6.1 Findings of the Study

In the last twenty years the electricity power sector in both developed and developing countries has been subject to restructuring. Although the approaches to reform have varied across countries, the main objective has been to improve the economic efficiency of the sector by introducing private capital, liberalizing markets and introducing new regulatory institutions. In economic theory, ownership, the degree of competition and regulation are important factors in determining output levels, costs of production, prices and foreign direct investment. More formally, the capital market and the product market determine the levels of allocative and productive efficiency. Therefore, privatization, competition and more effective state regulation of monopoly activities should lead to improved economic performance. This depends, however, on the reforms being appropriately designed and implemented. A country implementing reforms can suffer from serious institutional weaknesses, meaning that the planned reforms may not produce their intended benefits. Thus, the impact of privatization, competition and regulation on the electricity sector may produce different results depending on the design and its implementation.

Since India & Argentina both, have carried reforms, but the methodology has been different. In order to determine how privatization, competition and regulation have brought about the desired changes and which method of privatization (green-field /divestures) & competition (not restricting the share/restricting the share of a market player) has been more powerful the research hypothesis has been set.

This study is based on a database especially created from a range of international sources to measure the effect of privatization, regulation and competition on performance in electricity sector in India & Argentina. Data were collected for a period starting form 1991 to 2008. The details of our finding in relation to research hypothesis is as follows:-
1. Privatization Will Bring In Economic and Productive Efficiency in the Power – Sector (H1)

Labour Productivity (Kwh/per employee)

The correlation coefficient is insignificant but positive both in case of India & Argentina. This suggests that privatization, on their own is not sufficient to increase the labour productivity. The weak correlation could be explained by the fact that change of ownership may not bring in desired changes in the attitude of employees due to lack/absence of individual reward and payment system. Another cause of it may be ineffectiveness of the personnel managers in recruiting, training and motivating the employees or unavailability of educated and skilled workforce.

Installed Capacity Per Capita

The correlation coefficient is significant and positive both in case of India & Argentina. The strong positive correlation coefficient between Privatization and Installed capacity per capita confirms that the installed capacity will improve following privatization. This result is consistent with the (World Bank, 1999a) study that privatization will bring in more capital to the cash strapped power sector which the state utilities have not been able to provide as they are stuck in a vicious circle of skewed tariff policy and cross subsidies. As a result SEB’s found them in the unenviable position of growing loss making segments of their business and shrinking profit making segments. As a result of this there is a low investment in the power sector. The presence of private sector will ensure investment and thus increase in installed capacity per capita.

Generation per capita

The correlation coefficient is stastically significant and positive both in case of India & Argentina. This is on the expected lines that privatization will positively improve the generation per capita. The change in ownership will introduce more precise and measurable objectives thus reducing the transaction cost. It will lead to efficient use of existing stock by modernization (up-grading), maintenance and technology transfer.

The mean value in case of all the three variables have been higher in case of
Argentina suggesting that divestures is much more effective form of Privatization than green field projects. There were fundamental differences between India’s energy sector reform and electricity sector privatization programme in Argentina. The motivation for electricity reform in Argentina was coming from a need to improve weak infrastructure and to provide reliable and cost effective electricity to the end-consumer. The result was that the main driving force for electricity sector reform in Argentina has been to realize an efficiency gain that has been possible because of technological innovations. Whereas in India the purpose of privatization was to meet the shortage of electricity supply. Therefore Argentina opted for divestures whereas India went for green field projects. However the result shows that privatization by means of divestures has been more effective.

This implies that India should divest its sick State owned utilities and may take up green filed projects in case of new ventures. It will not only provide fiscal support (by expanding the activities of the state in areas like education, public health, medicine and environment) to the Government but will also induce operational efficiency in the sick units. However, in the process of privatization the government must keep political influences off the process and allow private parties to turn these sick units into efficient and commercially valuable units.

