreements, including the IEA Demand-Side Management (DSM) Programme. Since 1993, the following countries and organisations have been working to clarify and promote opportunities for DSM.

Australia	*Japan (Sponsor)*
Austria	*Republic of Korea*
Belgium	*Netherlands*
Canada	*New Zealand*
Denmark	*Norway*
European Commission	*Spain*
Finland	*Sweden*
France	*Switzerland*
Greece	*The Regulatory Assistance Project (Sponsor)*
Italy	*United Kingdom*
India	*United States*

A total of 25 Tasks (multinational collaborative research projects) have been initiated by the IEA DSM Programme, 17 of which have been completed and one not proceeded with. Each Task is managed by an Operating Agent (Project Director) from one of the participating countries.

The Operating Agent is responsible for overall project management, including project deliverables, milestones, schedule, budget, and communications. Overall control of the programme rests with an Executive Committee comprising one representative from each contracting party to the Implementing Agreement. In addition, a number of special ad hoc activities—conferences and workshops—are organised.

The actual research work for a Task is carried out by a combination of the Operating Agent and a group of Country Experts. Each country that is participating in a Task nominates one or more persons as its Country Experts. Each Expert is responsible for carrying out there search work required for the Task in his or her country. . All the Experts meet regularly to review and assess the progress of the work completed by the Operating Agent and by the group of Experts. Experts meetings are usually held between two and four times a year.

The IEA DSM Programme has undertaken the following Tasks to date:

*Task I**	*International Database on Demand-Side Management*
*Task II**	*Communications Technologies for Demand- Side Management*
*Task III**	*Cooperative Procurement of Innovative Technologies for Demand-Side Management*
*Task IV**	*Development of Improved Methods for Integrating Demand-Side Management*
*Task V**	*Investigation of Techniques for Implementation of Demand-Side Management Technology in the Marketplace*
*Task VI**	*Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses*
*Task VII**	*International Collaboration on Market Transformation*
*Task VIII**	*Demand-Side Bidding in a Competitive Electricity Market*
*Task IX**	*The Role of Municipalities in a Liberalised System*
*Task X**	*Performance Contracting*
*Task XI**	*Time of Use Pricing and Energy Use for Demand Management Delivery*
*Task XII**	*Cooperation on Energy Standards (not proceeded with)*
*Task XIII**	*Demand Response Resources*
*Task XIV**	*Market Mechanisms for White Certificates Trading*
*Task XV**	*Network-Driven Demand Side Management*
Task XVI	*Competitive Energy Services*
Task XVII	*Integration of Demand Side Management, Energy Efficiency, Distributed Generation, and Renewable Energy Sources*
*Task XVIII**	*Demand Side Management and Climate Change*
*Task XIX**	*Micro Demand Response and Energy Saving*

Task XX	*Branding of Energy Efficiency*
Task XXI	*Standardisation of Energy Savings Calculations*
*Task XXII**	*Energy Efficiency Portfolio Standards*
Task XXIII	*The Role of Customers in Delivering Effective Smart Grids*
Task XXIV	*Closing the Loop – Behaviour Change in DSM: From Theory to Policies and Practice*
Task XXV	*Business Models for a more effective uptake of DSM energy services*

* *Completed Task*

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1 INTRODUCTION TO BRANDING OF ENERGY EFFICIENCY

1.1 Branding of Energy Efficiency

Energy efficiency improvements refer to a reduction in the energy used for a given service (heating, lighting etc.) or level of activity. The reduction in the energy consumption is usually associated with technological changes, but not always since it can also result from better organization and management or improved economic conditions in the sector ("non-technical factors"). Energy efficiency is first of all a matter of individual behaviour and reflects the rationale of energy consumers. Avoiding unnecessary consumption of energy or choosing the most appropriate equipment to reduce the cost of the energy helps to decrease individual energy consumption without decreasing individual welfare.

It has been well acknowledged that energy efficiency has huge potential in the areas of energy security, keeping energy prices in check and reducing GHG emissions. This potential exists in small quantities in several areas with large number of users. In most of the countries various Government driven policies and programmes targeting different sectors such as appliances, buildings, industries, have been initiated. However, it has been experienced that the Government driven efforts alone are not sufficient to target and achieve the potential of savings through energy efficiency. These efforts need to be backed with significant market based efforts. To develop markets for any product or service, it is important to create brand value for the same.

Branding of a product/service by its very nature creates 'pull' in the market which opens up opportunities for wide scale deployment of the product/service. Historically, sales pitch for any EE products or services has been some variant of 'Save Money – Save Planet' cliché. EE has not really been able to excite people by creating brands which would associate a lifestyle tag to energy efficiency, similar to that for organic food. This failure in getting people to embrace EE as a lifestyle assumes significance when we consider that EE has significant positive economic impact- the overall sales of these products, given their potential use and benefits to the consumer are quite disappointing. It appears that the preferred choices made by consumers are largely motivated by factors other than energy efficiency. For instance, when a consumer chooses a product, the decision is often based on brand name, design, interior lay-out, noise level and product price = almost to the exclusion of the energy consumption aspect.

Given this background, it is necessary to understand and analyse the reasons for this failure of branding of EE in the marketplace and to identify 'ways and means' by which potential for branding could be increased. We must be clear of the reasons behind the lack of push for energy efficiency as a 'brand'.

Task *Branding of Energy Efficiency* is initiated to identify the barriers for branding of energy efficiency, and evolve strategies to overcome those barriers. The Task was proposed and initiated with the belief that it should be possible to reverse the fortunes of energy efficiency

products and services, if successful branding is achieved. Branding of Energy Efficiency products and services would increase their visibility and credibility. This Task will also explore the avenues available to the national government to promote branding of energy efficiency.

1.2 Primary Objectives of Task Branding of Energy Efficiency

The Primary Objective of this Task would be to 'Develop cogent and comprehensive framework for promotion of branding of energy efficiency in electricity markets at different level of maturity'.

1.3 A need for research in the following areas was felt to be of immediate relevance:

- To identify best practices in definition of *suppliers of energy efficiency* products and services;
- Assessment of the potential for energy efficiency products and services in other energy consuming sectors such as agriculture, industrial and commercial entities etc.;
- Evaluation of the potential for programmatic approach towards energy efficiency; and
- To identify the barriers to branding of energy efficiency.

1.4 Operating Agent and Participating Countries

The Operating Agent (Project Director) for Task XX is Idam Infrastructure Advisory Private Limited (Formerly ABPS Infrastructure Private Limited) based in Mumbai, India.

The work of the Task XX is supported (through costs and Task sharing) by the four participating countries: France, Spain, United States and India. The participating organizations representing the four participating countries are:

Sr. No.	Name of the Organization	Participating Country
1	Bureau of Energy Efficiency, Ministry of Power, Government of India	India
2	Red Electrica de Espana	Spain
3	ADEME (Département Marchés et Services d'Efficacité Energétique)	France
4	Lawrence Berkeley National Laboratory	United States

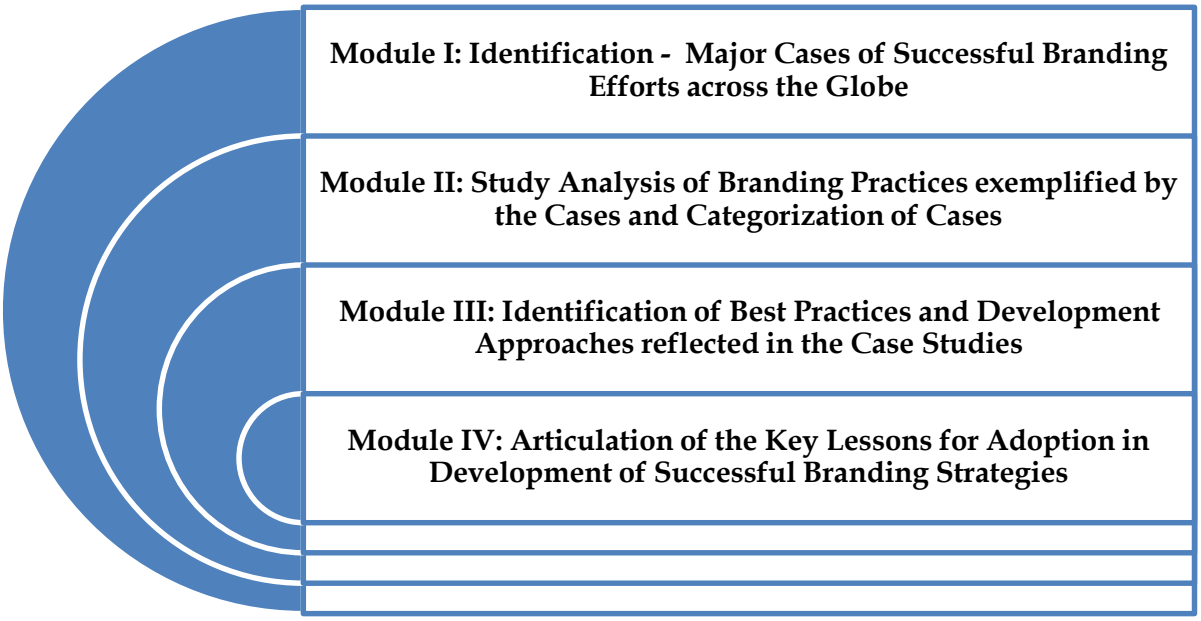
1.5 Identification of Best Practices in Branding of EE

Branding is an important activity designed to enhance the identity of the product through the use of unique brand names, symbols and other distinctive measures. Branding of a

product/service by its very nature creates 'pull' in the market which makes possible wide scale demand for the product/service. Specially building an Energy Efficiency Brand utilizing the skills and techniques from the marketing discipline will provide an opportunity to raise the profile of energy efficiency up the list in a consumer's preferred criteria. Along with the aspect of promotion of EE products and services through, awareness, advertising etc., the study attempts to develop policies and programs for the Energy Efficiency market. The targeted sectors in the market have responded differently to a variety of brand and branding messages- some energy efficient brands have received positive response from end users while quite a few have not been able to persuade people to see the lifestyle aspect of energy efficiency.

With this background, we proceed to understand and analyse the existing energy efficiency branding practices in the marketplace and identify potential branding practices for the market. This Task reviews a few case studies of best branding practices and identifies key lessons for adoption in development of successful branding strategies. The Task further delineates the role of institutional structure and government support in developing such branding strategies.

The Operating Agent followed a careful process to accomplish the Task. The steps are indicated in the Figure below:



Module I: Identification - Major Cases of Successful Branding Efforts across the Globe

In this module, internet based research was undertaken on successful efforts in branding of energy efficiency in the participating, as well as other countries. In order to ensure consistency in the selection of different case studies, a quick questionnaire developed for identifying cases of successful branding efforts for EE in their respective countries.

The questionnaire sought to:

- Identify successful cases of branding of energy efficiency in partner as well as other countries
- Get an overview of goals and objectives of each case, Products covered and the EE aspect highlighted
- Know why these cases are considered useful cases for further research.
- The outcome of this module was identification of key cases of successful branding efforts across the globe for further study.

Module II: Study of Branding Practices and Categorization of Identified Key Cases

In this module, general information about brand, different branding approaches and branding practices are discussed. The identified key cases for research are categorised on the basis of unique cluster of features they represent.

- **Study of Brand and branding practices:**

A brand is a set of perceptions and images that are associated with a company, product or service. While many people refer to a brand as a logo, tag line or audio jingle, a brand is actually much more. In this section, the brand is defined, and the collected information about brand, branding practices and different approaches adopted in branding are discussed. Identified potential branding practices are categorised, based on unique cluster of features.

- **Study of different aspects, business enablers in branding practices**

Brands enable a buyer to easily identify the offerings of a particular product or company. Brands are generally developed over time through:

  - Communication/ advertisements consistently conveying the brand message
  - Referrals/ recommendations from other users, friends, family members or colleagues
  - Interactions with the company and its representatives
  - Real-life experiences using a product or service

Once developed, a brand provides an umbrella under which many different products and variations of products can be offered-yielding a company tremendous economic leverage and strategic advantage through established awareness of their offerings in the marketplace. The branding aspects such as advertising, media communication, logo etc. were analysed. The objective was to understand how business enablers impact brand.

- **Study of identified key cases and their categorization**

The branding practices differ with different branding approaches which in turn depend upon the type of product or service offering, target segment of consumers, organisational values and objectives, market expectations. This module studies the key branding cases identified and categorises them. The prevalent government policies, regulations,

institutional structure, governance mechanism, and the role played by government and consumers were analysed for the identified key cases.

Module III: Identification of Best Branding Practices and Development of Case Studies

The branding strategies adopted, as illustrated in the key cases -for campaigns government supported or consumer supported, are spelt out. A comparative analysis of the institutional structure, governance mechanism put in place for the different products/ services in the identified cases and their effectiveness has been done.

The objective of this module is to identify best branding practices and to develop *best practice* case studies.

Module IV: Key Lessons for Development of Successful Branding Strategies

Based on the analysis of the branding practices and their performance, key drivers and barriers for the success of branding practices for EE have been identified and the relevant learning for developing branding strategies for promoting EE is highlighted.

1.6 Structure of Report

This report consist of two chapters; chapter 1 on introduction, background and methodology for selection of case studies for analysis and chapter 2 where the seven case studies are discussed.

2 CASE STUDIES ON BEST PRACTICES IN BRANDING OF EE

The Operating Agent has prepared seven case studies, on best practices in branding of energy efficiency, from participating and non-participating countries. These case studies cover the gamut of branding strategies adopted by various stakeholders-public and private - for the promotion of products, programmes and the company. Three of the seven case studies represent programmes, three- efficient products and one case study represents the company.

Seven Case Studies taken up for Analysis:

Sr. No.	Case Study	Country	Category	Branding Strategy
1	Energy Star Programme	United States	Programme	Branding of Products and Appliances through Government Initiatives (Voluntary), Labelling, Campaign & Advertisement
2	Star Labelling Programme	India	Programme	Branding of Appliances through Government Directives (Mandatory & Voluntary), Labelling, Campaign & Advertisement
3	EU Ecolabel	Europe	Programme	Branding of Eco- friendly Appliances, Products and Services through Government Initiatives (Voluntary), Labelling, Advertisement
4	Fuel Efficient Cars – Maruti Suzuki India Ltd.	India	Product / Company	Branding of Product (Fuel Efficient Car) through Advertisements (Audio / Visual) and Mass Media Campaign
5	Energy Efficient Lighting Solutions – Philips	Netherlands	Product	Branding of Product (EE Light Fixtures) through Advertisements, Product demonstration, Participation in and Organization of Events
6	Energy Efficient Motors – Baldor Electric Company	United States	Product/ Company	Branding of Product (EE Motor) through Company Strategy

Sr. No.	Case Study	Country	Category	Branding Strategy
7	Sustainability Initiatives of ITC Limited	India	Company	Branding of Company through Sustainable Initiatives

2.1 Case study on ENERGY STAR Programme– United States

Tough economic times, coupled with volatile energy prices and energy security concerns, have made cost-effective solutions for reducing energy use and preventing GHG emissions more important than ever before for businesses, consumers, and organizations. The international focus on Climate Change has caused countries to set for themselves targets for Carbon Emissions Reduction. Despite being a proven strategy that can conserve the environment while stimulating the economy and creating new jobs, many energy efficiency opportunities remain unveiled. Fortunately, in the field of energy, a growing number of Americans across the country are leading by example and seizing the opportunity to protect the climate and as well reduce their utility bills by investing in energy-efficient technologies and practices.

In 1992, the US Environmental Protection Agency (EPA) introduced ENERGY STAR as a voluntary labelling programme designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. Computers and monitors were the first labelled products. Since the launch, this innovative programme has overcome market barriers and advanced the adoption of energy-efficient products, practices and services across the residential, commercial and industrial sectors.

In 1995, EPA expanded the labelling to more office equipment products and residential heating and cooling equipment. Subsequently in 1996, EPA partnered with the US Department of Energy for particular product categories. ENERGY STAR continues to be regarded as the trusted source of unbiased information that helps Americans identifies reliable, cost-effective, energy- saving solutions that protect the environment.

ENERGY STAR label is now on major appliances, office equipment, lighting, home electronics and more. EPA has also extended the label to cover new homes and commercial and industrial buildings. It is helping consumers save money and protect the environment through energy efficient products and practices.

ENERGY STAR Programme:

ENERGY STAR is the trusted, government-backed symbol for energy efficiency helping to save money and protect the environment as well, through energy-efficient products and practices.

Figure 2-1: ENERGY STAR Label

The ENERGY STAR label is established to help:

- Reduce greenhouse gas emissions and other pollutants caused by the inefficient use of energy; and
- Make it easy for consumers to identify and purchase energy-efficient products that offer savings on energy bills without sacrificing performance, features and comfort.

The ENERGY STAR has partnerships with various private and public sector organizations. ENERGY STAR delivers technical information and tools that organizations and consumers need- to choose energy-efficient solutions and best management practices. The programme has successfully delivered energy and cost savings across the country, for businesses, organizations and consumers and has been a driving force for encouraging widespread use of such technological innovations as efficient fluorescent lighting, power management systems for office equipment and low standby energy use.

Energy prices are now a major concern for consumers, ENERGY STAR offers a few solutions.

ENERGY STAR Labelling Process:

Products can earn the ENERGY STAR label by meeting the energy efficiency requirements set forth in ENERGY STAR product specifications. EPA establishes these specifications based on the following set of key guiding principles:

- Product categories must contribute significant energy savings nationwide;
- Qualified products must deliver the features and performance demanded by consumers, in addition to increased energy efficiency;
- If the qualified product costs more than a conventional, less-efficient counterpart, purchasers will recover their investment in increased energy efficiency through utility bill savings, within a reasonable period of time;
- Energy efficiency can be achieved through broadly available, non-proprietary technologies offered by more than one manufacturer;
- Product energy consumption and performance can be measured and verified with testing;
- Labelling would effectively differentiate products and be visible for purchasers;

ENERGY STAR Products

ENERGY STAR provides a trustworthy label on over 65 product categories (and thousands of models) for the home and office. These products deliver the same or better performance than comparable models while using less energy and saving money. ENERGY STAR also provides easy-to-use home and building assessment tools so that homeowners and building managers can move towards greater efficiency and cost savings.

The product categories for Home application include Home Appliances, Building Products, Computers, Electronics, Battery Chargers, Heating & Cooling, Lighting &Fans and Water Heaters.

The product categories for Business and Government application include Building Products, Commercial Appliances, Commercial Food Service Equipment, Computers, Electronics, Battery Chargers, Heating & Cooling, Lighting and Water Heaters.

Revision of Specifications of ENERGY STAR Product

The EPA is very keen in reviewing and revisiting specifications of ENERGY STAR products. The revision of specifications would be considered when the market share of ENERGY STAR qualified products in a particular category is 50 percent or higher. There are other factors too that weigh into the decision, such as:

- A change in the Federal minimum efficiency standards.
- Technological changes with advances in energy efficiency which allows a revised ENERGY STAR specification to capture additional savings.
- Product availability,
- Significant issues for consumers in realizing expected energy savings,
- Performance or quality issues, and
- Issues with Test Procedures.

ENERGY STAR: The Making of an Energy Efficiency Brand

Since the introduction of ENERGY STAR programme in 1992, there have been efforts to make ENERGY STAR a Brand. A few of the branding strategies adopted to make ENERGY STAR a Brand:

ENERGY STAR launched in 1992

In 1992, ENERGY STAR was introduced with the message "Save Energy and Money." The message was simple and rational. Advertising was limited to business and trade publications and was dominated by images of computers and monitors. The environmental message was conveyed by the logo itself—a half globe that included the phrase "EPA Pollution Preventer."

