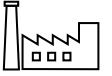




' The practice of
conservation must spring from
a conviction of what is ethically and
aesthetically right, as well as what is
economically expedient.

A thing is right only when it tends to
preserve the integrity, stability and beauty
of the community, and the community
includes the soil, water, fauna and flora,
as well as people '



Chairman's Message

Dear Friends,

The global macro economic environment continued to be unpredictable during most of Fiscal 2012. The economic woes plaguing Europe were not mitigated and there was very little visibility on the long term solutions that could be implemented to improve the situation. This in turn had a contagion effect on various key economic factors like US Dollar exchange rates, Oil Prices, Rising Unemployment, Civil Unrest etc and gave rise to general recessionary trends.

Consequently, we saw a slow down in expenditure, both Government and non-Government, especially in long term infrastructure related projects. This, to a lesser extent, impacted the momentum in the Energy Efficiency and Renewable Energy industry segment.

However, Governments and Industry across the world are fully seized of the Environmental Issues that arise due to use of Conventional Energy. Further, the growing energy demand coupled with slower growth in energy generation capabilities, has led to the compounding of the energy deficit scenario, especially in high growth economies like India. Renewed emphasis has been seen from the Government of India and various State Governments on the implementation of Energy Efficiency and Renewable Energy projects, especially Solar PV energy generation, in which your company plays a significant role.

I am quietly confident that your company will consolidate its position in the Energy Efficiency and Renewable Energy markets. We continue to implement projects successfully for our customers. Our employees and business associates strive to offer high standards of servicing comparable to the best in the world.

As our country enters one of the most testing phases in its history since Independence, both economically and politically, we at Epic re-dedicate ourselves to our cause of making every Indian an Energy Efficient Indian - EEndian - and also humbly request all of you as Epic Energy Indians - EEndians - to make our country exist in a sustainable environment for the well being of our future generations.

Yours in Energy Efficiency,

Nikhil Morsawala

Chairman





Installation work in progress at a Solar site in Canada



EPIC team working on 5MW Solar Project site in Gujarat





EPIC installed Energy Savers for the
Konkan Railway Corporation Limited
in seven tunnels



A view of Power Saver installed at
Jamnabai Narsee School, Mumbai





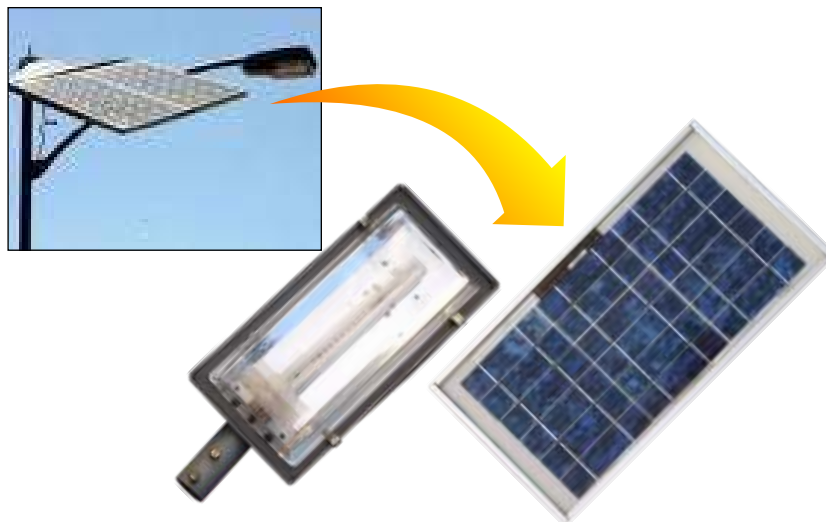
Energy Efficiency Products

IN INDIA

Guaranteed Savings of **15% to 30%**



EPIC SOLAR PRODUCTS



Home Lights



Torch



Cool Cap



Invertor



Radio + Torch





BOARD OF DIRECTORS

NIKHIL MORSAWALA
Chairman

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DIVYANG SHAH General Manager - Works	P SAMPATH KUMAR Head R & D
P SENTHIL KUMAR Head - Operations (South India)	A RAMASAMY Head - HR
C. S. NIGRE Vendor Management (Domestic)	

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Vijay Raorane	Suresh Solanki

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International Offices at U.S.A.