2. Competition will Stimulate both Technical and Productive Efficiency in the Power Sector (H2)

Consumption Per Capita

The correlation coefficient is significant and positive both incase of India & Argentina. The strong positive correlation between competition and consumption per capita confirms the study by (Hawdon, 1998) that the consumption will improve with the introduction of competition. The rise in consumption may be explained by the fact that in monopoly states, protected utilities recover the cost of their investment plus profit from captive rate payers, who bear the risk of investment decisions and little incentive exists to prevent cost over-runs and project delays. In competitive market, utilities are not guaranteed a profit and are dependent upon market returns to recoup their investments. Consumers are protected from the risk of poor or failed investment decision. Thus in competitive markets firms will try to reduce their cost and provide
better services to consumers in order to retain and attract the customers. This will lead to increase in consumption per capita.

**Electricity Shortages**

The correlation coefficient is significant and positive in case of India. The unexpected positive correlation implies that as the competition increased the electricity shortages also increased in India. The result for electricity shortages is less easy to explain but may indicate the unprecedented growth of Indian economy. Since the installed capacity and generation has increased over a period of time, but there still exists shortages. It means that the increasing vibrancy and flexibility of the Indian economy is not matched by the power sector. In other words, demand for electricity is outpacing its supplies suggesting a need of more investments in the sector.

The correlation coefficient is significant but negative in case of Argentina. It is on the expected lines that as the as the competition will increase, barriers to entry will reduce. There will be entrance of new players in the market. This will increase the investments in the sector and reduce the electricity shortages.

**Distribution Losses**

The correlation coefficient is insignificant and negative in case of India. It implies that as the competition increased there is a reduction in distribution losses in India but these losses have reduced marginally. This confirms the study by (Ahluwalia, Sanjeev & Gaurav Battani, 2000) that India will have to trim down its distribution losses to international acceptable levels at 15% to make the power sector viable.

The correlation coefficient is significant and negative in case of Argentina. It implies that as the competition increased there is noticeable reduction in distribution losses. In a competitive retail electricity markets, customers can choose from a variety of power suppliers. In monopoly protected states, rate payers are locked into power sources and prices chosen by their monopoly utility company. Since in a competitive market a customer can choose among his suppliers, the supplier will always have an incentive to reduce the prices in order to attract and retain the customer. Distribution is one of the major segments of power. Here the supplier can reduce a number of losses in the form of technical, theft and pilferage losses, there by reducing the cost per unit to the end consumer. Thus competition will reduce electricity distribution losses.
The mean value is higher in case of consumption per capita in Argentina and lower in case of energy shortages & distribution losses. Thus competition by restricting the market share is more successful as compared to not restricting the market share. Argentina is one of the most competitive electricity markets in the world. No generating company can have more than 10% share in the market. This discourages market power and collusion among the market players. As such the scope for manipulating prices reduces. Moreover since there is no monopoly the firms have to compete to provide good service at lower prices to the consumers. In India there is no restriction on the market share held by a generating company. This results in monopoly of the firm and thus dividends of a competitive market cannot be reaped. In a competitive retail electricity markets, customers can choose from a variety of power suppliers. In monopoly protected states, rate payers are locked into power sources and prices chosen by their monopoly utility company. Since in a competitive market a customer can choose among his suppliers, the supplier will always have an incentive to provide good services in order to attract and retain the customer.

This implies that India should restrict the market share of the firms to a certain limit which may be decided by Ministry of Power depending upon the availability of participation of new firms in the sector.

3. A Sound Policy and Regulatory Framework are Imperative for FDI to Enter and Thrive (H3)

The mean value is higher in case of India which means that India is able to attract more foreign direct investment.

In case of India we find that the FDI profusely started flowing in India after 2003 when the regulator was established and started its working. Same is in Argentina; the regulator was established in 1991. However after 2001 FDI flow reduced due to economic instability in Argentina and currency devaluation. This confirms the study (Bortolotti, Fantini,& Siniscalco,1998) that regulation provides a degree of confidence required by foreign investors to enter into business transactions in this country. It seeks to assure private investors that a particular business transaction is permitted, and that once entered into, the transaction will be protected and the supporting agreements enforced.
6.2 Recommendations & Suggestions

Power is one of the most important inputs for economic and social development of our country. The major challenge before us is to provide competitive power to the consumers while improving the reliability and quality of supply.