Figure 2-2: ENERGY STAR's Logo included phrase "EPA Pollution Preventer"

ENERGY STAR's first brand Campaign in 1997:

The EPA launched the first broad outreach campaign to encourage consumers to look for the ENERGY STAR label. Communication messages prominently featured environmental benefits, but the focus was still on money savings achieved through superior energy efficiency. The tagline "Saving the Earth, Saving Your Money" was also added in outreach materials which were designed to provide consumers with objective information about the government-backed label.

Figure 2-3: ENERGY STAR Logo with tagline "Saving the Earth, Saving Your Money"

The first consumer campaign by ENERGY STAR had three key messages:

- ENERGY STAR saves you money and protects the environment. Use of ENERGY STAR qualified products in your home can mean up to 30 percent savings.
- The price tag. Products have two price tags-the purchase price plus the cost of electricity needed to use the product over its lifetime.
- An easy choice. Either the product is energy efficient because it displays the ENERGY STAR label, or it isn't.

Making the environmental message more prominent reflected the objective of connecting with a large group of consumers that had not been linking their home energy use to its environmental impact. A public service announcement (PSA) that aired during this period connected the dots, "If it runs on electricity, it runs on fuel." It pointed consumers to ENERGY STAR as a simple way to do their part, with the tagline, "Money isn't all you're saving." An important sub-message in programme outreach was that efficiency, unlike conservation, did not imply sacrifice—just smart choices, like choosing ENERGY STAR qualified products.

Figure 2-4: ENERGY STAR Logo with the tagline "Money isn't all you're saving"

By 2000, 40 percent of U.S. households were aware of the ENERGY STAR label and the programme was producing tremendous, measurable results—cumulatively saving $5 million in utility bills and preventing greenhouse gas emissions equivalent to the emissions from 10 million vehicles. But to take ENERGY STAR to the next level, an internal review of the brand revealed the need to appeal not only to consumer intellect but also to create an emotional connection.

ENERGY STAR Change Campaign in 2001:

The *Change* campaign was launched in 2001. This campaign had an integrated multimedia outreach effort (radio, TV, print). It was identified as the most inspirational campaign in the history of ENERGY STAR programme. Through a combination of inspiring photography, music and messaging, EPA reached out to Americans, encouraging everyone to help protect the environment at home and at work.

Figure 2-5: Logo of Change the World Campaign

ENERGY STAR Powered by Partnership:

A broad network of active partners is at the heart of the ENERGY STAR programme's success—not only manufacturers and their trade associations, but also the retailers that

deliver ENERGY STAR products to market, utility and other efficiency programme administrators engaged in promoting energy-saving opportunities to customers. .

The involvement of partners in ENERGY STAR programmes was started by the EPA in 1995, when they labelled the first suite of ENERGY STAR products geared toward the residential central heating and cooling (HVAC) market. These systems were sold through a large, disaggregated network of heating and cooling contractors. The Agency teamed up with the Air Conditioning Contractors of America (ACCA) to promote ENERGY STAR messaging and sales strategies to its membership and worked to build consumer awareness through the media. The programme's first video news release was developed and aired by local news outlets around the country.

ENERGY STAR Partner with Sears Holdings Corporation

In 1998, Sears Holdings Corporation, an American multinational midrange Department Store chain agreed to use the ENERGY STAR logo and HVAC savings facts in its national advertising circular on a regular basis. Sears estimated that each print supplement reached approximately 40 million people.

Figure 2-6: Advertisement at Sears's outlet

Sears, among the first to recognize the potential for leveraging ENERGY STAR as a differentiator, seized the opportunity to increase sales not only with house-brand Kenmore products, but also across all of its ENERGY STAR qualified appliances

ENERGY STAR Partner with Electricity Utilities:

ENERGY STAR was also promoted by the electricity regulators in areas of the country where the electricity supply was constrained. Regulators mandated that utilities fund energy efficiency programmes in order to avoid or delay the need to build costly power plants or buy expensive energy from the electricity market. Appliances and lighting were prime

targets for efficiency programming, and the higher cost of the more efficient models presented a market barrier that could be targeted by utilities through rebates and discounts.

While utility programmes presented an opportunity for retailers, they also posed challenges. Utilities as well as state agencies were involved in delivering energy efficiency programmes, but the efficiency levels they targeted often varied by market, as did the types of incentives offered.

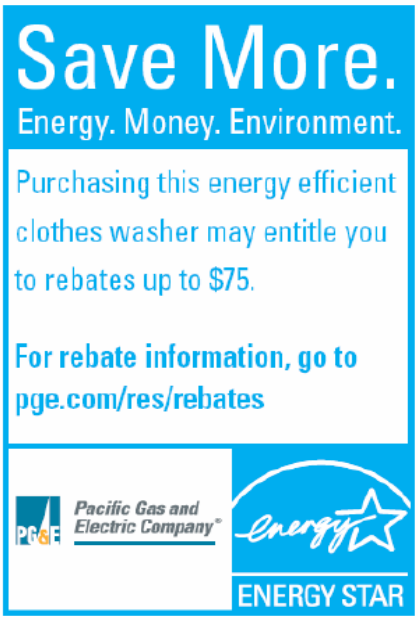


Figure 2-7: Advertisement by Utility Partner

DOE and EPA began working with national and regional organizations involved in efficiency programmes. Fortunately, these early partners, including the Consortium for Energy Efficiency, the Northeast Energy Efficiency Partnership, the Northwest Energy Efficiency Alliance and later the Midwest Energy Efficiency Alliance, were eager to engage with the ENERGY STAR programme. They understood their members' needs and conveyed the importance of ENERGY STAR as a common platform for educating consumers.

As more appliance retailers came on board, including those new to the market such as The Home Depot and Lowe's Companies, investment in education and promotion at point of sale increased. EPA began working to provide retailers with the building blocks they needed to position ENERGY STAR in a way that was compatible with their own brands. The Agency fostered dialogue between retailers and the efficiency community, in light of their differing business practices, so that common messages and educational themes could begin to emerge.

To encourage the partners, ENERGY STAR arranged the first ENERGY STAR partner meeting in 2000 to facilitate best-practice exchange, networking, and promotion among manufacturers, retailers and energy efficiency programme sponsors. The first nationally coordinated ENERGY STAR products promotion followed in 2001. More than 100 utilities

and other programme sponsors, hundreds of retailers, and 25 manufacturers participated. The national partner meetings and products promotions have continued; 2011 marked the largest annual partner meeting to date, attracting more than 620 attendees. The result: consumers nationwide know they can count on their utility companies and local retailers to make energy efficiency choices easy with ENERGY STAR.

Today, with the help of active partners and their strong ethics, ENERGY STAR has become a global symbol for energy efficiency. Computers, printers, copiers and scanners that have earned the label can be found throughout Europe and in Japan, Australia, New Zealand and Taiwan. In Canada, almost 90 percent of the population recognizes the ENERGY STAR symbol which appears on almost every product category in the programme. Emerging economies such as China and India take advantage of ENERGY STAR test procedures and performance standards. For manufacturers of globally traded products, consistency in standards and labels translates into one large market for their energy-efficient models and a reduced cost of doing business.

ENERGY STAR and its vast network of partners, consumers and businesses throughout the U.S. and around the world are helping the world to protect the environment.

Campaign and Promotional Activities for ENERGY STAR:

Print campaign:

The Print campaign was carried out in 2007 for promoting ENERGY STAR label. The advertisement in print media carried the message "Join Hand with (Name of the ENERGY STAR Labeled manufacturer) in the fight against global warming."

- The advertisement had the following features:
- Designed to work across ENERGY STAR programme
- People that act and actual users were shown in the profile
- The message shown on print advertising was "Join the fight against global warming"
- Targeted both Residential & Commercial consumers

Figure 2-8: PSA Campaign showing American consumers working to fight global warming

Martha homeowner, installed ENERGY STAR qualified lighting, programmable thermostat, furnace and new insulation. As a result, she is saving $1,150 on her energy bills, 11,000 kilowatts of electricity, and preventing 12,000 pounds of CO_2 from entering the atmosphere.

Change the World, Start with ENERGY STAR at Community Level Campaign:

In addition to making a difference in the fight against climate change at home and at work, we can also make a difference in our community. With this theme in mind EPA joined hands with DoSomething.org, Boys & Girls Clubs of America and PTO Today to reach America's youth, and encouraged them to get out and "Change the World, Start with ENERGY STAR."

Figure 2-9: Change the World Campaign

Campaign Partner with DOSOMETHING.ORG

DoSomething.org, in partnership with EPA's ENERGY STAR program, has launched an initiative that encourages young people to make long-lasting energy-efficient changes at home and in their communities.

DoSomething.org is one of the largest organizations in the United States that helps young people involve in causes they care about. By leveraging the Web, television, mobile, and pop culture, DoSomething.org inspires, empowers, and celebrates a generation of doers: teenagers who recognize the need to do something, believe in their ability to get it done, and then take action.

To promote an energy-efficiency initiative, eMission a unique Facebook game is launched by DoSomething.org with a social mission—to increase energy efficiency and fight climate change offline.

BOYS & GIRLS CLUBS OF AMERICA

As part of the U.S. EPA's Change the World, *Start with ENERGY STAR* campaign, EPA has partnered with Boys & Girls Clubs of America.

Boys & Girls Clubs of America (BGCA) is a national organization whose mission is to enable all young people to reach their full potential as productive, caring, responsible citizens. BGCA annually serves 4.2 million young people through membership and has outreach in more than 4,100 clubs.

Figure 2-10: Logo of BGCA

Through a partnership between EPA's ENERGY STAR programme and Boys & Girls Clubs of America, thousands of young people are learning how to reduce energy use and lower energy bills at home and in the community.

An opportunity for hosting a project is provided to other Clubs too. The interested club can host by visiting the ENERGY STAR web community athttp://groups.bgca.net/energystar.

PTO TODAY

Parent-Teacher Organisation (PTO) Today focuses exclusively on providing school parent groups with the tools, resources and expert insight they need to welcome, engage and serve all families at schools throughout the U.S.

Figure 2-11: PTO Today's Logo

Through EPA's nationwide partnership with PTO Today, local Parent Teacher Organizations at K–8 schools across the country can host Go Green Nights — school-based events that teach kids and their families about energy efficiency in fun and engaging ways. Thousands of schools in all 50 states have already signed up to host a night.

LOCAL EVENTS

EPA's *Change the World, Start with ENERGY STAR* campaign encourages Americans to join in the fight against climate change by organising local events. To help spread the word, EPA works with organizations to host events featuring a custom-built interactive exhibit modelled after an energy-efficient home showing examples of the many ways you can save energy, money and help protect the environment.

Achievement of ENERGY STAR:

Since 1992, the ENERGY STAR program has served as a trusted source for voluntary standards and unbiased information to help consumers and organizations across the country adopt energy-efficient products and practices as cost-effective strategies for reducing GHG emissions and protecting climate. Through ENERGY STAR, EPA continues to promote energy efficiency across the residential, commercial, and industrial sectors.

Around 18,000 organizations have partnered with EPA and improved efficiency, realized significant environmental and financial benefits. Now they are helping to protect the climate while making energy efficiency accessible to their customers, the public, and their own organizations. These committed partners and individuals across the country have tapped the value of ENERGY STAR to achieve dramatic energy savings.

In 2012 alone, EPA's ENERGY STAR efforts helped Americans:

- Save more than 337 billion kilowatt-hours (kWh)—over 5 percent of U.S. electricity demand.
- Prevent more than 254 million metric tons of GHGs—equivalent to the annual electricity use of 35 million homes.
- Save more than $26 billion on their energy bills.

Energy Star has cumulatively prevented more than 1.9 billion metric tons of GHG emissions and saved over 337 billion kilowatt-hours as shown in Figure 2-12 and 2-13 respectively.

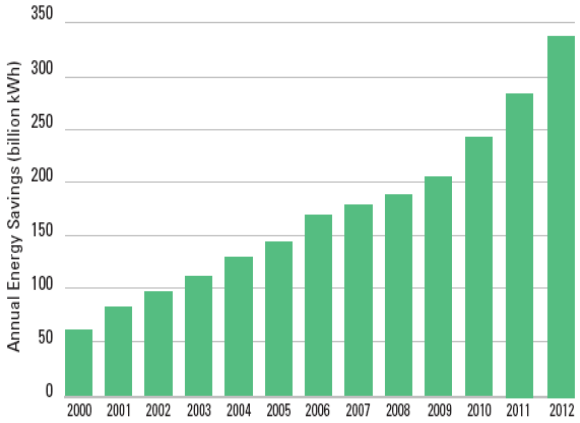


Figure 2-12: Energy Savings

Source: Climate Protection Partnerships 2012 Annual Report

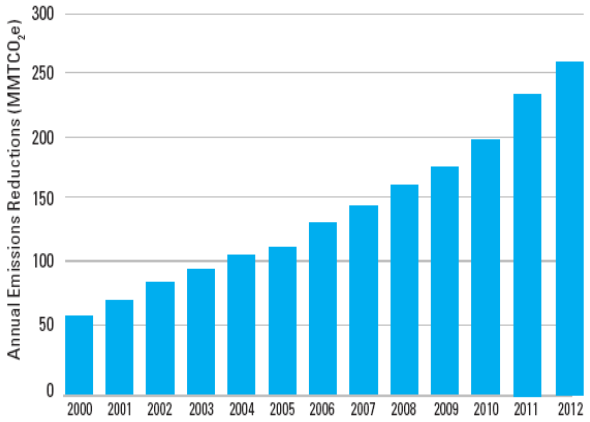


Figure 2-13: GHG Emissions Savings

Source: Climate Protection Partnerships 2012 Annual Report

In 2012, Americans purchased about 300 million ENERGY STAR certified products across more than 65 product categories for a cumulative total of more than 4.5 billion products since 1993 (Figure 2-14).

Now, more than 85% of the American public recognizes the ENERGY STAR label. Global support for the programme remains strong, as exemplified by the signing of a 5-year renewal of the ENERGY STAR Office Equipment agreement with the European Union.

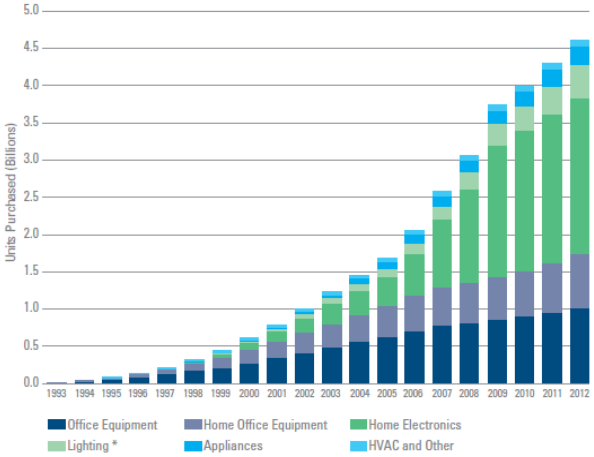


Figure 2-14: Energy Star Products Sold

Source: Climate Protection Partnerships 2012 Annual Report

Consumers' Responses:

Consumers have responded very well to ENERGY STAR programme and subsequent awareness campaigns. Consumers prefer ENERGY STAR labelled products because of following reasons:

- ENERGY STAR delivers on its promise to designate products and services that protect the environment through superior energy efficiency, without trade-offs in performance or quality and with attractive financial paybacks on any additional initial purchase costs.
- The ENERGY STAR symbol is a simple way for consumers to identify products that are among the most energy-efficient on the market.

- The ENERGY STAR name and marks are applied properly and consistently in the marketplace.
- Consistent messaging is used to communicate clearly to target audiences about ENERGY STAR qualifying products, homes, buildings and services.
- The integrity of the brand is maintained overall to ensure that consumers and partners can trust the ENERGY STAR identity.
- Sometimes consumers are reluctant to switch to energy efficient products that are rebated by the Government/Utility partners.

Lessons Learnt:

In twenty years, ENERGY STAR has grown from a programme focusing on personal computers to a multinational programme promoting more than 65 different categories of products across commercial and residential markets, with thousands of programme partners.

Over this time, ENERGY STAR has become a brand recognized by a significant number of consumers, as well as a collaborative effort that is uniting a variety of separate market transformation programmes.

The key learnings from the ENERGY STAR programme are:

- ENERGY STAR's brand promise has been clear – superior energy efficiency with comparatively equal or better product performance. Energy efficiency delivers environmental benefits through the reduction of greenhouse gases and the risks of global warming.
- It has always spoken to consumers in clear and tangible terms that were immediately relevant: save energy, save money and protect the environment.
- The EPA has adopted a campaign approach to build brand awareness and become one of the most trusted brands in America. Underpinning its success is a clear and understandable approach to environmental messaging.
- The EPA's PSA campaign demonstrates an effective approach-it features everyday American consumers and companies working to fight global warming with *Energy Star* and offers distinct proof-points in terms of the specific actions taken, and the resulting savings.
- The PSA campaign approach enables ENERGY STARto build a strong emotional/rational balance; offering the empowering, inspirational message that average, everyday Americans can help in the fight against global warming, and playing out that with proof points in clearly articulated metrics.
- A broad range of partners are at the heart of the ENERGY STAR programme's success. Partners including EPA, DOE, and other institutions are directly coordinating with Energy Star programmes.

- ENERGY STAR also has a strong relationship with several other Federal energy programmes which keep supporting ENERGY STAR programme.
- The mix of emotional/rational, inspirational and tangible initiatives has helped ENERGY STARprogramme serve as an anchor for many of America's top-rated retailers and manufacturers, and influence the purchase of millions of products.
- The success of ENERGY STAR thus far is due in equal part to the vision and guidance of EPA and DOE, and the hard work of the program partners–manufacturers, retailers, contractors, builders, building owners, utilities, and industry allies.

References:

- "Energy Star® and Other Climate Protection Partnerships" 2010 Annual Report
- Steps On the Path to Loyalty: An Assessment of ENERGY STAR Brand Equity Indicators, by Monica J. Nevius, Consortium for Energy Efficiency
- State Building Program Partnerships Facts About The Federal Energy Star Program Prepared by the National Association of State Energy Officials with Support From the U.S. Environmental Protection Agency April 2002
- Building a Powerful and Enduring Brand: The Past, Present, and Future of the ENERGY STAR® Brand Prepared by Interbrand for the U.S. Environmental Protection Agency June 2007
- Energy Star Overview of 2012 Achievement, Annual Newsletter.
- Status and Future Directions of the ENERGY STAR Program by Rich Brown, Carrie Webber, Jon Koomey, Lawrence Berkeley National Laboratory

Website References:

http://www.energystar.gov/

http://www.epa.gov/

Audio-visuals in Media:

https://www.energystar.gov/index.cfm?fuseaction=vid_gallery.showGenYTVideo

2.2 Case study on Standards and Labelling Programme - India

The case study is taken from a period 2006-2012. India's rapidly growing economy and population leads to relentlessly increasing electricity demand. The IEA predicts that by 2020, 327 GW of power generation capacity will be needed, which would imply an addition of 16 GW per year. This urgent need is reflected in the target the Indian government has set in its 12th Five Year Plan (2012-17), for an envisaged addition of 88.4 GW.
Looking to bridge the widening demand-supply gap for electricity, the Planning Commission has set a power capacity addition target of 88,425 MW for the current Five-Year Plan period ending March, 2017.