MANAGEMENT DISCUSSION AND ANALYSIS

A. INDUSTRY STRUCTURE AND DEVELOPMENTS

A. Energy Efficiency in India

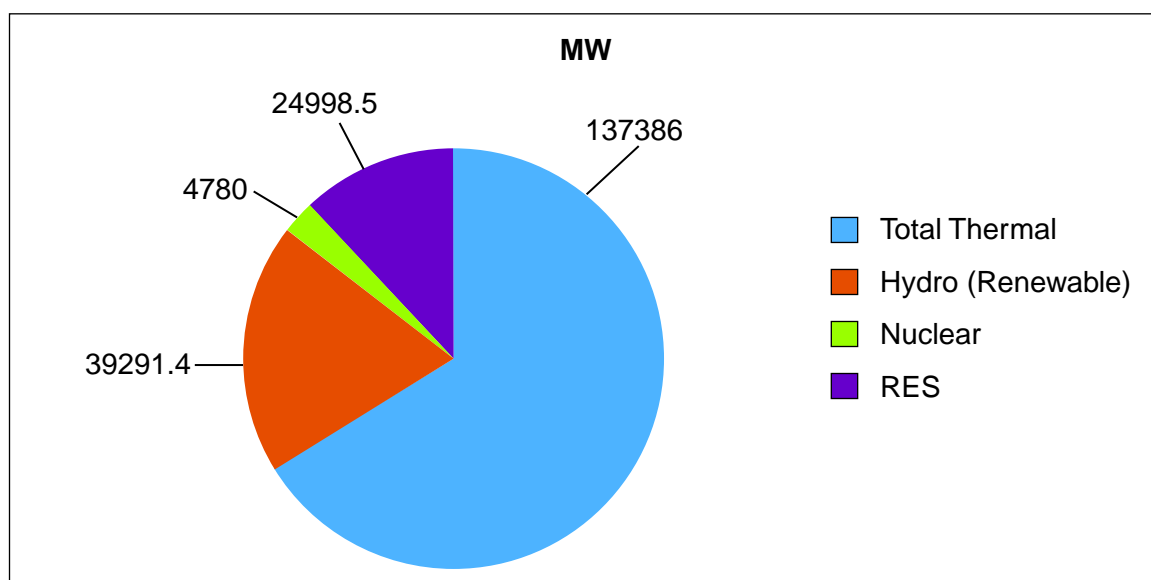
India has an installed power generating capacity of 206456.04 MW (as on 31.7.2012)¹ of which the thermal power stations share is 137386.18 MW (66.55%).

Total Installed Capacity²

Sector	MW	%age
State Sector	85983.67	41.64
Central Sector	65502.45	31.72
Private Sector	54969.92	26.62
Total	206456.04	

Fuel	MW	%age
Total Thermal	137386.18	65.54
Coal	117283.38	56.80
Gas	18903.05	9.15
Oil	1199.75	0.58
Hydro (Renewable)	39291.40	19.03
Nuclear	4780.00	2.31
RES ³ (MNRE)	24998.46	12.10
Total	206456.04	100.00

Installed Power Generating Capacity India (India)
Fuel Type Wise



¹ http://cea.nic.in/reports/monthly/executive_rep/jul12/8.pdf

² http://www.powermin.nic.in/indian_electricity_scenario/introduction.htm

³ Renewable Energy Sources (RES) include SHP, BG, U & I and wind energy: SHP= Small Hydro Project, BG= Biomass Gasifier, BP= Biomass Power, U & I=Urban & Industrial Waste Power, RES=Renewable Energy Sources





- India ranks fifth in the world in terms of total installed power generation capacity
- The total demand for electricity in India is expected to cross 950,000 MW by 2030
- Captive generated capacity connected to grid is 19509 MW
- Per capita energy consumption in India is 779 kwh⁴ in 2009-10
- The electricity generation⁵ target in the country during the year 2011-12 is 855.0 BU with a growth rate of 8.05% corresponding to actual electric generation during the year.
- The cumulative Electricity generation during April-June'12 was 231 BU with a growth rate of 6.43 % corresponding to same month last year.
- Energy intensity of Indian economy was 0.18 kgoe/\$ GDP(PPP) in 2004; compared to 0.14 in Japan and 0.19 in the EU
- Energy demand is increasing due to rising incomes, accelerated industrialization, urbanization and population growth