India faces formidable challenges in meeting its energy needs and in providing adequate energy of desired quality in various forms in a sustainable manner and at competitive prices.

The strategy developed to make power available to all by 2012 included promotion of energy efficiency and its conservation in the country, as the least cost option to address the gap between demand and supply. Energy efficiency in the electricity sector in India is estimated to create an availability of about 25,000 MW annually. Energy conservation potential for the economy as a whole has been assessed at23% with the maximum potential in industrial and agricultural sectors.

Considering the vast potential of energy savings and benefits of energy efficiency, the Government of India enacted the Energy Conservation Act, 2001 (52 of 2001). The Act provides for the legal framework, institutional arrangement and a regulatory mechanism at the Central and State level to embark upon energy efficiency drive in the country. Standards and Labelling (S&L) programme is one of the five major provisions of EC Act, which form basis for the implementation of Standards and Labels in Appliances.

Standards and labelling (S&L) Programme

The Standards and Labelling (S&L) scheme was launched on May 18, 2006. S&L programme has been identified as one of the key activities in India for energy efficiency improvements.

Key objectives of the S&L programme are:

- To provide information on energy performance so that consumers can make informed decisions while purchasing appliances
- To make aware the consumer about the energy savings potential of available products
- The cost savings potential of the marketed house hold and other equipments
- To create a demand in the market for Energy Efficient equipments.

Figure 2-15: The Union Minister of Power, Govt. Of India launched the S&L Programme, 2006

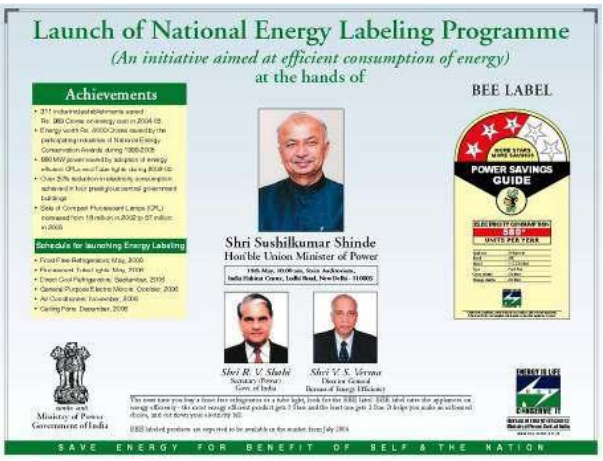


Figure 2-16: Advertisement for Label Launch

The Standards and Labelling programme for end use appliances and equipment provides for self-certification by the manufacturers based on the standards issued by BEE, STAR rating- ranging from 1 to 5 in the increasing order of energy efficiency. The scheme has been developed in collaboration with all the stakeholders, and aims at providing information on energy performance so that consumers can make informed decisions while purchasing appliances. This programme leads to energy savings, and thereby the cost savings potential of the marketed household and other equipment. Along with the impetus to energy savings in the medium and long run, the programme would position the domestic industry competitively in such markets where norms for energy efficiency are mandatory.

Figure 2-17: The BEE Label Introduced in Market

Energy performance improvements in consumer products are an essential element in any Government's portfolio of energy-efficiency and climate change mitigation programmes. Energy efficiency labels and standards for appliances, equipment, and lighting products deserve to be among the first policy tools considered by a country's energy policy makers. Appliance and equipment standards help states meet energy policy objectives while lowering energy bills for consumers. It is important for local governments and consumers to understand the two main costs associated with appliances and equipment – the initial purchase price and the lifetime energy costs to operate the equipment.

An important feature of the S&L programme launched in India is that it was through a voluntary comparative labelling scheme for refrigerators and air conditioners, initiated by BEE. Labelling BEE's overall strategy dwelt on labelling voluntary labelling and with rise in market receptivity, the transition to a mandatory approach.

In parallel with BEE's efforts to raise appliance energy efficiency levels, there have been initiatives by central and state government and electricity authorities as well to promote the S&L programme. The Directorate General of Supplies and Disposals (DGS &D), Government of India, has promoted the procurement of energy efficient appliances in government purchases. All appliances/equipments purchased by Central and State Governments should mandatorily be of Star Labelled or higher energy efficiency level. .

The central and state electricity regulatory commissions which regulate electric utilities in their respective jurisdictions have pushed a few utility-administered programmes- mostly for subsidized sale of CFLs, T-5 tube-lights, ACs and fans- where the utility recovers the cost of the programmes through the annual revenue requirements which form the basis of consumer tariffs.

Institutional Framework for S&L programme

The Government of India introduced the Energy Conservation Act (EC Act) in August 2001. The Bureau of Energy Efficiency (BEE) was created as a statutory body to implement the Act. BEE began functioning in March 2002, implementing various programme areas identified under the EC Act. BEE has formulated an Action Plan in consultation with all the stakeholders during the early stages of the Xth plan. The Action Plan released by the Hon'ble Prime Minister on 23rd August, 2002 serves as a road map for BEE in charting out its activities. The Standards and Labelling Programme is one of the thrust areas identified by the BEE.

The institutional structure of S&L programme is illustrated in Figure 2-18. The Bureau of Energy Efficiency (BEE) is the developer and administrator of S&L programme in India. The Bureau of Indian Standards (BIS) provides technical support for India's S&L energy efficiency initiatives through the development of test procedures and related standards.

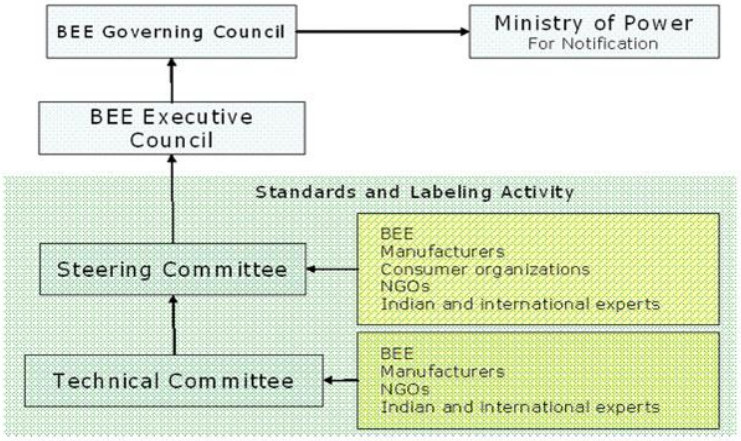


Figure 2-18: Institutional Structure of S&L Programme

The S&L framework involves cooperation between multiple organizations - the Ministry of Power, the Bureau of Energy Efficiency, Steering Committees, the Technical Committee, and the Bureau of Indian Standards.

Pictorial Labels

Energy efficiency labels are informative labels affixed on manufactured products to describe the product's energy performance (usually in the form of energy use, efficiency, or energy costs); these labels provide consumers necessary data on energy efficiency to make informed choices. A sample refrigerator label is as shown in Figure 2-19.

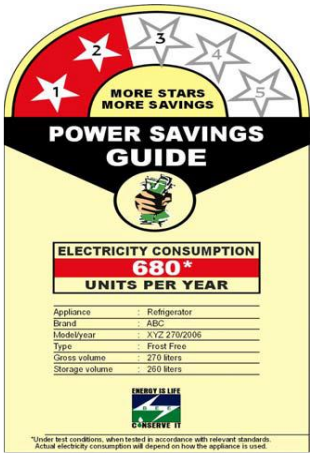


Figure 2-19: BEE's Energy Label Design for Refrigerator

Star Labeled Products

BEE has selected target products for the energy labelling programme based on the criteria that: (1) the appliance uses a significant amount of energy, (2) it contributes to the peak load and (3) it is commonly used in households.

BEE has launched star labelling programme under both mandatory and voluntary phase. This scheme is invoked for 15 equipment/appliances, of which 4 have been notified under

mandatory labelling in March, 2013. The other appliances are presently under voluntary labeling phase.

The mandatory product labelling phase includes Frost Free Refrigerator, Tubular Florescent Lamps, Room Air-conditioners, and Distribution Transformers. The products under voluntary labeling phaseinclude Room Air Conditioners, Direct Cool Refrigerator, Induction Motors, Agricultural Pump Sets, Ceiling Fans, LPG Stoves, Electric Geysers, Colour TV, Washing Machine, Ballast (Electronic/Magnetic)and Endorsement Labels for Computer (Notebook /Laptops).

S&L programme intended to reduce the energy consumption of appliances without diminishing the service provided to consumers. This programme is expected to result in huge energy savings, reduce capital investment in energy supply infrastructure, enhance the product quality and promote competition, build capacity of domestic industries to compete in such markets where norms for energy efficiency are mandatory, remove indirect barriers to trade, reduce carbon emission and help meet climate change goals.

S&L Programme: The Making of an Energy Efficiency Brand

Advertisements were prepared and a detailed media plan was developed for the implementation of the S&L programme, taking into consideration the message and the target audience.

Advertising Strategies for S&L Programme:

Three sample communication concepts were tested for their effectiveness in conveying the message of *Energy Savings.*

The sample advertisements are illustrated below.

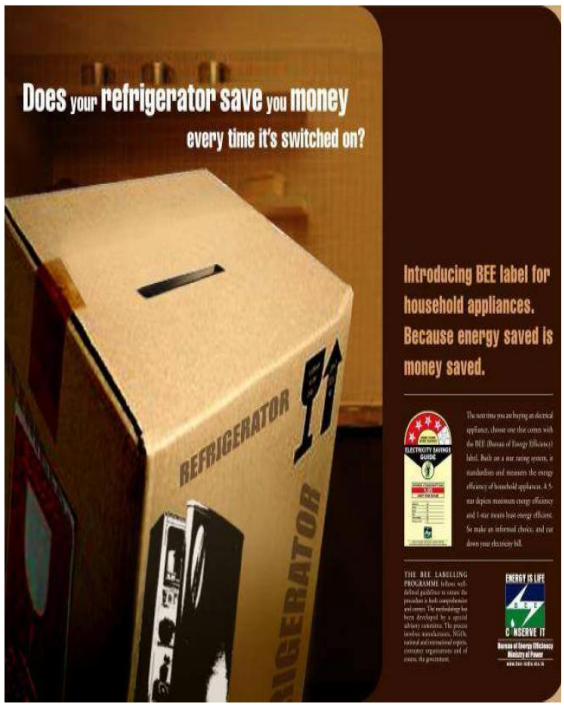


Figure 2-20: Concept 1: Refrigerator Advertisement

Figure 2-21: Concept 2: Piggy Bank Advertisement

Figure 2-22: Concept 3: INR 1000 Advertisement

Source: India Labeling Program Impacts: Case Study by IIEC & CLASP

Based on the effectiveness study of the three advertisements, a two-level launch was recommended:

- 1st level to focus on introductory advertisement that explained the Star Rating system and introduced BEE as the agency responsible for introduction of labelling system in India. Tools such as comparative advertising were to be used to greater effect.
- 2nd level advertising more specific to application of Star Rating System on all household appliances e.g., the Piggy Bank concept was to be disseminated. Product specific advertisements, e.g. the Refrigerator advertisement.

A bi-polar strategy called *Brand Do* and *Brand Think* was recommended. Brand Do dealt with the functional aspects of the benefit i.e., what the product offers to the user at a Tangible level. Brand Think dealt with the emotional aspects of the benefit such as how the product makes the user feel good at the Intangible level- in the present case, clearly, the benefit is about SAVINGS!

The social experience over the decades is that the biggest trigger/motivator for an Indian parent is to secure a brighter future for their children, to get them to a better life situation than their own. Middle class mothers in India are said to be the biggest force in propelling the new generation towards professional success across the world. Therefore it was suggested to keep the message of *emotional payoff* in the area of Energy Savings for Environmental Conservation towards a Brighter World.

It was recommended that "Environmental conservation for a brighter world" should be message for all mass media communication. The message would tell the consumers about a product which offers energy conserving / efficient technologies. The consumers would be persuaded to buy an energy-efficient product that would play an important role in making a brighter tomorrow for their children, and also for the world.

The advertising and media strategy was communicated to the manufacturers and other stakeholders, and a multi-pronged concerted effort got underway to convey a coordinated non-conflicting positive message on energy efficiency to the consumers, through several channels.

S&L Programme Advertisement Media Plan

A two-phase media plan was recommended for the S&L programme. The first phase to focus on greater reach with the message of basic understanding about energy conservation through efficient appliances, the second to promote STAR label as a tool to mark the level of energy efficiency offered by an appliance (refrigerators) and also explain the way to decipher the label.

Phase I: This phase aimed at maximization of reach among relevant audiences, at a high level of frequency, the communication involved a three month television burst along with inserts in dailies and magazines across India.

Phase II: This phase specifically addressed the relevant Target Group with communication of specific messages at high level of frequency. A four month television burst along with inserts in dailies was recommended for Phase II of the communication plan.

Campaign and Promotional Activities for S&L programme:

The advertising and promotional activities for S&L programme were conducted with precision to attract the media and consumers for large scale deployment of S&L programme.

Promotion for Consumer Awareness

BEE conducted various programmes to promote awareness about the meaning and significance of the BEE Label to consumers and major stakeholders. The consumers were educated, through a multimedia campaign, on the cost- benefit aspects of buying higher energy efficient equipment. The print multimedia and the audio-visuals campaign launched by BEE focused on creating awareness about energy efficiency and generating a market for such energy efficient appliances. To create awareness about the BEE star rating label, a half day workshop on National Educational / Awareness Programme on Standards and Labelling was arranged for sales executives at various locations. The scope of these workshops was been expanded to cover all household appliances under voluntary / mandatory phase under the BEE S&L programme. More than 50 such awareness programmes had been conducted for consumers and sales representatives.

S&L Advertisements in the Media

Advertisements were published in the media mentioning the requirement of minimum *one star* as mandatory to sell Tubular Florescent Lamps, Frost Free Refrigerators, Room Air Conditioners and Distribution Transformers.

Figure 2-23: Advertising Mandatory use of label on product

Figure 2-24: Star Label was awarded to Surya

On September 22, 2006 Surya Roshni Ltd- one of the leading lighting companies became the first recipient, in India, of the energy efficiency label- for its tube lights.

Figure 2-25: Advertisement for a Labelling linked Incentive programme - for CFLs

The star label is also used to develop incentive programmes and influence utility demand side management (DSM).

Government Regimes and Policies:

The government encouraged state agencies as well as utilities to communicate the details and benefits of the labelling program to all consumers. Accordingly, state agencies and utilities issued notification for compulsory use of available BEE star labeled products (3 star and above) in all residential and non-residential Government buildings.

The Government demonstrated its commitment by leading the initiative through self-adoption of labeled products i.e., all government departments, ministries, attached and subordinate offices and ensuring that all the procurement of the specified product categories carry the threshold BEE star rating indicated against them, or higher, vide an office memorandum no. 26/6/12-PPD dated January 21, 2013 issued by Ministry of Finance, Govt. of India.

Achievements of S&L Programme:

Impact analysis of Standards and Labelling programme in terms of energy savings and avoided capacity addition were carried out by BEE every year. The energy saved yearly and the avoided capacity addition under S&L programme is shown below.

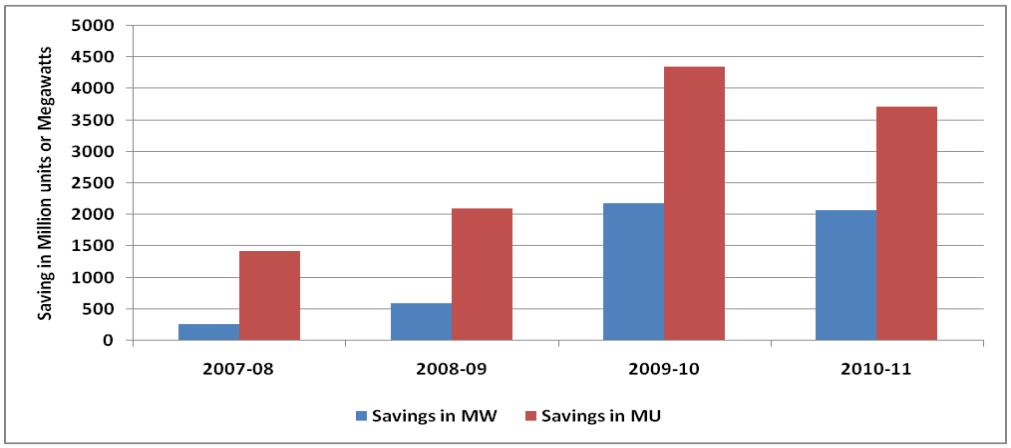


Figure 2-26: Energy Saving due to S&L Programme

The total avoided capacity generation during 11th five year plan (2007-12) was 7766 MW against MoU Target of 3000 MW. The S&L programme contributed about 72% of the total target of BEE in 11thPlan.

Consumers' Responses

The rising electricity bills that bothered consumers in India had the option of avoiding steep bills by switching to electrical appliances with BEE (Bureau of Energy Efficiency) label. The increasing demand supply gap and the rising electricity prices have spurred the demand for

energy efficient appliances. Consumers are now opting for energy efficient star label products.

Barriers to switching over to Star Label Appliances

- The lack of awareness with respect to the nature of energy conservation actions that people can take.
- The quantum of energy (electricity) saved is quite marginal in the overall outlay (initial costs and the running costs) towards that device.

Consumers have been motivated by

- The slogans for Star Label appliances such as "Bachat Ke Sitare Dost Hamare" conveying the message that *more stars* means *more energy efficiency* and *more savings* on monthly energy bills.
- An introductory advertisement in the media answering frequently asked questions about the programme what is Star Label? Who is the Operating Agency? What does the Operating Agency do? How does one recognize it?
- Educational efforts and the development of databases that permitted product comparison and financial incentives to purchasers.
- In India housewives play an important role in selection/purchase. The message, "Environmental conservation for a brighter world", proved very effective. Such messages inspire the consumers to buy energy-efficient products

Lessons learned

Like other energy efficiency programs, the Star Labelling programme aims to shift markets for energy-using products and appliances toward demand for greater energy efficiency. The Star Labelling programme helped consumers understand which products are most energy efficient and influenced their purchase decision in favour of energy efficient products. The programme manages to create competition among manufacturers to produce and market the most energy-efficient models and thus promote efficiency.

There are several key lessons Learnt from the efforts to promote Energy Efficiency through the S&L programme:

- The effect of well-designed energy-efficiency Star Labels and standards is to reduce wasteful electricity and fuel consumption by household and office-equipment.
- Fair, complete and comparable test procedures are needed to measure efficiency and permit product comparisons.
- It has been observed that there is a general lack of awareness with respect to the nature of energy conservation actions that people can take. This is partly owing to the lack of information. By addressing this lack of information barrier, energy efficiency standards

and energy labelling of appliances and equipment encourage the proliferation of energy-efficient systems and products for the improvement of the economy and the environment.

- Market share of improved efficiency products can be increased through education efforts, development of databases that permit product comparison, financial incentives to purchasers and technical assistance efforts to help manufacturers develop higher efficiency products.
- If the product's quantum of energy (electricity) saved is marginal in the overall outlay, the advertisements should not focus too much on the fact that the appliances will save consumer huge amounts of money; play on the emotional payoff in the area of energy savings for environmental conservation towards a brighter world.
- *Minimum Efficiency* standards are a critical step to fully transform markets, locking out inefficient products from returning to the market.
- Once a market is transformed to one efficiency level (e.g., high efficiency), efforts can proceed to the next efficiency level (e.g., premium efficiency).

References:

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- Planning Commission, Government of India "Integrated Energy Policy, Report of the Expert Committee,"2006.
- Ministry of Law, Justice and Company Affairs, Government of India, "The Energy Conservation Act," 2001.

Web References:

http://powermin.nic.in/

http://www.beeindia.in/

http://www.clasponline.org/

http://www.suryaroshnilighting.com/

Audio-visuals in Media:

Havells energy saving fans:

https://www.youtube.com/watch?v=FFoyeBnjktI

Havells Energy Efficient Water Heaters TVC:

http://www.youtube.com/watch?v=t0d_yKqY75Y

Havells CFL:

https://www.youtube.com/watch?NR=1&v=giv95l3Kyrg&feature=endscreen

https://www.youtube.com/watch?NR=1&v=ubU3NoM2xJo&feature=endscreen

Havells Energy Efficient Lighting:

https://www.youtube.com/watch?v=LXTFtyl6aAI

2.3 Case study on Ecolabel Programme - Europe

The origin of the European Ecolabel was in the early '90s with the publication of EC Regulation 880/92, which was a practical translation of the principles enunciated in the 4th and 5th European Action Programme, which aimed at moderating the presence of a multitude of environmental labels on the both on the European and international market.

The EU Ecolabel scheme is part of the European policy on sustainable consumption and production, with the primary objective of reducing the negative impact of consumption and production on the environment, health, climate and natural resources, by promoting those products that have a high pro-environmental performance. The labelling criteria of the product / service, take into account the latest strategic objectives of the European Community's environmental agencies? And define the requirements, for branding, determined on a scientific basis, and in consideration of the entire product life cycle.

To determine these criteria the following aspects are taken into consideration:

- The most significant environmental impacts
- The substitution of hazardous substances
- The reduction of impacts
- The social and ethical aspects
- The established criteria for other environmental labels already officially recognized.

Currently, the Ecolabel Regulation is in its third version with Regulation (EC) n.66/2010 that today represents the general reference for the Ecolabel system. The Regulation is supplemented by the decisions of the European Commission, which contain the criteria and requirements for the award of labels to the various products and services. The environmental criteria are periodically revised keeping in view technical developments so as to stimulate continuous improvement in environmental performance of products to which the label is assigned.

EU Ecolabel

The EU Ecolabel also referred to as the "Flower" was launched in 1992 under the administration of European Commission, DG Environment. The European Ecolabel is an ecological Type 1 label based on criteria which stipulate the minimum performance values to be met to obtain the award of the label, after due verification by an independent body.

It is a voluntary scheme designed to encourage businesses to market products and services that are kinder to the environment, and for the European consumers - public and private purchasers - to easily identify them.

Figure 2-27 - Symbol Used as Ecolabel

The EU Eco-label aims to promote products with reduced environmental impact compared with other products in the same product group. It distinguishes products and services that meet high environmental and performance standards. Products and Services awarded the EU Ecolabel carry the Flower logo, allowing consumers to identify them easily. The logo can be found on the packaging of every EU Ecolabel product.

The label is available to:

- Manufacturers and service providers
- Importers; and
- Retailers with their own environmentally friendly house brands.

The EU Ecolabel illustrates perceptive derived from the viewpoint of both manufacturers/retailers and Consumers/shoppers. For manufacturers and retailers, the EU Ecolabel (the Flower) gives added value to their products and a competitive advantage in the growing market of green goods and services. For shoppers, the Flower is a reliable symbol of environmental care. To be awarded with the Flower, products must pass rigorous compliance tests in a process verified by an independent, publicly accountable body.

The functioning of the EU Ecolabel is defined through a Regulation of the European Parliament and the council. Its day-to-day management is carried out by the European Commission together with bodies from the Member States and other stakeholders.

EU Ecolabelling Criteria

The focus of the EU Ecolabel criteria for products is on life cycle of the product; and especially on the stages which have the highest environmental impact.

The Product Labelling criteria are based on scientific studies and extensive consultation within the European Union Ecolabelling Board (EUEB). This board includes national offices ("competent bodies") from each EU Member State, environmental groups, consumer and industry associations, commerce unions and businesses big and small.

The product-specific criteria ensure that any product bearing the EU Ecolabel is of good quality with high performance.

EU Ecolabel Process

Each state of the European Economic Area designates a Competent Body, an independent and impartial organisation that implements the EU Ecolabel scheme at national level. Competent bodies play a central role in the work of the EU Ecolabel scheme and are the first point of contact for applicants. They specifically assess applications and award the EU Ecolabel to products that meet the criteria set for them. As such, they are responsible for ensuring that the verification process is carried out in a consistent, neutral and reliable manner by a party independent from the operator being evaluated, based on international, European or national standards and procedures required by concerned bodies offering product-certification schemes.

The Ecolabel award process involves the simple four steps as follows:

a) **Check the product eligibility:** Confirm that the product comes under one of the product groups included in the scheme, and then check the detailed criteria. Go to http://ec.europa.eu/ecolabel and choose "product groups" on the menu on the left.
b) **Check for Applicant eligibility:** Manufacturers, importers and service providers can all apply for the Flower. Traders and retailers can also apply, but only for products marketed under their own brand names.
c) **Contact the Competent Body:** The manufacturer, importer or retailer has to contact the national Competent Body (CB).The applicant will receive an application form with a fee schedule (EUR 300-1,300 with a 25% discount for small and medium-sized enterprises and firms from developing countries).
d) **Complete the application:** The national Competent Body assesses the application. If the criteria are met, documentation found to be in order and fees paid, the Competent Body informs the European Commission about the award.

EU Ecolabel Products

The EU Ecolabel currently covers a wide range of products and services, all non-food and non-medical, in the categories - Beauty care, Cleaning, Clothing, Paints and Varnishes, Electronic Equipments, Floor Covering, Furniture, Guarding, Household Appliances, Lubricants, Other Household items, Paper Products, Holiday Accommodation etc.

EU Ecolabel: Making of enviornmental Frandly Brand

The promotion of Ecolabel as an activity is given prime importance in the revised EU Ecolabel Regulation published in January 2010. The provision of article 12 of the Regulation "Promotion of the EU Ecolabel" is also referred to promotion of Ecolabel:

- the Member States and the Commission should promote the EU Ecolabel by:
  - awareness raising actions and information and public education campaigns
  - encouraging the uptake of the scheme, especially for SMEs

- Promotion of the EU Ecolabel may be undertaken via the EU Ecolabel website providing basic information and promotional materials on the EU Ecolabel, and information on where to purchase EU Ecolabel products, in all Community languages.
- Member States shall encourage the use of the 'Manual for authorities awarding public contracts'.

EU Ecolabel campaign: "Ecolabel Suits You"

The EU Ecolabel Campaign is an outcome of the newly revised EU Ecolabel Regulation published in January 2010.

a) Campaign Objective: To raise awareness of the EU Ecolabel logo as such, by:

- Showing that there are EU Ecolabelled products in all main categories of products in daily use
- Raising awareness of the EU as a sender of the logo
- Raising awareness of the benefits of Ecolabelled products

In the long run, the campaign aims at changing consumer attitudes, encouraging conscious decision making keeping in mind environmental conservation when it comes to the choice of products. The objectives are:

- To make the EU Ecolabel the reference standard in environmental product labelling
- To establish the EU Ecolabel as a key decision factor in the choice of products
- To make manufacturers and retailers join the scheme

b) Campaign Strategy/Main Message: "You protect the environment and contribute to a healthier lifestyle by simply choosing products with the EU Ecolabel at no extra cost."

c) Campaign Visual Identity:

- People with green/natural elements to symbolize greening of the life style
- Slogan "Ecolabel suits you"
- New EU Ecolabel logo

Figure 2-28- Advertisement, Ecolabel Campaign "Ecolabel Suits You"

d) Target Audiences:

Primary target group:

- Women, middle class, 25 to 45 years old; Either 'Green supporter' or 'Green Neutral'(i.e. they are aware of 'green' issues and would be willing to add 'environment-friendliness' as a choice criteria in purchasing goods of daily use, but only if by doing so there is no compromise in terms of quality or price as opposed to the products usually bought. Source: TGI).

Secondary:

- Men and women, middle class, 18 to 45 years old; 'Green Engaged' (i.e. passionate green consumers who will go out of their way to help tackle climate change and pay a premium for eco-friendly products. Source: TGI).

EU Ecolabel Month Campaign

The "EU *Ecolabel Month*" (formerly known as Flower Month) Campaign is held every year from mid- September to mid-October. The general objective of the EU Ecolabel Month promotional campaign is to increase the knowledge amongst consumers of the EU Ecolabel and what it represents, as well as to encourage its uptake in the manufacturing and tourism sectors.

The activities of some of the Member States during the EU Ecolabel Month are highlighted:

a) *Do like do-it-yourself Kuno* campaign: Denmark

The Danish competent body (CB) developed an innovative campaign during the EU Ecolabel Month in Denmark.

"Do like do-it-yourself Kuno" focuses on the privileged position held by retailers to communicate information to consumers.

To achieve EU Ecolabel Month Campaign objective, the Danish CB developed a tailor-made campaign, providing its licence holders, major Danish supermarket chains, convenience stores and DIY centres with an electronic tool-kit containing informative and amusing material they could use in their marketing activities.

Figure 2-29: Example of marketing material from the Electronic tool-kit featuring Kuno

The protagonist of the campaign is *Kuno*, a TV personality known from several "do-it yourself" programmes in Denmark. His celebrity status and environmental consciousness made him the ideal candidate as an ambassador of the campaign. The tool-kit contains pictures of Kuno in different positions, placed around ecolabelled products in advertising material.

Quotes and interesting facts are included as well, in a wide range of marketing tools- texts, logos, usage guidelines etc.

b) National Ecolabel Marketing Campaign: Hungarian

The EU Ecolabel Month in Hungary was first launched in 2009, and in 2010 the Hungarian competent body went further by adding a second stage to its multi-faceted media campaign.

Intended for both Hungarian and European citizens, this campaign, jointly financed by the Environment and Energy Operational Programme of the New Hungarian Development Plan (NHDP) and by EU funding, aimed to increase public awareness of the EU Ecolabel and Hungarian Ecolabel.

Figure 2-30: Information booth during the EU Ecolabel Month, 2009

The Hungarian campaign for the EU Ecolabel Month 2010 aimed to increase public awareness of the EU Ecolabel and the Hungarian national Ecolabel through a wide range of communication channels. In public stands entirely dedicated to the EU Ecolabel, visitors could get information, leaflets, brochures, and ask questions. The Hungarian Ecolabeling Organisation homepage was improved, provide Hungarians with comprehensive information on the EU Ecolabel Scheme. All European citizens had access to the website, now that it was available in both English and Hungarian.

So far, the results of the Hungarian marketing campaign are very encouraging. A survey conducted in April2010 showed an eight percent increase in public awareness of both the EU Ecolabel and the Hungarian Ecolabel over the level at the beginning of the campaign in 2009.

c) EU Ecolabel Month Campaign: Piedmont, Italy:

Regional efforts to support the EU Ecolabel Month have also been made, notably in Piedmont, a region in northwest Italy. An extensive programme took initiatives such as an exhibition showing the visitors how to choose environmental-friendly products, the distribution of a guide on ecolabels created by the Chamber of Commerce of Turin, a guided tour for teachers and educators at the first EU ecolabelled university residence in Europe etc. As a region highly involved in responsible and sustainable tourism, Piedmont has the second highest number of EU Ecolabel certified tourist accommodation structures in Italy and Europe. A specific course on environmental management has been developed for operators of tourist accommodation services.

Marketing-Guide for EU Ecolabel Companies

The Flower has issued the marketing guide booklet for Ecolabel Companies to use the full potential of EU Ecolabel marketing to their benefit.

The marketing guide booklet contains examples of best practices to effectively make the Flower visible on products, and in marketing communications-as a key tool to increasing sales. The focus is on effective communication of the Flower to customers.

A few of the marketing strategies addressed in the booklets:

- Understanding need of new consumers
- Strategy and claims
- Best practice - an overview
- Green campaigning
- Best practice - examples
- Information and contacts
- Marketing checklist

Achievement of EU Ecolabel:

Since the launch of EU Ecolabel in 1992, the number of products and services awarded the EU Ecolabel has increased every year.

By the end of 2011, more than 1,300 licences had been awarded, and EU Ecolabel can be found on more than 17,000 products.

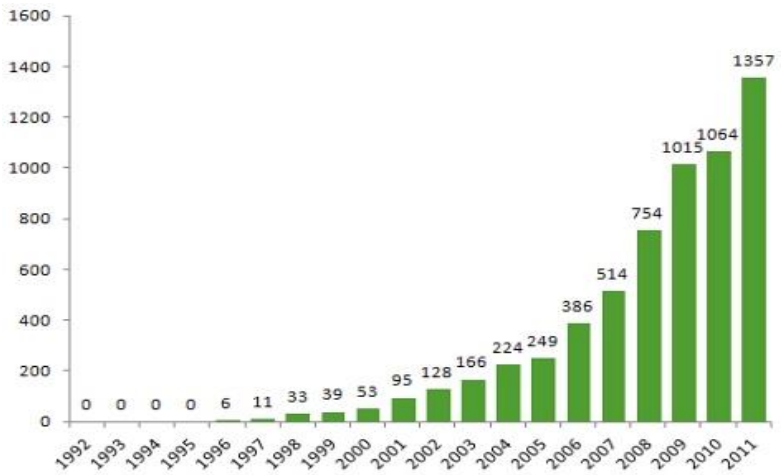

Figure 2-31: Total Number of Licences Issued from 1992 to 2011

Soruce: Facts and Figures Eco Label website

Of the EU Ecolabel products, tissue paper and all-purpose cleaners account for around 10%, while indoor paints and varnishes make up nearly 14%. The largest product group is hard floor coverings, which total count for about 33% of EU Ecolabel products. There are hundreds other product brands - TV, soaps, and shampoos having the Ecolabel.

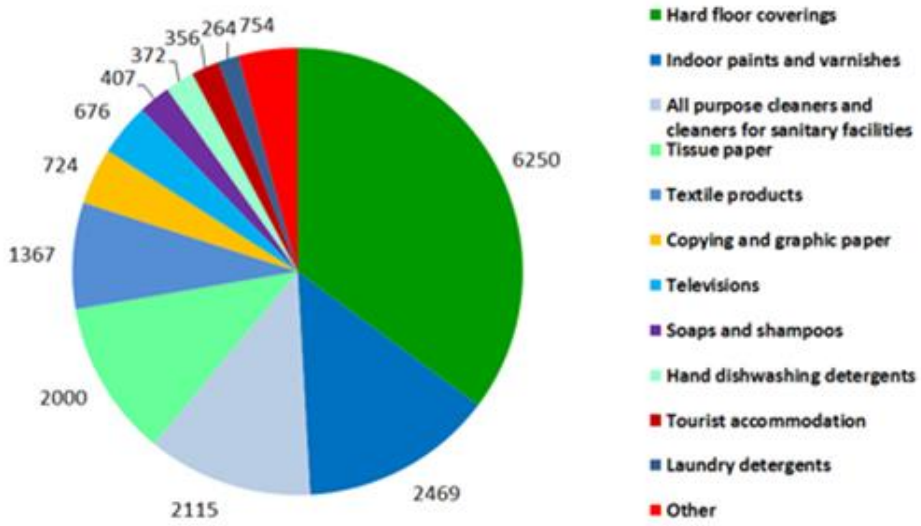

Figure 2-32: Number of EU Ecolabelled Products per Product Group Category

Soruce: Facts and Figures Eco Label website

The EU Ecolabel has been awarded to the largest number of products in Italy, France and the UK. Italy has issued more than 50% of the total number of Ecolabel awards, while France and UK total 22% and 9% respectively, and followed by the Netherlands and Spain. While these statistics refer to the awarding countries, EU Ecolabel products can be sold across the continent.

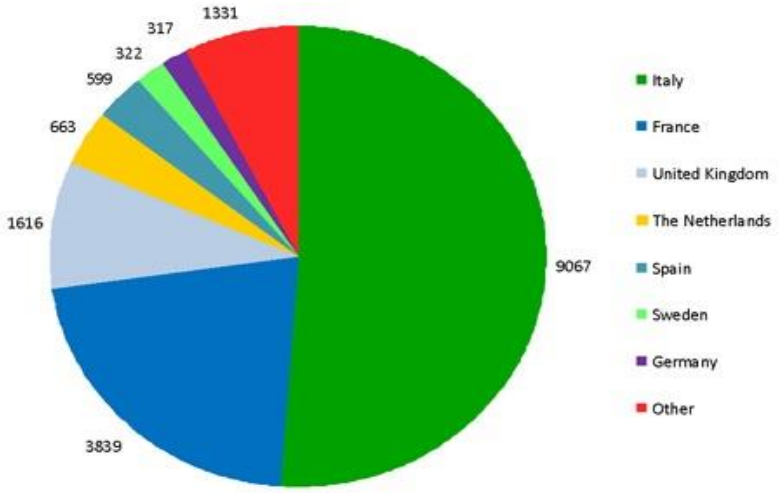

Figure 2-33: Numbers of EU Ecolabel Products Issued per Country

Soruce: Facts and Figures Eco Label website

Lesson Learnt:

EU Ecolabel programme pursues the goal of improving environmental and social conditions through promotion of environment friendly products. It has been launched to validate green claims, guide green purchasing, and improve environmental performance standards. It has done a great deal to raise awareness and to create trust, to change expectation from certain product categories and to build capacity and create a common framework around sustainability.

It is observed that the Ecolabel programme provides an effective baseline within industry sectors by encouraging best practice and providing guidelines that companies must meet in order to meet a certified standard.

As a government supported initiative, the EU Ecolabel programme has been far more successful than other private supported programmes. The government support has helped the Ecolabel programme increase its credibility and recognition, and also improve its financial stability, legal protection and long-term viability.

Branding strategy

- The EUEcolabel scheme is part of the European policy on sustainable consumption and production.
- Ecolabel uses a simple symbol as brand to attract consumers.
- Ecolabel sets the benchmark standards based on market study and modifies the benchmark at regular time interval.
- Almost every possible medium is adopted for promotions i.e., press events, trade fares, award ceremony, workshops, online advertising and social media.
- EU Ecolabel is administered by government and supported by European policy, so it provides a ready to use platform for branding of products.
- For brands that are already well-known, the EU eco-label works as a complement in their branding strategy and can be a quick route to a better image. It gives a guarantee and can work as a means of positioning the product or service.
- For brands that are less known, the Ecolabel can work as a tool to get in to new market channels. The disadvantage that can arise is that the brand can get blurred in a crowded market and the profitability could be lower than for conventional products.
- EU Ecolabel is more than a label. It's a marketing tool to build market share for the world's most sustainable products.

Companies

Companies may go in for the EU Ecolabel for a variety of reasons and benefits:

- It as a brand play, where the EU Ecolabel aligns with the brand strategy, adds a new dimension to the brand value proposition, and improves the company's image and market positioning.
- For some companies it is necessary, to maintain market share in markets that stipulate mandated green purchasing.
- EU Ecolabel is used to drive value by winning large institutional contracts and responding to growing retail demand for certified products. The eco-label can help institutional purchasing agents who look for a simple signal of sustainable performance.
- Long-term competitive advantage can be gained by using certification and eco-labelling to raise the visibility of sustainability initiatives, achieve ambitious sustainability targets, and strengthen the corporate reputation.