2003-04: 572 Mtoe

2016-17: 842-916 Mtoe

2026-27: 1406-1561 Mtoe

- ? Meeting the increasing demand only through increases in supply may lead to:
- Reduced energy security due to volatility in availability and prices of imported fuels
 - Adverse environmental impacts
 - Strain on balance of payments

The highlights/ achievements of operation performance of generating stations in the country during the year 2011-12⁶ (last year of the XI plan) are as under:

- Gross annual generation of the country has crossed the 875 BU mark (876.4 BU).
- The annual growth in the energy generation during the year has been 8.05%, which is the highest during the decade.
- The nuclear generation during the year achieved a remarkable growth rate of 22.86% due to improved availability of nuclear fuel to the nuclear plants.
- The generation from hydro based plants also improved with a growth rate of 14.15 % due to good monsoon.
- The total thermal generation has achieved a growth rate of 6.53 %.The electricity generation during the financial year 2011-12 from coal based thermal power stations has been 584.59 BU with a growth rate of 9.20 %.against 4.0 % over same period last year. The annual electricity generation target of 577.76 BU for the coal based plants was also achieved on 28th March, 2012. The annual achievement was 101.18 % of the annual target.
- An all time high monthly electricity generation - Gross monthly generation figure has crossed the 75 BU mark (77.1 BU) during March'12.

Earlier the highest monthly generation was achieved during March, 2011 (75.53 BU).

- An all time high daily generation - Gross daily generation figure has crossed the 2.5 BU mark (2.574 BU) achieved on 29th March, 2012.

⁴ Source: CEA: http://www.cea.nic.in/reports/monthly/executive_rep/feb12/1-2.

⁵ http://cea.nic.in/reports/yearly/energy_generation_11_12.pdf

⁶ http://cea.nic.in/reports/yearly/energy_generation_11_12.pdf





- Availability and quality of coal & availability of gas for power sector continued to be critical input for thermal generation growth. The coal stock of 32 TPS remained critical (less than 7days) on the last day of March'2012.
- The average PLF of thermal power projects (Coal/Lignite) reduced to 73.29 %, as compared to 75.08 % in the previous year.
- 55 numbers of stations with an aggregate installed capacity of 57282.5 MW achieved PLF more than national average PLF of 73.29 %.
- 15 numbers of thermal power stations with an aggregate installed capacity of 20420 MW operated above 90% PLF.
- Growth of thermal generation was mainly restricted due to coal shortages, receipt of poor quality/ wet coal and low schedule from beneficiaries and also increased hydro generation on revival of good monsoon & increased nuclear generation due to better availability of nuclear fuel.
- Operational availability of thermal stations has marginally reduced to 82.5 % from 84.2 % achieved during the previous year.
- In view of improved generation by Nuclear and Hydro power stations, the requirement for costly power from some of the coal based station, gas, liquid fuel and DG sets reduced. Thus low schedules for gas based generation coupled with the problem of gas supply shortages to various gas based stations, the gas based generation had a negative growth rate.
- The Compound annual growth rate (CAGR) of electricity generation during the XI plan has been 5.76% against 5.16% achieved during the X plan.
- The annual growth in the energy generation during the year has been 8.1 % highest during the decade. The CAGR of 5.76 % achieved during XI plan was also higher than the CAGR of 5.16 % achieved during X plan.

Market based approach to implementation of energy efficiency - market size of USD 18b⁷. From a financial perspective, implementing these efficiency measures will add \$505 billion to India's gross domestic product (GDP) between 2009 and 2017 (compared to India's total GDP of \$911 billion in 2007-2008), according to the Berkeley Lab report findings⁸.

Energy Efficiency

- Energy efficiency involves efficient utilization of resources, which is a key to sustainable development
- Improving energy efficiency increases productivity, significantly reduces green house gas (GHG) emissions, reduces solid waste production and thermal pollution

Programmes used to improve energy efficiency

- Good housekeeping practices
- Regulation and/or standards
- Industrial cogeneration
- Fuel switching
- Fiscal policies like taxes, tax rebate

⁷ [www.iitk.ac.in/reg/EE%20Policy-S\(BEE\)-01-10.ppt](http://www.iitk.ac.in/reg/EE%20Policy-S(BEE)-01-10.ppt)

⁸ http://switchboard.nrdc.org/blogs/ajaiswal/working_towards_energy_efficie_1.html