Customer

The consumer expresses clear preference for eco-labels because of the following reasons:

- EU Ecolabel on goods and services comes with endorsement of Government as environmentally sound, and does not overstate or misrepresent benefits.
- It is based on scientific merit and justification, uses recognized scientific tests that yield clear results and can be easily documented.
- It uses a Multi-attribute, Life cycle Assessment.
- It covers a wide range of product groups - from soaps to shoes and paints to paper.
- The criteria are based on the environmental performance of the product / service, taking into account the latest strategic environmental objectives of the European Community.
- A group of experts and stakeholders develop the criteria for each product group, to ensure minimum environmental impact over the entire life cycle of the product. The criteria are also tailored to address the unique characteristics of each product type.
- Dynamic criteria allow for improvement in product innovation and performance at times allowing the substitution of ingredients in a product formulation.

Capacity building and Promotions

- Government policies promote the capacity building of support network
- Celebration of EU Ecolabel Month
- Celebrity endorsement for promoting use of EU Ecolabelled product
- Other activities adopted for promoting EU Ecolabel:
    - Press events
    - Promotion at trade fairs
    - Point of sales promotion
    - Awardceremonies
    - Workshops for interested companies
    - Cooperation campaign - national and Ecolabel

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2.4 Case study on Maruti Suzuki India Limited (Fuel Efficient Car) - India

Maruti Suzuki India Limited, commonly referred to as Maruti (formerly known as Maruti Udyog Limited) is an automobile manufacture in India. It was established in Feb 1981 by Govt. of India through an Act of Parliament, with the objective of meeting the growing demand of passenger cars in the absence of an efficient public transport system. It aimed at modernizing the Indian automobile industry, producing fuel efficient vehicles to conserve scarce resources and indigenise the manufacture of utility cars for the Indian population.

In 1983, the government of India established a tie-up with Suzuki Motor Corporation of Japan to manufacture low-cost cars in India. A license Agreement and a Joint Venture Agreement were signed with the Suzuki Motor Company of Japan. Under this agreement Suzuki acquired 26% of the equity in the venture and agreed to provide the latest technology and bring in Japanese Management Practices. Suzuki was the preferred partner for the joint venture because of its track record in manufacturing and selling small cars all over the world. The agreement allowed Suzuki the option to raise its equity stake to 40%, which it exercised in 1987. Five years later, in 1992, Suzuki further increased its equity to 50%, turning Maruti into a non-government organization managed on the lines of Japanese Management Practices.

Maruti Suzuki India Limited

Maruti Suzuki India Limited (Maruti Suzuki) is a subsidiary of Suzuki Motor Corporation, Japan. Maruti Suzuki has been the leader of the Indian car market for over two and a half decades, and has revolutionized the automobile industry and put a whole country on wheels.

Figure 2-34 - Maruti Suzuki's Logo

Since inception, Maruti has been credited with catalysing and leading the modernization of the Indian passenger car industry. In its 30+ years of existence, Maruti Suzuki transformed itself from a successful Public Sector Company (PSU) to a vibrant, publicly listed Multi-National Company (MNC). The company has successfully sustained its leadership position and remained profitable despite tough competition.

The core values of company include:

- Customer Obsession

- Fast, Flexible and First Mover
- Innovation and Creativity
- Networking and Partnership
- Openness and learning

Maruti Suzuki has two manufacturing facilities - located at Gurgaon and Manesar, south of New Delhi, India. The facilities have a combined capability to produce over 1.5 million (1,500,000) vehicles annually. Maruti Suzuki has established an extensive sales and service network covering the length and breadth of the country. The Company has set up zonal offices, regional and area offices to support its large sales and service network. As on March 31, 2013, it had 1,204 sales outlets in 874 cities and 2,987 service workshops in 1,430 cities. The service network of the Company includes Dealer Workshops, Maruti Authorised Service Stations, Maruti Service Masters and Maruti Service Zones. Besides serving the Indian market, Maruti Suzuki exports cars to several countries in Europe, Asia, Latin America, Africa and Oceania.

Maruti Suzuki's Products: Range of Car

Maruti Suzuki offers 16 brands and over 150 variants of the car as a passenger vehicle-ranging from Maruti 800 to the latest Life Utility Vehicle, Ertiga. The portfolio includes Maruti 800, Alto 800, Alto K10, A-star, Estilo, WagonR, Ritz, Swift, Swift DZire, SX4, Omni, Eeco, Kizashi, Grand Vitara, Gypsy and Ertiga. As an environment friendly initiative, Maruti Suzuki introduced factory fitted CNG option on 5 models across vehicle segments in August 2010- Eeco, Alto, Estilo, Wagon R and SX4. With this, Maruti Suzuki became the first company in India to introduce factory fitted CNG vehicles.

Maruti Suzuki Sales:

Maruti Suzuki manufactures cars in India and sells in the domestic and international markets. In FY 2013-14, the company sold a total of 1,155,041cars -of these, 1,053,689numbers of cars in the domestic market and 101,352 cars in the international market.

Figure 2-35 shows Maruti's sales in domestic and international markets from FY 2008-09 to FY 2013-14below:

Figure 2-35: Number of Cars Sold in Domestic and International Market

Maruti Suzuki: Making of an Energy Efficient (Fuel Efficient) Brand

In the year 1980, the Indian automobile market was dominated by just a few brands like Ambassador and Fiat (Premier Padmini). Maruti Suzuki entered the Indian market with the strategy of offering a compact, modern and fuel efficient car. In 1983, Maruti released its first Maruti 800 car to fulfil the dreams of Indian customers to have a modern, affordable car. This car became a best seller and catapulted Maruti Suzuki to the position of market leader. Since its inception, Maruti Suzuki gradually added new models to its portfolio of offer in order to meet expectations of all categories of consumers.

Today, with the intense and aggressive competition in the market, Maruti Suzuki believes in innovative marketing strategies. Maruti Suzuki has established itself as a reliable brand amongst the masses with its wide range of cars that spell speed and style. With constant rise in the fuel prices in India, Maruti Suzuki positioned itself as a manufacturer of a range of fuel efficient cars and built its marketing strategies around such a positioning.

Advertising Strategy

Advertising is an important aspect of any brand building exercise. Maruti Suzuki's advertising strategy focused on both building up its corporate image and promoting sales of its cars. The campaigns emphasized different aspects of its cars- fuel efficiency, comfort, look, space etc. Advertisements of Maruti Suzuki always revolved around their core strengths of an excellent service network and mileage offered by the cars. Each of the ads exaggerates the situation a fair bit and ends with a humorous punch line.

The advertising campaign was carried out mainly through TV Channels, Radio and Print media, Point of Sale communication, Mobile promotions, online marketing and Outdoor promotions.

a) "Petrol khatam hi nahi hota" Campaign

In 2003, Maruti Suzuki came up with an innovative advertisement campaign with the message "Petrol khatam hi nahi hota". It instantly became popular for its simplicity and clear communication. In this campaign, two ads were aired.

Advertisementa1:

A young boy plays with a toy Maruti replica car, running it over the blanket. His dog raises an eyebrow as the car whooshes under his nose. The boy gets a shout from his mother when he runs the car over the dough.

The car is sent for a spin on the dining table, much to his father's chagrin. The goldfish scuttle away as he dips the car in the fish-bowl. He lifts his dog's tail and vroom's the car along.

Running it over the blackboard he is shouted at by his teacher. The dozing watchman grunts while the boy drives it on his bald pate. His sister hurriedly moves what she was reading seeing the oncoming car.

Persisting, he zips it on his father's foot and the car finally comes to a halt on his father's tummy. The father says, "Oye chhote bas kar yaar" (hey kid, stop it).

The kid chirps in return, "Papa ki kara, petrol khatam hi nahin honda" (What can I do, the petrol never finishes). Champion, his father calls him, hands on his forehead.

The Ad ends with the voice message "Maruti Suzuki, India's most fuel efficient cars".

Advertisementa2:

The TV commercial starts with a youngster talking on the phone, fixing up a plan to meet his friend.

He goes to his grandmother and asks for some money. She tells him she gave him money just yesterday. He tells her he needs the money for petrol.

The grandmother gets surprised and takes a miniature Maruti car out of her cupboard. She moves the car all over the house, passing the kitchen, across the fishing bowl, over the newspaper etc.

She gets tired, sits on the couch and says, "Maruti Suzuki puttarji, petrol khatam hi nahi honda" (Maruti Suzuki, dear kid, the petrol never finishes).

The youngster along with the family has a good laugh.

The ad ends with the voice message "Maruti Suzuki, Amazingly fuel efficient cars".

b) "Kitna deti hai" (How much mileage does the car give) Campaign:

In 2010, Maruti came up with its series of advertisements in the media under the "kitna deti hai" campaign. The advertisements are in Hindi and English, with the common punch line 'Kitna deti hai' which means 'what's the mileage'. These advertisements related not to a particular car model, it was about the company in general and about the sound services that Maruti has been providing.

Advertisement b1:

This refreshing advertisement takes us back to the time of 1930's. A fictional story is played out where famous aviation pioneers Amelia Earheart and Amy Johnson play their real life roles. They land their aircraft in Mumbai.

Soon as Amelia and steps out of her aircraft, she's asked by a curious bunch of people all about the air plane. Amelia explains and proclaims, "It's a super machine with 300hp radial engine and a 1000-mile range".

In an instant response, someone from the audience asks her, 'Kitna deti hai' (what is the mileage?), leaving Johnson stumped, with no answer.

Then comes the twist -the simple query is answered by a voiceover saying, "For a country obsessed with mileage, Maruti Suzuki makes India's most fuel efficient cars".

Advertisement b2:

The TV Commercial opens with a scientist animatedly talking about a space shuttle to a group of ordinary people. While the scientist continues his speech, it's obvious that they can't follow what he's saying.

Suddenly a man clicks a picture, when he is reprimanded by the scientist. At the end of his presentation, he asks "Any questions?"

When someone person from the group asks, "Kitna deti hai?"

And the scientist is stunned, confused and clueless.

The voiceover plays, "For a country obsessed with mileage, Maruti Suzuki makes India's most fuel efficient cars".

Advertisementb3:

In this television Ad, the rich Indian and a Sales person appear on the screen. The rich Indian intended to buy the Yacht. The salesman demonstrates the luxurious Yacht and explains the features to the Indian.

Salesman, "Sir, May I present you the super luxurious yacht, the Nefer TT, apart from all the luxuries such as six luxurious suits, three kitchens, golf course , a 3D theater, two boardrooms and to top at all it has top speed of 25 knots.

The rich Indian interjects, "Kitna Deti Hai"? (What is the mileage?) And the salesman is non-plussed and utterly clueless.

The background voiceover answers the simple query, "For a country obsessed with mileage, Maruti Suzuki makes India's most fuel efficient cars".

Advertisement b4:

In this advertisement, the visual opens with air hostesses welcoming passengers into a swanky, sci-fi aircraft. An Indian entering the aircraft is visibly impressed.

An attendant announces that this is a historic first flight of the aircraft from London to New York, which it will cover in just three hours. The attendant goes on to inform fliers about the features of the aircraft that included virtual reality windows, and hostesses who speak 12 languages.

The Indian calls out to an air hostess, in Hindi, she responds in Hindi.

The Indian asks the air hostess, "Kitna deti hai" (What is the mileage?). The airhostess is stumped.

The voiceover comes to the rescue of the airhostess, "For a country obsessed with mileage, Maruti Suzuki makes India's most fuel efficient cars".

c) "Beat the Heat" Campaign:

Maruti Suzuki organized a first of its kind "Beat the Heat" campaign at its 3,000 service workshops across India, 2013. Through this campaign, the company offered a range of services including free checking of air-conditioner, free top wash, True Value evaluation and exchange. The camps were.

In "Beat the Heat" free check-up camps, held on May 25-26, 2013 across the country, Maruti Suzuki (through its service teams) checked the air conditioning system of any Maruti Suzuki vehicle and also suggested remedial measures to achieve optimum performance and comfort level. The timing of the camps was perfect- peak summer, when customers want air-conditioning in their cars to deliver top performance.

The campaign was a mega customer-connect initiative. Maruti deployed their entire national service network of over 3,000 service workshops in 1,400 cities across India consisting of 80,000 service engineers and technicians to service customers over a single weekend. It was Maruti's way to sensitize customers about regular maintenance at Maruti Suzuki network, for a comfortable and satisfying use of Maruti cars.

Additional services at "Beat the Heat" camps included new vehicle test drive, extended warranty and fitting of a range of genuine accessory options.

The Maruti Suzuki had attended to 85,000 customers across the country during this two day initiative.

Government Policies and Regimes:

Government of India is very keen in development of the automobile and transportation sector and promotion of efficiency in this sector, given the employment generation potential in doing so. Policies and programmes have been initiated to get old and inefficient vehicles off the road. Norms and standards for fuel efficiency have been set, electric vehicles are promoted, public transportation encouraged, traffic congestion addressed, incentives provided for fuel efficient hybrid or electric vehicles, tax credits for fuel efficient vehicles and so on.

Some of the initiatives of government at policy level and guidelines issued for increasing efficiency in automobile and transportation sectors are discussed below:

Government Policy and Reforms for Automobile Sector:

Government had launched the Automobile Policy in 2002 to promote development of automobile sector. This policy allowed 100 percent Foreign Direct Investments (FDIs) without any restrictions on foreign players to collaborate with domestic players to set up their automobile manufacturing facilities.

To promote export to American and European countries, government developed the National Auto Fuel Policy in 2003 which stipulated strict compliance with international emission standards and introduced emission standards such as Bharat Stage III &IV to be implemented in India. Strict implementation of these emission standards has encouraged local and foreign automobile players to invest in R&D and technology to produce more fuel-efficient cars.

The government also prepared the Automotive Mission Plan 2006-2016 and established centers for world-class testing, homologation and certification along with nine state-of-the-art R&D centers under National Automotive Testing & R&D Infrastructure Development Project (NATRiP) by making investments of about $360 million. This has given the Indian automobile industry an edge over the newly emerging automotive destinations.

Special Economic Zones (SEZs) set up by the government has led to the formation of automobile and automotive hubs in and around cities like Chennai, Gurgaon and Pune. Government has also introduced tax benefits on the expenditure incurred by companies for in-house R&D activities.

Emission Standards for Transport Sector

Government of India has structured strategic emission standards to regulate the output of air pollutants from internal combustion engine equipment in motor vehicles. Further, the government is in the process of formulating energy efficiency policies for standards and labelling of cars that foster energy conservation and efficiency, energy usage and greenhouse gas emissions reductions.

a) Bharat Stage Emission Standards:

Bharat Stage emission standards are standards instituted by the Government of India to regulate the output of air pollutants from internal combustion engine equipment in motor vehicles. The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment & Forests.

The Standards, based on European Regulations, were first introduced in 2000. Progressively stringent norms have been rolled out. All new vehicles manufactured after the announcement of the norms have to be compliant with the regulations. Since October 2010, Bharat Stage III norms have been enforced all across the country. And, in 13 major cities, Bharat Stage IV emission norms have been in place since April 2010.

The phasing out of 2- stroke engine for two wheelers, the stoppage of production of Maruti 800 passenger vehicles and the introduction of electronic controls have been in response to the regulations related to vehicular emissions.

The Indian Emission Standards (4-Wheel Vehicles) are as follows:

Emission Standard	Reference	Year	Region

India 2000	Euro 1	2000	Nationwide
Bharat Stage II	Euro 2	2001	NCR*, Mumbai, Kolkata, Chennai
		2003	NCR*, 13 Cities†
		2005	Nationwide
Bharat Stage III	Euro 3	2005	NCR*, 13 Cities†
		2010	Nationwide
Bharat Stage IV	Euro 4	2010	NCR*, 13 Cities†
* National Capital Region (Delhi) † Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad, Pune, Surat, Kanpur, Lucknow, Sholapur, Jamshedpur and Agra.			

Source: National Auto Fuel Policy 2003, GoI.

The above standards apply to all new 4-wheel vehicles sold and registered in the respective regions. The National Auto Fuel Policy also introduces certain emission requirements for interstate buses with routes originating or terminating in Delhi or the other 10 cities.

Implementation of these norms would certainly help in bringing down pollution levels, however it invariably means increased cost of the vehicles due to investment in R&D and technology up-gradation. The cost increases are offset by savings in health costs for the public, as there would be lower incidence of diseases arising from the particulate matter and pollution in the air.

b) Fuel Efficiency Labelling of Cars

The Bureau of Energy Efficiency (BEE) has recently proposed ratings for the automobiles on the basis of their fuel efficiency and making such labelling mandatory. Vehicles with the highest efficiency will get a **5-star** rating; whereas those with the lowest efficiency get a single star rating. The BEE has floated a consultation paper on their website for comments from stakeholders before finalisation.

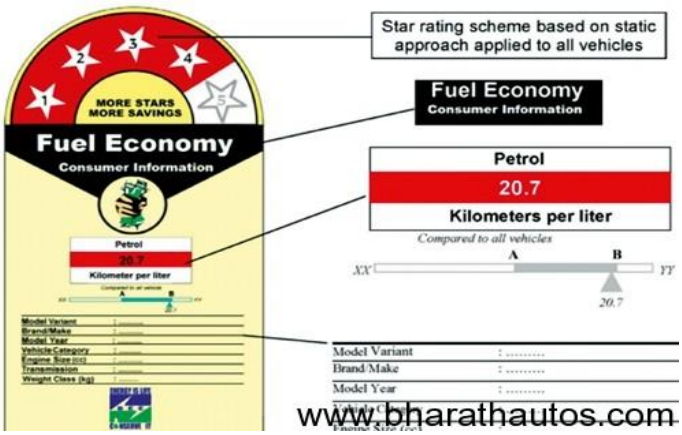

Figure 2-36: Proposed Energy Efficiency Label for Cars[1]

The label will contain following information:

- Star Rating of Car as per Norms and Standards
- Fuel Economy in Kilometres per litre
- Information related to the Model, Year etc.

The fuel efficiency standards for cars will come into effect in 2015 and by 2020; every car manufacturer will have to ensure that fuel consumption standards are in line with the specified corporate average or fleet average fuel standards. The standards will be notified very soon.

Achievement of Maruti Suzuki:

- Maruti Suzuki is the only Indian company that has crossed the 10 million sales mark since its inception.
- Maruti Suzuki has consistently sold more than 1 million cars in each year since 2009-10.
- The company has the largest sales and service network amongst car manufacturers in India.

[1] Source: www.bharatautos.com

- Maruti Suzuki is exporting to 98 countries in Europe, Asia, Latin America, Africa and Oceania. Some leading overseas markets of Maruti include Germany, Netherland, France & UK.
- Over its 30 year - journey, Maruti Suzuki transformed itself from a successful Public Sector Company (PSU) to a vibrant and publicly listed Multi-National Company (MNC), sustained its leadership position in the Indian passenger car market, and remained profitable despite tough competition.
- The company is today one of the most valued companies in the Indian stock market.

Lessons Learnt

The case study on Maruti Suzuki is mainly focused on the branding strategies adopted by the company to promote their fuel efficient cars. Maruti Suzuki has always positioned itself as a company which cares for the customer's savings and has branded its cars as fuel efficient, offering *value for money* proposition to customers.

Maruti Suzuki, through ad campaigns such as"Petrol khatam hi nahi hota" and “Kitna deti hai” effectively communicated and re-emphasized its leadership in the realm of fuel efficiency. Especially the ad campaign “Kitna deti hai” series was based on the insight that Indian consumers, under all circumstances, are extremely conscious of the performance offered in terms of mileage per unit of fuel. The seasonal campaigns such as “beat the heat” also helpedMaruti Suzuki attract the consumer and develop brand loyalty.

Branding of fuel efficient cars through innovative ad campaigns such as "Petrol khatam hi nahi hota" and “Kitna deti hai” has been very successful in the Indian context and has delivered the message of fuel efficiency to the consumers effectively. Companies offering Energy Efficiency products and services can draw important lessons from the campaigns of Maruti Suzuki for their branding strategy.

Some of the key learnings from the branding strategies adopted by the Maruti Suzuki are:

- Maruti Suzuki is good at building brands. It studies the market and targeted customer segments, and designs cars that are suitable for the markets.
- Maruti invests a significant budget outlay for brand building through advertising and promotion- before and after the launch.
- The campaigns are through all possible channels- print and television media, the internet through websites and blogs, and social media such as Facebook and Twitter.
- The company’s communication has kept pace with the changing trends and aspirations of the consumers. As a result, Maruti Suzuki’s advertising relates well with its audience by appealing to their heart and head.
- While a few of the individual brands in the company’s portfolio have their own positioning, they all draw strength from the core Maruti Suzuki values of trust, reliability and leadership.

- Maruti Suzuki is seen as a dynamic, innovative, stylish and high-technology brand.
- The organisational values that contribute to Maruti Suzuki's leadership are - customer obsession; speed, flexibility, being the first mover; innovation and creativity; networking and partnership; openness and learning.
- Maruti focuses on creating brand loyalty as it is a more effective to bring in a repeat consumer than to get a new customer or to win a consumer of a rival brand.
- Loyal customers are offered discounts, reward points; early buy options on car releases.
- In the process of brand building, Maruti Suzuki focuses on building capacity of their dealers and service network in communicating advantages of fuel efficiency to customers.

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Maruti Suzuki Ad for "Kitna deti hai" Campaign

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Ad 2:http://www.youtube.com/watch?v=tzW7Sxzkr1Y
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2.5 Case study on Sustainability Initiatives of ITC Limited - India

ITC Limited (ITC) is an Indian conglomerate headquartered in Kolkata, West Bengal, in the eastern part of India. The company was formed on August 24, 1910 under the name Imperial Tobacco Company of India Limited. Later the name was changed to India Tobacco Company Limited in 1970 and then, with the de- emphasis on tobacco and tobacco products, to I.T.C. Limited in 1974. The company changed its name to 'ITC Limited' on September 2001.

Figure 2-37: ITC's Logo

The first six decades of the company's existence were primarily devoted to the growth and consolidation of the cigarettes and leaf tobacco businesses. Later in 1925, ITC's packaging and printing business was set up as a strategic backward integration move for ITC's cigarettes business.

Since 1964, conclusive epidemiological evidence of the deadly effects of tobacco consumption has led to a sharp decline in official support or tolerance for producers and manufacturers of tobacco, in spite of its large contribution to the agricultural, fiscal, manufacturing and exporting sectors of the economy. Viewing the changes in the dynamics of the tobacco industry business, the company started looking to other avenues for revenue generation. In 1970s, it began its foray into non-tobacco businesses.

ITC claims that it is the only company in the world, which for its totality of operations is positive in respect of all the three dimensions-is carbon, water and solid waste recycling positive.

ITC Limited

ITC is one of India's leading private sector companies with a market capitalization of US$ 45 billion and a turnover of over US$ 7 billion. It has a diversified presence in fast moving consumer goods (FMCG), hotels, paperboards and packaging, agri business and information technology businesses. It is widely acknowledged as one of India's most valuable business corporations.

The ITC group consists of the following companies:

Subsidiaries:

- ITC Infotech
- Surya Nepal Private Limited
- Land Base
- King Maker Marketing Inc., USA
- Technico Pty Limited, Australia
- Russell Credit Limited
- Wimco Limited
- Srinivasa Resorts Limited
- Fortune Park Hotels Limited
- Bay Islands Hotels Limited
- Gold Flake Corporation Limited

Joint Ventures:

- Maharaja Heritage Resorts Ltd.
- ITC Filtrona

Associate Companies:

- Gujarat Hotels Limited
- International Travel House

Inspired by a vision to be an active player in the national economy, ITC began its foray in a gamut of industries. ITC has successfully crafted unique business models that integrate the creation of long-term shareholder value with the enhancement of societal and environmental capital. Over the last 17 years, ITC has aggressively pursued a policy of diversification, focusing on creating an array of vibrant world-class Indian brands across business segments that has demonstrated the immense vitality of the company in the Indian marketplace. ITC, through its multi-dimensional businesses has unleashed strong drivers of growth for the Indian economy.

ITC aims at delivering societal development in the context of its businesses. It works in partnership with farmers and communities to implement large-scale social investment programmes that have enhanced incomes and improved the quality of life for the rural population through the creation of sustainable livelihood opportunities. Through its businesses, ITC has helped generate more than 5 million livelihoods across value chains, touching the lives of many living at the margins in rural India.

ITC's commitment in the area of economic performance is encapsulated in its Vision statement, which is to *"Sustain ITC's position as one of India's most valuable corporations through world-class performance, creating growing value for the Indian economy and the Company's stakeholders"*. ITC's Mission is *"to enhance the wealth generating capability of the enterprise in a globalizing environment delivering superior and sustainable stakeholder value"*.

ITC's strategy is to ensure that each of its businesses is world-class and internationally competitive in the Indian market in the first instance and progressively in the offshore global markets.

ITC, as a premier 'Indian' enterprise, consciously exercises the strategic choice of contributing to and securing competitiveness of the entire value chain of which it is a part. This philosophy has shaped the ITC's business approach into *"a commitment beyond the market"*.

ITC's Products:

Keeping pace with the rapid growth of the FMCG industry in India, ITC has significantly scaled up its presence in the FMCG sector, particularly its newer businesses. Its impressive bouquet of offerings includes branded packaged foods, personal care products, cigarettes, lifestyle retailing, education and stationery products, safety matches and incense sticks (agarbatti). Within a relatively short span of time, ITC has established several strong consumer brands in the Indian FMCG market. Today, more than 50% of ITC's turnover is from non-tobacco products and services.

ITC: Sustainability Approach and Action

ITC believes that businesses exist to sub-serve larger societal goals. Their contribution is best measured by the value they create for the society at large; going beyond traditional profit and loss statements.ITC endorses the idea that a company's performance must be measured by its triple bottom line contribution to building economic, social and environmental capital. Inspired by this idea, ITC is pursuing an innovative business strategy that synergises the creation of sustainable livelihoods and the preservation of environmental capital with the building of shareholder value.

The triple bottom line strategy of building economic, social and environmental capital involves:

Embedding Sustainability in Business:

ITC has developed various business models promoting sustainability in their businesses:

a) e-Choupal

Figure 2-38: e-Choupal Program

ITC's e-Choupal is an innovative market-led business model designed to enhance the competitiveness of Indian agriculture. e-Choupal leverages the power of information and digital technology and the internet to empower small and marginal farmers in rural India with a host of services related to know how, best practices, timely and relevant weather

information, transparent discovery of prices for their crops. The initiative allows for a virtual integration of the supply chain and injects significant efficiencies in to the traditional system.

e-Choupal is designed to empower farmers and trigger a virtuous cycle of higher productivity, higher incomes, enlarged capacity for farmer risk management, and thereby larger investments to enable higher quality and productivity.

These interventions have helped transform village communities into vibrant economic organisations, by enhancing incomes and co-creating markets. ITC's e-Choupal serves 40,000 villages and 4 million farmers, mainly in Central India making it the world's largest rural digital infrastructure created by a private enterprise.

b) Social and Farm Forestry

ITC's paper and paperboards business is in constant need of a cost-effective and sustainable raw material base. ITC has linked this need to the socio-economic requirements of the catchment area by its Social and Farm Forestry initiative. Programmes under this initiative provide sustainable livelihood opportunities to rural wasteland owners by assisting them to convert their wastelands into pulpwood plantations. To ensure the commercial viability of these plantations, ITC's R&D developed high-yielding clonal stock with shorter harvesting cycles - 4 years against 7 years for standard saplings.

This programme added close to 21,000 hectares of plantations during 2013-14.Total plantations have been reached to 163,000 hectares and have provided over 70 million person-days of employment, apart from supplying about 59% of ITC's total pulpwood requirements – contributing significantly to the competitiveness of ITC's paper and paperboards business.

<u>Investing in Social Development:</u>

ITC has spearheaded a large scale social investments programme christened Mission "Sunehra Kal" (A bright tomorrow).

This programme aims at building rural capacity in partnership with local communities to develop water and forest resources, open up new non-farm livelihoods, empower women economically and expand primary education.

The Mission now embraces a community of thousands of villages that are influential nuclei of change in rural localities spread over 10 States. A clearly focused self-help movement has gained ground in village after village in these areas, with farmers co-operating to create much needed economic, environmental and social assets out of their own resources.

By linking knowledge and technology transfer to the creation of economic and social capacity, ITC has brought a new dynamic to rural development.

Some of ITC's significant initiatives are:

a) Integrated Watershed Development Programme

Recognising the vital role of water and irrigation in the rural economy, ITC supports watershed development projects in water-stressed areas, providing precious water resources for agriculture, rural communities and livestock. The focus is on building, reviving and maintaining water harvesting structures as well as implementing other measures which help to reverse land degradation, provide critical irrigation and increase agricultural productivity. Adopting a participatory approach, ITC works with NGOs to mobilise local communities to form water user groups. These groups are trained to carry out the entire spectrum of activities from planning to execution and maintenance of water harvesting structures.

The groups are also trained to formulate regulations and fix water user charges which go towards creating a fund used to maintain existing structures and build new ones. ITC has also entered into public-private partnerships with several state governments and NABARD, bringing together government and corporate resources to undertake watershed development projects with considerably greater scale and impact. Currently, these projects are targeting to cover nearly 1, 45,000 hectares in some of India's most drought prone regions.

With over 1,48,000 hectares of land under soil and moisture conservation, this programme has helped to conserve soil and moisture for over 1,27,000 households.

b) Women's Empowerment Programme

Women's empowerment programme has been launched to provide sustainable economic opportunities to poor women in rural areas. ITC assists them to form micro-credit self-help groups so that they can build up small savings and finance self-employment and micro-enterprises.

ITC's women's empowerment programme advances progress towards social goals with its initiatives to develop the communities and households around ITC's units. The programme is part of ITC's mandate to address the challenge of creating sustainable livelihoods for communities, and has covered over 17,800 women through 1450 self-help groups. Cumulatively, over 42,000 women have been gainfully employed either through micro-enterprises, or were assisted with loans to pursue income generating activities.

c) Primary Education Programme

A strong foundation in primary education and skill building for the children in the community is a major step towards ensuring improvements in the human development indices for the community as a whole. However the inability of economically weak rural families to access quality primary education is a major obstacle to overall development.

ITC's primary education programme seeks to address these challenges through a range of far-reaching solutions. The focus of the programme is to increase enrolments and minimise drop-outs. The programme also enhances the learning environment by providing infrastructural support to Government Schools. Assistance provided to government primary schools includes drinking water tanks, toilets, lights and fans, desks and chairs, structural additions and improvements, along with training for teachers and support for recreation and cultural activities.

Over 3, 19,000 students have been covered through supplementary learning centres and anganwadis. Of these, 952 first generation learners have also been mainstreamed into formal schools.

d) Livestock and Animal Husbandry Programme

ITC's focus with regard to rural communities is primarily based on interventions to strengthen and broad-base their livelihood options through both farm and non-farm activities.

In line with this, livestock and animal husbandry programme aims at assisting cattle-owners to upgrade their low-yielding indigenous stock through cross-breeding by artificial insemination. Comprehensive animal husbandry services are provided right at the doorstep through cattle development centres managed by trained local community members. Cross-bred yields are significantly higher than indigenous stock, generating substantial supplementary incomes from surplus milk sales and paving the way for dairying to emerge as a viable livelihood option.

Although 70 percent of India's rural population owns cattle, milk yields are abysmally low due to poor quality stock. By enabling families to upgrade to high-yield livestock and form co-operatives to market their milk, ITC turns a dormant family resource into an easily adoptable and dynamic rural enterprise. ITC trains and equips technicians to provide an integrated package consisting of artificial insemination, cattle health and nutrition, pregnancy and post-natal services right at the farmer's doorstep.

Around 299 cattle development centres (CDCs) have been established, covering more than 10,300 villages and resulting in over 12 lakh artificial inseminations. A total of over 3.7 lakh progenies have been produced to date and over 5 lakh animals have received vaccination and nutrition services.

ITC is has taken steps in the development of a viable livestock economy through dairy development. Backward linkages are also being strengthened for dairy inputs, particularly cattle feed. As a result of all these inputs, milk procurement has also steadily increased over the years.

Adopting a Low Carbon Growth Path and a Cleaner Environment Approach

a) Renewable Energy:

ITC's commitment to the environment is manifest in its several initiatives to enlarge its positive carbon footprint. This is achieved not only through enhanced energy conservation, but also through use of renewable energy sources and expanding carbon sequestration through its large scale Social and Farm Forestry Programmes. Apart from concerted efforts by all units to reduce energy consumption through stringent audits and benchmarking, ITC is also constantly expanding its renewable energy portfolio. More than 38 percent of its energy consumption is now met from renewable sources, and this is expected to touch 50 percent in the next 4-5 years.

Improved utilisation of carbon neutral fuels such as biofuels in the paperboards and specialty papers business and the commissioning of 13.8 MW wind power projects in Maharashtra and Tamil Nadu contributed to increased utilisation of renewable energy.

Figure 2-39 - Share of Renewable Energy in ITC's Energy Mix

b) Green Hotels

ITC's hotels pioneered the concept of 'Responsible Luxury' in the hospitality industry, drawing on the strengths of the ITC group's exemplary sustainability practices. Responsible luxury personifies an ethos that integrates world-class green practices with contemporary design elements to deliver the best of luxury in the greenest possible manner. The responsible luxury commitment of ITC Hotels blends elements of nature to deliver a unique value proposition to guests, conscious of their responsibility to be planet positive. These unique interventions have made ITC's hotels the 'greenest luxury hotel chain in the world' and all its premium luxury hotels are Leadership in Energy and Environmental Design (LEED) Platinum Certified hotels. In pursuit of ITC's commitment to 'Responsible Luxury' investments have been made to provide clean power to ITC's hotels in Bengaluru, Mumbai and Jaipur. Further investments in wind energy were also made at the newly built ITC Grand Chola at Chennai.

Figure 2-40- ITC Gardenia, Bengaluru - Asia's First LEED Platinum Rated Green Hotel

c) Waste Recycling

ITC has implemented a number of measures in waste management to create a positive environmental footprint as part of its involvement with sustainable natural resource management. All ITC units are mandated to achieve total recycling of waste generated by their operations. All the units have made significant progress in achieving this target, recycling over 99.9% of waste generated by its operations.

In 2007, ITC has initiated a unique project - Wealth Out of Waste (WOW) - a recycling programme to create awareness on the 'Reduce-Reuse-Recycle' approach, and inculcate the habit of source segregation. Apart from augmenting scarce natural resources, the initiative also generates cost-effective raw materials for the paper, plastics, metal and glass industries. These initiatives have enabled ITC to remain Solid Waste Recycling Positive for over 6 years.

Campaign and Promotional Activities

ITC Sustainability App:

ITC is an exemplar in Sustainability and is the only company in the world amongst companies of comparable size to be Carbon, Water and Solid Waste Recycling Positive.

ITC Sustainability App demonstrates the company's endeavours in Sustainable Business Practices

Figure 2-41 - ITC Sustainability App

Achievement of ITC towards Sustainability

ITC's achievements across all three dimensions of the 'Triple Bottom Line' - economic, social and environmental are well known and recognized globally. Some of the achievements are as follows:

Economic Achievements

- ITC's market capitalization has risen to US$ 45 billion and turnover of US$ 7 billion and ITC has consistently featured amongst the top 10 companies in terms of market capitalization and the top 15 companies in terms of profits;
- ITC Group provides direct employment to more than 31,000 people;
- Powering growth with multiple business drivers: Diversified multi-business conglomerate spanning FMCG, hotels, paperboards & packaging, agri business and information technology;
- Powered by the vitality of world-class brands.

Social Achievements

- ITC's globally acknowledged e-Choupal initiative is the world's largest rural digital infrastructure benefitting over 4 million farmers;
- ITC's primary education initiative has educated over 3,00,000 children;
- The Women's Empowerment Programme has created sustainable livelihood opportunities for nearly 40,000 women, either through micro-enterprises, or assistance with loans to pursue income generating activities;
- The Livestock Development programme has provided animal husbandry services to over 10,00,000 animals, increasing milk yields substantially;

- The Social & farm Forestry programme has greened over 1, 63,000 hectares, generating over 70 million person days of employment.

Environmental achievements

- ITC's watershed development programme provides soil and moisture conservation to over 1, 49,000 hectares. This has enabled the company to retain its water positive status for 12 years in a row.
- The social and farm forestry initiatives have helped sequester45,29,311 tons of CO_2 in FY 2013-14, thus consolidating ITC's status as a 'Carbon Positive Company' for the 9thyear in a row.
- Wealth out of waste programme has promoted recycling and source segregation and creates awareness among all stakeholders on the benefits of the reduce-reuse-recycle approach. This initiative has enabled ITC's paperboards business to source and recycle post-consumer waste, thereby contributing to ITC's solid waste recycling +ve status.
- Watershed development programme initiative brings precious water to more than 1, 49,000 hectares of moisture-stressed areas.
- ITC has greenest luxury hotel chain with all ITC's premium luxury hotels LEED platinum certified.
- The social and farm forestry initiative has greened over 1, 63,000 hectares, which has led to large-scale carbon sequestration.

Lessons learned

- ITC has designed and implemented innovative strategies to create sustainable value chains linked to its businesses that encompass some of the most disadvantaged sections of society, especially those residing in rural India;
- ITC has crafted innovative business models that create larger and long term value by not only generating new sources of competitive advantage for its businesses, but also in the process augmenting environmental capital and sustainable livelihoods for the nation;
- ITC's business-linked sustainability initiatives and social investment programmes like the e-choupal, social & farm forestry initiatives, watershed development, animal husbandry and women's empowerment, have transformed large swathes of rural India;
- ITC measures its performance by its triple bottom line contribution to building economic, social and environmental capital. This triple bottom line performance is a reflection of ITC's vision and commitment to create long term stakeholder value;
- Women's Empowerment Programme, enabling women to earn independent incomes has a positive impact on their families and communities as it is spent largely on children's education, health and nutrition, and is a catalyst for development;

- ITC works in partnership with farmers and communities to implement large-scale social investment programmes that have enhanced incomes and improved the quality of life through the creation of sustainable livelihood opportunities;
- The water conservation, watershed development and rainwater harvesting projects not only improve the sustainability of their agri related businesses, but also create sustainable livelihoods for a large number of marginal farmers;
- Social Forestry Programme enabling pulpwood plantations has increased the biomass cover and has a salutary effect on agricultural production by preventing soil erosion, and recharging groundwater;

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2.6 Case Study on Energy Efficient Lighting Solutions (CFLs & LEDs) - Philips

Globally, electricity consumption for lighting constitutes around 20% of end use electricity consumption and 6% of global GHG emissions. General lighting constitutes 75% of the lighting market of which 40% is residential lighting. It is said that by 2020 global lighting market will yield revenues of Euro 100 billion. The demand for lighting is constantly increasing with explosion in population, urban growth and increased income levels. Global usage of energy efficient lighting can reduce energy consumption and about half of the 6% global GHG emissions and contribute positively to sustainable development. Energy efficient lighting such as Compact Florescent Lamps (CFL) or Light Emitting Diode (LED) lighting is a win-win situation for the consumers, the electric utilities, and the governments. Due to energy efficient CFL/LED lighting, consumers' benefit from optimized energy usage; reduced energy bills; reduction in peak load demands of utilities; and energy security of the nation is enhanced.

Government Regimes and Policies:

More than 40 countries including USA, EU, Australia, Russia, Japan, China, Brazil and others had / have imposed a timeline ban on inefficient technologies in lighting, but still quantitatively incandescent lamps are the largest in the number of lamps that are in the market. In the USA, at the time of phase out, 82 percent of the market was held by incandescent lamps, 17% by CFLs and 1% by LEDs. Cuba was the first country in the world to have completely phased out incandescent lamps way back in 2007.

Government policies and programmes have encouraged switching over to CFL and LED. There are many types of lighting options available for replacement of incandescent bulbs but CFLs and LEDs are emerging as the most viable options. Right in 1996, CFLs were 80% of lighting in Japan and 50% in Germany.

CFLs are considered the best available option for replacing incandescent bulbs; they are longer lasting – 8 to 13 continuous months and cost effective in the long run. CFLs prices have also come down 90% since the last decade. Transition to CFLs and LEDs is taking place, it is expected to gain momentum in the coming years. Energy efficient lighting takes only one fifth of the energy to emit the same amount of light as incandescent and can last 35 times longer. LEDs offer significant energy savings potential and are gaining popularity as they are more energy efficient, last much longer, emit better light and can fit into many more places. Currently price of the LED is an inhibitor but it is expected that by 2020, it would come down by 50%. LEDs are slated to account for 70% of the general lighting by 2020.

Globally government policies and programmes have given a huge impetus to the CFL and LED markets. A few such policies and programmes are discussed below:

- As of 2011, 19 countries had issued mandatory Minimum Energy Performance Standards (MEPS) increasing average energy efficiency of individual CFL; 22 economies had voluntary endorsement labels; and 15 countries had issued mandatory energy labels.
- In Korea, the Efficiency Standards and Labelling programme is also applicable for CFLs. The Korean comparative labels have a grading of 1 to 5. Grade 1 products are 30%-40% energy efficient in comparison to Grade 5 products.
- En.lighten is a global initiative of United Nations Environment Programme (UNEP) and Global Environment Fund (GEF) that develops global strategy to accelerate global market transformation to phase out inefficient lighting technologies.
- Spain, in partnership with the European Commission, intended to completely eliminate low efficiency bulbs by 2012. Towards this, the Government distributed one energy efficient bulb free in 2009 and another in 2010 by including gift vouchers in the electricity bill. It was estimated that those bulbs would consume 80% less energy than incandescent bulbs and would last 6 to 8 times longer and thereby yield significant savings.
- In 2008, in France, a voluntary agreement was signed by the Ministry of Ecology, Energy, Sustainable Development and Planning, Home Improvement and DIY retailers (represented by two professional organisations) for phasing out inefficient lighting. The holistic agreement covered all aspects related to a phasing-out of inefficient lighting, including the promotion of efficient lamps, progressively removing incandescent lamps from the marketplace, improving the quality of efficient lighting products sold, promoting the collection and recycling of lamps, and improving the information provided to and awareness among consumers.
- In the US, it is estimated that Solid State Lighting technology could cut 1/4th of the lighting usage in the US. The Department of Energy (DOE) had drawn up an elaborate program from R&D to commercialization of Solid State Lighting. In 2008, DOE had announced the 'bright tomorrow lighting competition – L prize' for speeding up innovation of energy efficient solid state lighting. Philips, responding to the challenge, invested heavily in R&D, and was the only company to apply and submit lights for rigorous testing over a period of 18 months. Philips LED 10W LED light that would replace 60W incandescent bulb was awarded the L prize – a cash award of US $ 10 Million. Philips estimated that if every 60W household socket in USA installed 10W L prize LED bulb, the country could save 35 terawatt hours of electricity annually.
- In South Africa, Eskom - electricity utility in partnership with IFC and GEF launched the Efficient Lighting Initiative (ELI) programme. The programme was implemented from 2003-2003 and promoted CFLs.

- Again from 2004 and 2010, more than 43.5 million CFLs were distributed as part energy efficient lighting programme. It was estimated that in the six year period the programme had saved 1800MW of electricity. The programme also provided jobs for 500 unemployed youth in the communities.
- Since 2007, Eskom under its national efficiency lighting CDM programme distributed 30 million CFLs and generated significant savings. Eskom intended to distribute 20 to 40 million CFLs between 2011 and 2013 and sustain energy savings.

- Egypt has structured a subsidy programme for CFLs from 2010 to 2015 to stimulate the market for CFLs. In addition to this UNDP / GEF project, the Ministry of Electricity and Energy has earmarked 18 million Egyptian pounds for selling additional 3-4 million CFLs.

It is the thrust given by the government policies and programmes such as MEPs, labelling, bulk purchase and distribution, on bill financing, tax waivers, subsidies, awareness campaigns and so on that have played a pivotal role and driven the penetration of CFLs with reduced price in the residential sector rather than any specific branding efforts. Government support to R&D programmes and a few other initiatives are pushing the growth of LED market.

Royal Philips

Royal Philips of the Netherlands is a diversified health and well-being company, focused on improving people's lives through timely innovations. As a world leader in healthcare, lifestyle and lighting, Philips integrates technologies and design into people-centric solutions, based on fundamental customer insights and the brand promise of "sense and simplicity".

Figure 2-42- Logo of Philips

Headquartered in the Netherlands, Philips employs approximately 128,000 employees in more than 60 countries worldwide. The company is a market leader in equipment for cardiac care, acute care and home healthcare, energy efficient lighting solutions and new lighting applications, as well as lifestyle products for personal well-being and pleasure, and

has strong leadership positions in flat TV, male shaving and grooming, portable entertainment and oral healthcare.

Energy Efficient Lighting Solutions by Philips

As the world's leader in lighting, Philips is driving the switch to energy-efficient solutions. With worldwide electrical lighting accounting for an estimated 19 percent of all electricity consumed, the use of energy-efficient lighting will significantly reduce energy consumption around the world and thereby cut harmful CO_2 emissions. Philips provides advanced energy-efficient solutions for all segments - road lighting, office & industrial, hospitality, and home - and has been instrumental in delivering sustainable and environmental-friendly lighting technologies and initiatives to the marketplace. Philips is also a leader in shaping the future with exciting new lighting applications and platforms such as LED technology, which, besides energy efficiency, provides attractive benefits and endless new 'never-before-possible' lighting solutions.

Philips Lighting Business Highlights

Philips is a leading lighting solutions and applications provider for both professional and consumer markets. Philips addresses lighting needs in a full range of environments – indoors as well as outdoors. It also meets people's needs on the road, by providing safe lighting in traffic. In addition, it delivers light-inspired experiences through architectural and city beautification projects. Its lighting is used for specific applications including horticulture, refrigeration lighting and signage, as well as heating, air and water purification and healthcare.

a) City Beautification:

Environmentally conscious product design, such as the energy saving lamps used in the Eiffel Tower is part of the Philips' aim to create sustainable solutions for lighting and a broader drive to contribute to a better quality of life across the globe.

b) Automotive Lighting:

The Philips Xenon HID light improves the driver's vision compared to the conventional halogen lighting and thereby increases safety on the road. The Xenon HID light gives twice as much light as a halogen bulb at half the energy consumption with a much longer lifetime.

c) Energy Saving Lighting:

Philips took another step in further leveraging its recently acquired consumer luminaires business by introducing the energy-saving consumer-luminaire Ecomoods range in Europe and Asia.

The key areas of Philips lighting business are:

- Lamps
- Professional Luminaries & Systems
- Home Luminaries & Systems
- Lighting Electronics
- Automotive
- Solid State Modules
- Lumileds
- Special Lighting Application

Business Trends

With the new lighting technologies, such as LED technology, and the increasing demand for energy efficient solutions, Philips continues to shape the future with innovative new lighting applications.

The lighting business trend observed in the last few years:

- Energy costs are rising across the globe, driven by high oil prices;
- Increased awareness/legislation around climate change is driving a reduction in CO_2
- Atmosphere-creating and safety-enhancing lighting solutions are increasingly apart of individual and community well-being;
- Demand for (energy-efficient) lighting in emerging markets continues to grow;
- Future LED solutions: application IP and luminaries will be essential;

Philips: Making of Energy Efficiency Brand

Philips is not just a company name – it's a brand that promises an experience to people. Whether it was lighting lives in 1891 when they introduced their first incandescent light bulb, or saving lives in the present era with the HeartStart defibrillator, people have always been at the heart of Philips.

Philips has been consistently working on development of its brand globally through innovative ideas and slogans.

Some of most admirable branding initiatives of Philips:

Philips Delivering "sense and simplicity"

Philips has launched the brand promise - "sense and simplicity" - in 2004. Prior to the launch of "sense and simplicity," they did not have a consistent way within their organization to deliver a one-Philips brand experience to customers. The launch of brand promise "sense and simplicity" was an important milestone in their brand journey.

PHILIPS
sense and simplicity

This step change guided the organization to deliver a consistent, differentiated brand experience; helping them to build the Philips brand in the hearts and minds of people. This brand promise encapsulates Philips' commitment to deliver solutions that are advanced, easy to use, and designed around the needs of all users and customers.

"The Joy of Extra Brightness with Philips Lighting"

In this promotion campaign Philips presents the claim that they understand the importance of light in your life. They had brought in lights that give you 20% more brightness - extra brightness to add to the joy of the special moments like weddings, festivals and parties. Philips Lighting also claims that they help make everyday moments of your life brighter, and more special.

Figure 2-43: Television commercial / advertisement film

"See How Lighting Can Makeover Your Home"

In this branding approach, Philips offers consumers a range of real home videos from different locations like Amsterdam, Seoul, New York, Singapore, Hong Kong, Shanghai, Berlin, Paris, New Delhi etc.

The consumer can watch these videos and select the appropriate lighting style for their house. The slogan used during this branding exercise "Watch lighting makeover videos of real people's homes with the simple addition of Philips LED lighting – and get inspired with new ideas to makeover your own place".

Other Branding Approaches:

a) e-Luminous Newsletters:

e-Luminous is the quarterly newsletter where Philips shares the latest ideas and inspiration from the world of professional lighting. Each issue contains an interview, 6 inspiring lighting projects, the newest innovations and other interesting topics.

b) Philips Lighting Hub App:

Philips has developed the "Philips Lighting Hub" for service to its consumers. This app is a source of information and inspiration. The app shows inspirational projects and also offers consumers the details of a complete professional lighting portfolio in one go. A few salient features:

- Inspirational projects with YouTube videos
- Complete professional lighting portfolio with all product details which can also be shared by email, Twitter or LinkedIn.
- Option to search projects by lighting effects, or discover the lighting solutions and services from Philips.
- The facility to add products to your Project Planner and share them with others.

c) Philips at Light India 2012 at Pragati Maidan, New Delhi, October 5 to 8, 2012:

Philips was one of the organizing committee members of Light India 2012, one of the biggest events on lighting in India, organized by ELCOMA & Messe Frankfurt, demonstrating Philips's products and solutions, and its global leadership in LED lighting.

Figure 2-44: Inauguration of Light India 2012 Programme

d) India Gate Lighting Makeover:

The India Gate, India's most famous national monument is located at the heart of Delhi. Philips, with its tradition of lighting up the heritage and historical monument – The India Gate, Philips India has contributed to the enhanced look of this iconic symbol of the nation. The new lights are energy efficient and environment friendly and have creatively illuminated and highlighted the unique features of the India Gate.

Figure 2-45: Makeover of India Gate

Award and Achievements of Philips:

Philips Award Winning LED Bulb: L Prize®

The L Prize® was the first U.S. government-sponsored technology competition challenging lighting manufacturers to push the limits of energy efficiency and develop a high quality solid state lighting product to replace the common incandescent bulb.

The Energy Independence and Security Act (EISA) of 2007, the U.S. Department of Energy (DOE) established the L Prize competition to replace the most widely used and inefficient technology—the 60W incandescent bulb.

The competition requirements included a rigorous evaluation process for performance which included testing conducted by independent laboratories and field assessments in collaboration with utilities and other partners, to validate the performance, quality and energy efficiency of the winning product.

Figure 2-46: Philips Award Winning LED Bulb "L Prize®"

Philips participated in the L Prize competition and was awarded the prize, as the solution it offered meant big energy and environmental savings, and also represented a major technological leap forward for LED replacement lamps.

Philips Hue Home Lighting System

Philips has developed the "Philips Hue", a home LED lighting system that lets the consumer control her lights and change their colour using Smartphone or Tablet. This system is composed of three Wi-Fi connected light bulbs, a network gateway slightly larger than a hockey puck, and an iOS app that communicates with the bulbs (through the gateway).Plug the bulbs into their respective sockets (either spreading them around the room in multiple lamps or concentrating them in a single fixture), plug the gateway into a spare port on wireless router, install the Hue app on iOS or Android device, connect the app to the gateway and it is all set.

Figure 2-47: The Hue starter pack contains three LED bulbs

The app comes with 17 pre-loaded "scenes," each a colourful image with a trio of pins that sample the underlying colour and adjust each bulb's output and brightness accordingly. Consumers are also free to create custom scenes of their own with an image they actively capture or ones from their photo gallery. Philips also offers additional scenes through the app as well. Consumers are free to adjust the colour of each light individually using a colour wheel if none of the pre-loaded scenes suits their taste.

Figure 2-48: Consumer can set different lighting 'moods' via their smart phone

These Philips light bulbs promise something quite unusual – the consumer can screw them in to their existing light fittings and use the iPhone to control them, set a timer or create multi-coloured lighting 'moods'.

ENERGY STAR® Partner: Philips

ENERGY STAR Awards are the U.S. Environmental Protection Agency's highest honours for contributions to protecting the environment through energy efficiency.

Philips released a total of 269 ENERGY STAR qualified products in 2012; eighty-eight of these were new LED products, including the first LED equivalent for the 75 Watt incandescent bulb.

In 2013 year, Philips has been awarded ENERGY STAR® Partner of the Year for 2013. Philips Lighting took Product Manufacturer top honours with Partner of the Year.

Philips also partnered with NSTAR, National Grid and Western Massachusetts Electric Company in Massachusetts to provide 65,000 students at more than 40 universities with LED equivalents for the 60W incandescent bulb.

Philips - India's Most Admired Company in the Consumer Durables Industry

Fortune India is a respected global business magazine known for its unrivalled access to the world's most influential leaders and decision makers. In year 2012, Fortune India and Hay Group India rated certain corporations as Most Admired Companies based on the parameters of consistency, quality, talent management, corporate governance, social responsibility and delivering value to investors. In the first "India's 50 Most Admired Companies" rankings, Philips Electronics India Limited was ranked as the most admirable company in the Consumer Durables industry. Philips was ranked no. 1 on the parameters of Innovation, Quality, Social Responsibility, Corporate Governance and Talent Management. These rankings were published in the March 2012 issue of Fortune India.

Consumers' Responses:

Consumers responded very well to energy efficient lighting not only because of active campaign from manufacturers but also the programmes by power utility companies and have been reacting variedly in transitioning to energy efficient lighting. Beside manufacturers' initiatives, various governments, utilities programmes have been instrumental in introducing the consumer to energy efficient lighting such as LEDs/CFLs as an alternative to incandescent bulbs. These programmes have also made LEDs/CFLs easily available and affordable to the consumers. LEDs are now being increasingly used in commercial applications. Bearing the consumers future needs, manufacturers world over are actively engaged in R&D and deployment of new highly efficient solid state lighting.

Factors influencing consumers decision making:

- Consumers are concerned with cost of the light bulb; therefore to a large extent, price of the light bulb drives their choice.
- Consumers prefer lamps that last longer.
- The efficiency of the bulb or environmental concerns tends to be least important factor in the purchasing decision.
- Consumers still view bulbs as a commodity and make their purchase decision accordingly.
- Research studies have predicted that in the time of phase out of incandescent bulbs, consumers aware of the phase out tend to hoard incandescent bulbs more than others.

Consumers Response to CFL:

- Consumers exposed to CFLs through utilities programmes are interested in annual savings accruing from the energy efficient lights.

- Consumers have been disappointed by the low quality of some of the CFLs manufactured and sold.
- Consumers feel CFL light is harsh on their eyes.
- Consumers are concerned with disposal of CFLs due to its mercury content.
- Consumers have a tendency to use more lighting since their energy bills have reduced due to use of energy efficient lighting. This defeats the purpose of opting for energy efficient lighting.

Consumers Response to LED:

- Consumers prefer LEDs in comparison to CFLs but the high price of LEDs is a deterrent. But it is expected that LED prices will reduce drastically by 2020.
- Commercial consumers are opting for LEDs. In the next few years, it is estimated that Asia will become the largest market for LEDs, followed by EU and the USA.
- Consumers are benefitting from innovations in lighting taking place at manufacturers end.

Lessons Learnt

- Government programmes and policies have been instrumental in making the switch to energy efficient lighting possible. It is almost as if these global regulations and programmes have created the energy efficient lighting brand that consumers are favouring and increasingly prefer.
- US Government's L Prize® technology competition is good example for measures to encourage manufacturers as well as promote consumer preference for energy efficient lighting.
- Philips has responded positively to government regulations and labelling policies and has been deeply involved in R&D to pioneer innovations in lighting products. The company has seen significant success in innovative lighting solutions.
- The Branding strategy of Philips has been more like 'we have products that meet your every lighting need'.
- Philips is more focused on innovations, advanced technology solutions and highly efficient products rather than on branding.
- Philips has introduced 'hue lighting' – bulbs that work on Wi-Fi and can be controlled through applications on smart phones and tablets.
- Philips has also developed "Lighting Hub App"; it inspires the consumer to opt for a particular lighting solution and offers information on the professional lighting portfolio in one click.

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http://www.youtube.com/watch?v=FlWhVniO81U

2.7 Case Study on Energy Efficient Motors – Baldor Electric Company

Electric motors contribute to about 40 percent of end use electricity consumption and more than 66 percent of electricity used in the industry globally. In fact, electrical motor driven systems appear to be the largest electricity user among all applications, far exceeding lighting, the next largest user. Using more efficient motors, it would be possible to realise huge savings in energy and reduction in carbon dioxide emissions. It will also reduce energy bills to customers, reduce peak load demand for utilities and enhance energy security of the world.

Government Policies and Programmes:

Electric motors were first regulated in the United States through the Energy Policy Act of 1992 (EP Act 92). This was the first major energy law to require minimum, nominal, full-load motor efficiency ratings applying to the motors: "general purpose, T-frame, single speed, squirrel cage, induction type; 230/460-V, NEMA Designs A or B, continuous rated, 60 Hz, from 1 to 200 hp, 2-, 4- and 6-pole (3 600-, 1 800- and 1 200-rpm), open and enclosed". This definition covered the majority of electric motors commonly specified for industrial equipment, and they became known as "EP Act motors." The nominal efficiencies of these motors are 1% to 4% higher than the standard motors they replaced.

In 2005, Congress passed the Energy Policy Act of 2005 (EP Act 2005), which required all federal motor purchases to attain NEMA Premium efficiency ratings (i.e., higher than EP Act 92). The NEMA Premium motor efficiency ratings are up to several percentage points higher than those of their EP Act predecessors.

The Energy Independence and Security Act (EISA) was signed in to law in 2007, becomes effective on December 19, 2010.EISA builds upon the previous EP Act (Energy Policy Act of 1992) updating mandated efficiency standards for general purpose, three-phase AC industrial motors from 1 to 500 horsepower which are manufactured after December 19, 2010 for sale in the United States. General purpose motor rated 1-200 HP (Subtype I, previously covered by EP Act 92) must meet NEMA Premium Efficiency level, which are identical to IE3 at 60 HZ. General purpose motor rated 201-500 HP (Subtype II, not covered by EP Act 92) must meet NEMA Energy efficient levels, which are identical to IE2 at 60 Hz. The rating plate must be marked with the motor's nominal full load efficiency (NEMA nominal efficiency) and the manufacturer's compliance certificate number, known as the CC number.

Market Transformation:

Electric motor is a mature technology. Before the 1973 energy crisis, motor manufacturers generally paid only limited attention to motor efficiency, as customers wanted compact and

inexpensive motors. Following the subsequent increase in energy prices, manufacturers responded by developing higher efficiency products. In international markets, three efficiency classes for motors are available – standard efficiency, high-efficiency and premium efficiency, however in developing countries, older motor designs with sub-standard efficiency are still often in use.

In a typical life cycle cost of a 100 HP motor operating in continuous duty over a 20-year life, the original purchase cost including one rewind is just 2.7 percent and the energy cost is around 97.3 percent. This shows that the original purchase price is almost insignificant compared to what it will cost to power the motor during its useful life. Hence increasing the motor efficiency will bring enormous amount of energy savings in its useful life period.

Considering the large energy savings potential available for energy efficient motors, market transformation efforts were undertaken by many nations including Unites States of America - through incentives to the manufacturers/dealers as well as push from the manufacturers for uniformity of standards.

For example, in Canada, market transformation efforts consisted of three components: 1) educational efforts to provide customers and dealers with information on high efficiency motors – their economics and availability, customer incentives to pay part of the incremental cost of high efficiency motors, vendor incentives to encourage vendors to routinely stock and promote high efficiency motors, and support for efforts to enact national minimum efficiency standard. 2) The adoption of test procedures and development of database which would be useful for setting specifications for high efficiency motors, for establishing incentive levels, for manufacturers to know how their products compared with specification levels and their competitors, and for motor purchaser to be able to compare products. 3) Subsequently, as market share for high-efficiency motors rose, several states considered adopting minimum efficiency standards. Ultimately motor manufacturers and energy efficiency supporters negotiated a consensus agreement that called for US-wide minimum efficiency standards, based on a high-efficiency motor specification developed by the National Electrical Manufacturers Association (NEMA).

Energy Efficient Motors

Energy Efficient motors can convert more than 95% of the electrical energy into useful work. Motor efficiency can be mainly dependent on output and size. It is easier for the larger motor to achieve higher efficiencies. Higher efficiency of motors can be achieved through utilisation of higher quality steel cores, improved quality and quantity of windings, superior bearings, better fans and related technological improvements. In recent years, many studies have identified large energy efficiency potential in electric motors and motor driven systems with very short payback time and high cost effectiveness. International Energy Agency (IEA) observes that implementation of energy efficiency improvement options could reduce worldwide electricity demand by seven percent. This opportunity of high energy efficiency

potential has also prompted governments of many countries to introduce various measures such as Minimum Performance Standards (MEPS) and Motor Labelling scheme. Today, in most of the international markets, there are commonly three efficiency classes for motors – standard efficiency, high efficiency and premium efficiency. In 2008, the International Electrotechnical Commission (IEC) finalised a standard defining these three classes with less efficient motors kept out of the rating systems. These classes are labelled IE1 (Standard), IE 2 (high) and IE 3 (Premium), with minimum efficiency levels specified for each motor output level.

Considering the huge energy savings potential available from energy efficient motors, market transformation efforts for this product type engaged the attention of many nations.

Branding Efforts of Motor Manufacturers

It was mainly the government regulations, policies and incentives which caused the large scale market transformation of the energy efficient motors. At the same time, motor manufacturers also contributed significantly in manufacturing as per the minimum energy efficiency standards set by different countries and continuously upgrading the same from time to time.

In the case of BALDOR ELECTRIC COMPANY, a leading motor manufacturer in USA, the method followed was different. BALDOR had started manufacturing energy efficiency motors much earlier than other manufacturers.

The case study of BALDOR in manufacturing and promotion of their energy efficient motors is discussed below:

BALDOR ELECTRIC COMPANY

BALDOR is a leading marketer, designer and manufacturer of energy-saving industrial electric motors, mechanical power transmission products, adjustable speed drives and generator sets. The company was founded in 1920 on the premise that a better motor is one that uses less electricity, and that belief stands true today.

Figure 2-49 - BALDOR's Logo

BALDOR is the largest motor and mechanical power transmission company in North America, and its products have exceptionally strong brand recognition for *quality* and *value for customers*. In January 2011 BALDOR was acquired by ABB.

The mission statement of BALDOR:

"*Our Mission is to be the best (as determined by our customers) marketers, designers and manufacturers of industrial electric motors, mechanical power transmission products, drives and generators.*"

BALDOR's mission statement is very simple and straight forward. The statement highlights its offerings and services. The statement is self-sufficient to understand the functioning of BALDOR and its area of expertise.

BALDOR's product:

BALDOR offers a range of products in the following categories

- AC motors & Controls
- DC motors & Controls
- Gear products
- Motion Control
- Servo motors & control
- Power Transmission
- Linear products
- Grinders/Buffers
- Generators

BALDOR: Making of an Energy Efficiency Brand

The company's goal is to provide high value to the customer, focus on quality, service and time. Since inception, BALDOR's focus was on the quality of its products. Its promotion says *"The history of energy efficiency in industrial motors is really the story of BALDOR Electric"*. BALDOR has strategically positioned its products by providing high value and quality to its customers, mostly in the industrial sector. Generally industrial customer works on two models- based on capital costs operating costs. BALDOR has focused on the industrial consumer who follows the operating costs model and offers the premium efficiency product which is comparatively costlier In fact, in one of the company's promotional communication, BALDOR mentions the quote *"We only lose orders on price. But never on Quality, Customer neglect and Time"*.

BALDOR thus creates the faith in the mind of the customer that its focus is more towards quality not on the price. The Baldor product is differently positioned. A customer would go for the Premium Energy Efficiency Motors at a higher capital cost, in order to reduce the operational costs in energy consumption.

BALDOR: Historical Brand Promotion Events

BALDOR promotes its brand by highlighting the energy savings by its products. The company conveys that they are the first in Energy Efficiency since 1920. BALODR considers

itself a market leader in energy savings product. That they are the leader is well acknowledged by the user industry.

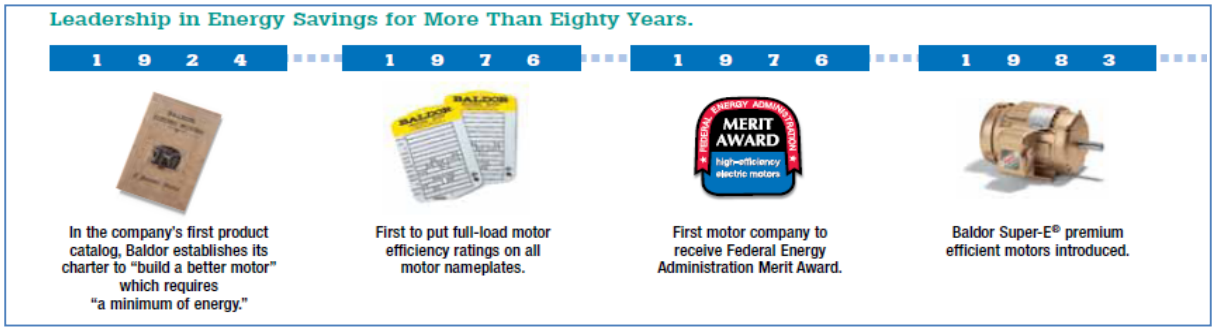

Figure 2-50 - Historical Brand Promotional Events

At every stage, BALDOR has introduced its products as one of its first in the market. Right at the initial launch of its product catalogue, it has established its charter to build a better motor which requires the minimum of energy.

In 1976, Baldor had put the ratings of full load motor efficiency on the motor nameplate itself. At that time no other player in the market offered such detailed efficiency information transparently. The users got the relevant information about the efficiency of the motor and could calculate the energy savings for various load scenarios during use. The users could easily estimate energy savings from the product. This unique approach has led to an out performer status for BALDOR in the industrial motor segment. The same year, the Federal Energy Administration, the Department of Energy's predecessor, recognized BALDOR with the Merit Award, the first electric motor company to receive such an award.

Evolution of BALDOR Super E

In the mid of 1970s, the seed for the evolution of premium energy efficient motors had come in the form of an enquiry by a manufacturing plant to BALDOR to help increase their plant operating efficiencies. BALDOR engineers analysed the efficiency of the plant's 75 HP motors and determined that considerable savings would be possible from a motor design focused on active materials like windings, insulations etc. BALDOR supplied the plant with premium energy efficient motors manufactured with copper to the windings, upgraded laminations etc. In 1983, BALDOR had introduced its first ever Super- E branded premium energy efficient motor in the market. BALDOR Super E is a registered trade mark of BALDOR, under which a series of premium energy efficient motors are offered. Over a period of time, BALDOR has upgraded and expanded "Super E" product line to the motors with the highest level of efficiency -more than 600 stock motors rated from 0.5 to 15,000 HP.

BC Hydro's Power smart programme

The BC Hydro and Power Authority, simply known as BC Hydro, a Canadian electric utility is a provincial crown corporation with a mandate to generate, purchase, distribute and sell electricity. It is the main electric distributor in the region, serving 1.8 million customers.

In 1989, BC Hydro had initiated the Power Smart and Resource Smart Programme to promote energy conservation as an alternative to the cost of creating new generating facilities. In 1991 BALDOR was the first one to receive approval by BC Hydro to label its motors under its "Power Smart" programme. This has given an additional recognition for BALDOR in the market place. At every step, BALDOR has been producing a premium standard product and achieving these labelling standards way ahead of their competitors.

Launch of Energy Saving Software: SAVE Software Tool

In 1992, BALDOR has taken the energy savings analysis to the next level by creating a software tool called SAVE Software Tool, to reduce the complex calculations involved in the energy savings analysis. This tool, once the utilities enter the name plate details of the motor, indicates the life time energy savings from the motor.

The Energy Savings Tool compares the efficiency and annual electricity usage of existing motors. The program then calculates the annual potential savings from use of BALDOR motors provides an estimate of payback and suggests replacement motors to make upgrades easier. An upgraded version is now called the BALDOR Energy Savings Tool, can be downloaded freely from the company website. The main advantage of the tool is that it has generic application- it can provide the calculations for any motor, of different manufacturers.

Introduction of Matched Performance and ISR

In 1993, BALDOR introduced the Matched Performance ™ Curves. These curves show the continuous operating constant torque speed range that can be produced without exceeding Class F temperature rise in the motor. The lower Class F rise is selected to provide long life, even when a Class H insulation system is used in BALDOR. This test has been performed in BALDOR's own engineering testing laboratory using advanced dynamometer equipment and digital power measurements. A typical Matched Performance™ test requires 2-4 days of continuous testing. This effort is another example of BALDOR's commitment to providing customers the extra value to make their products meet customers' specific application needs.

BALDOR is the first motor manufacturer to use MR - moisture resistant wire. Later in 1996, BALDOR launched Inverter Spike Resistant (ISR) magnet wire to all BALDOR motors. ISR is up to 100 times more resistant to transient spikes, high frequencies, and short rise time pulses produced by inverters. The result is longer motor life, reduced downtime and better overall value. BALDOR is the first to use this new wire in such a wide range of motors.

The product catalogue mentions:

"The use of inverters is growing rapidly. Even if the motor bought today is not used with an inverter, there is a good chance that an inverter will be used later. PLAN AHEAD – use the best motor you can today – a BALDOR motor wound with ISR Inverter Spike Resistant™ wire"

It is evident that BALDOR manufactures products not just for today's requirement but indeed for the future. Its focus on products, which should be capable to sustain in the future

too, convinces customers of long term gains. The futuristic approach makes BALDOR the leader of the motor manufacturing industry.

Introduction of BALDOR Standard- E ® Motors

In 1997, the EP Act required most general-purpose polyphase squirrel cage induction motors manufactured for sale in the United States in sizes between 1 and 200 HP to meet at least the minimum efficiency standards. In addition to motor efficiency standards, the Act requires new testing procedures and labelling. The same year, BALDOR has introduced a new series of motors named BALDOR Standard- E® motors with the capacity range from one to 200 HP and meeting the new efficiency levels stipulated in the EP Act. As BALDOR is in the energy efficiency field for a long period, it is easy for them to bring changes in their product to meet the new standards.

Subsequently in 1998, the Standard- E®line won the Product of the Year recognition, amongst newly released products, from Plant Engineering. This award is purely based on the choice of readers of ***Plant Engineering***. The most number of readers selected BALDOR'S Standard- E®line as their preferred choice. BALDOR got greater recognition and outreach. In the real sense, BALDOR did not have to put any extra effort for promotion and outreach. The efforts to enhance the product quality and standards paid off in terms of promotion and outreach.

BALDOR Powered by Partnership:

Partnering with NEMA Premium™

NEMA is the association of electrical equipment manufacturers, founded in 1926 and headquartered in Arlington, Virginia. The members of NEMA manufacture a diverse set of products including power transmission and distribution equipment, lighting systems, factory automation and control systems, and medical diagnostic imaging systems. Worldwide annual sales of NEMA-scope products exceed $120 billion. NEMA provides a forum for the development of technical standards that are in the best interests of the industry and users, advocacy of industry policies on legislative and regulatory matters, and collection, analysis, and dissemination of industry data.

Prior to NEMA Premium™, all covered motors sold in the USA were required to meet the minimum efficiency ratings provided by Energy Policy Act (EP Act) rules for motors. EP set standards for motors that could be sold in the U.S.A. Many motors that were available before EP Act became law exceeded the statute's minimum requirements, and as motor manufacturers continued to improve their products, they were now able to offer significantly more efficient motors.

In June 2001, NEMA started a premium energy efficiency program by creating a designation called NEMA Premium™. Going a step beyond EP Act, NEMA Premium applied to single-

speed, polyphase, 1 to 500 hp, 2-, 4-, and 6-pole (3600, 1800 and 1200 rpm) squirrel cage induction motors, NEMA Designs A or B, 600V or less, (5kV or less for medium voltage motors), and continuous rated.

Figure 2-51: BALDOR Partner with NEMA Premium

Only the motor manufacturers who have partnered with NEMA are eligible for using the NEMA Premium labels. Already, BALDOR had its products which met NEMA's standards; it was just a matter of becoming a member with NEMA to use their labels. BALDOR allied with NEMA to reap the benefits of NEMA Premium™ labels on their product line, augmenting credibility of its products. To promote NEMA Premium™, NEMA conducted conferences, seminars for the stakeholders. The promotional activities highlighted the advantages of NEMA Premium™ and dealing with associated partners of NEMA. BALDOR's products thus got more outreach.

BALDOR Partnering with ENERGY STAR

ENERGY STAR is a U.S. Environmental Protection Agency (EPA) voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency. It was created in 1992 by the Environmental Protection Agency and the Department of Energy.

Figure 2-52: BALDOR Partner with ENERGY STAR

ENERGY STAR has grown to encompass products in more than 65 different categories, with more than 4.5 billion products sold over the past 20 years. About 1.4 million new homes and more than 20,000 facilities proudly carry EPA's ENERGY STAR certification, use

dramatically less energy, and are responsible for substantially less greenhouse gas emissions than their peers.

Even though it is a voluntary program, in order to increase its brand visibility, BALDOR became ENERGY STAR partner in 2003. BALDOR's tag line "The *answer for an energy driven economy"* clearly highlights its stand on energy efficiency.

BALDOR Merger with ABB

In year 2010, ABB acquired BALDOR. BALDOR's leadership in high-efficiency industrial electric motors was one of the main reasons for ABB to acquire it. ABB expected to benefit from a projected 10-15 percent growth in its business.

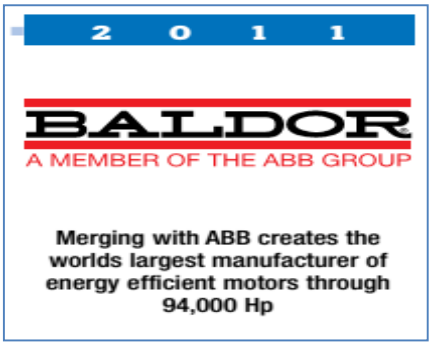

Figure 2-53: BALDOR Acquired by ABB

The acquisition of BALDOR advances ABB's strategy to become a leader in the North American industrial motors business and a global leader for movement and control in industrial applications. The strong presence of BALDOR in North America and the worldwide distribution network of ABB offered great synergies for growth.

Customers' Responses

The decision making of customers on investment in energy efficiency motors depends on a range of factors - return on investment, initial capital cost, operating costs, the financial state of the company etc. It is noted that customers have responded positively to awareness campaigns, government policy and regulation, for the market transformation of energy efficient motors. Various government policies, rules and regulations, mandatory and voluntary programmes such as MEPS have been instrumental in introducing high efficient motors to the customers. The rising cost of energy forced customers to consider the operating costs as well rather than just the initial capital costs while making the new purchase decision.

The behaviour of industrial customers differs from non-industrial customers. Industrial customers mainly focus on reliability, energy savings and delivery but not so much on the

price of the product. In the case of agricultural/domestic customers, the focus tends to be mainly on price. The energy efficiency of the electric motors tends to lower down as a factor in making the purchase decision.

Customers' response to Energy Efficient Motors:

- Customers learn about energy efficient motors through government programmes such as minimum energy efficiency standards etc.
- In some countries, customers are exposed to energy efficient motors through demand side management programmes by power utilities;
- Customers are benefitting from innovations in energy efficient motors taking place at manufacturers end.

Lessons Learnt

- Manufacturers like BALDOR have responded smartly to government policy, rules and regulations, they have been deeply involved in R&D and are pioneering innovations in energy efficient motors.
- The branding strategy of BALDOR '*"We only lose orders on price. Never on Quality. Never because of Customer neglect. Never because of Time"* creates a tremendous credibility for the company's focus on quality over price.
- Industrial product manufacturers are more focused on innovations and are engaged with developing advanced technology and highly efficient products rather than branding efforts.
- The market share of energy efficient motors can be increased through educational efforts and development of data base that permit product comparison, financial incentives to purchaser and technical assistance efforts.
- Minimum Energy Efficiency Standards are a critical step for the transformation of the market and locking out inefficient products from the market;
- Once a market is transformed into one efficiency level, efforts can proceed for the introduction of the next level of efficiency e.g., Premium Efficiency;
- Apart from manufacturers' branding efforts, it is the Government programmes and policies that have been instrumental in making the switch to energy efficient motors possible.
- Structured demand side management programmes can help in creating a pull for the energy efficient motors through end user participation.
- Large scale awareness programmes developed and put in place to inform industrial and commercial customers of the significant savings potential possible through the use of energy efficient motors have their impact. These programmes targeting decision makers such as operations and maintenance managers, production and plant managers and

company executives and decision makers can yield good results for promoting energy efficient products. and cost reduction;

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