Enactment of the Electricity Act, 2003, was a major initiative towards addressing the problems which were plaguing the power sector. One of the most important objectives of reforms has been to achieve commercial viability and sustainability of the sector so as to ensure quality supply at affordable price. Generation, except hydro, has been delicensed. Electricity Act also provides for specific dispensation for power development in rural areas. Concepts such as rural distribution through cooperatives and arrangement of franchisees are being envisaged so that reliability and quality of power supply to these areas are also improved. The Act provides for open access in transmission from the very beginning and in distribution in a phased manner.

The following are the national objectives envisioned by Ministry of Power:-

- Power to all by 2012
- Per capita Availability of power to over 1000 units

National Electricity Policy of 2005 is to achieve power to all and to increase the per capita availability of power to over 1000 units by 2012. As per mid term appraisal a revised capacity addition target of 62,374 MW has been fixed for the 11th Plan which is three times the capacity added during 10th Plan. This comprises of 21,222 MW in Central Sector, 21,355 MW in State Sector and 19,797 MW in Private Sector. Out of this a capacity totaling to 28,572 MW has been commissioned till 19.10.2010 which is higher than total capacity added during the 10th Plan. During 2009-10, we have added 9,585 MW capacity which is highest in a single year during the last sixty years. During January 2006 till September 2009, we have added 42,000 MW capacity. Further, a capacity of 12,590 MW is being attempted on best efforts basis. Also, an additional capacity of about 14,000 MW from Non- Conventional energy sources and about 12,000 MW from captive plants are expected during the 11th Plan.

India’s future plans during 12th and 13th plan are likely to be even bigger to
meet our rising demand, which will lead to substantial increase in per capita availability of power. To achieve the ambitious target, rigorous monitoring of capacity addition of the on-going generation projects is being done at the highest level by the Ministry of Power as well as by the Central Electricity Authority. To augment the equipment manufacturing capacity to support the envisaged capacity addition programme on the initiatives of Ministry of Power, five new joint venture companies are setting their base in India. The joint ventures are L&T-MHI, Bharat Forge-Alstom, Ansaldo-GB Power, Toshiba & JSW, and Thermax with Babcock & Wilcox. Besides this, Dussan from Korea is putting up equipment manufacturing facility in India on 100% FDI. This will expedite the capacity addition programme. In addition to this, capacity of BHEL is also being increased to 20,000 MW by the end of 2012.

Since coal will continue to dominate power generation in near future, introduction of new efficient technologies for power generation are being pursued. Installation of large size supercritical units is being encouraged with a view to have faster capacity addition and also to enhance efficiency, reduce coal consumption and Green House gas emissions. During 11th plan, it is proposed that few units of 660MW based on supercritical technology would be commissioned. However, during 12th plan, it is estimated that around 50% of the coal based thermal capacity addition would be through supercritical units. Further, it has already been decided that 13th plan coal based thermal capacity addition will be through supercritical units only.

In order to bridge the gap between demand & supply of power, especially in the context of limited financial resources available, it has become imperative to look for other options which are not capital intensive as new capacity addition and which could be implemented in a comparatively shorter time frame. In this regard optimum utilization of existing installed capacity in the country to maximize generation through Renovation & Modernization (R&M) of existing power plants had been considered to be most cost effective option.

CEA has prepared a National Enhanced Efficiency Renovation and Modernization Program for implementation during 11th and 12th Plans. This covers renovation & modernization of about 19000MW capacity, life extension of about 7300MW during 11th plan and renovation & modernization of about 5000MW and life
Extension of about 16500MW during 12th Plan. Renovation and modernization and life extension of existing old power stations provide an opportunity to get additional generation at low cost in short gestation period. Besides generation improvement, it results in improvement of efficiency, environmental emissions and improvement in availability, safety and reliability.

In order to ensure free flow of electricity from one part of the country to another part we have been upgrading our inter-state transmission systems and inter-regional transmission links. As a result of these efforts, the aggregate inter-regional transmission capacity in the country today is more than 20750 MW and it is planned to increase to 32650 MW by the end of 11th Plan. It is expected that in the 12th Plan southern region will be integrated with the rest of the country and the whole country would be operating at one common frequency backed up by a strong national grid. The growth in transmission system is characterized by the physical growth in transmission network as well as introduction of higher transmission voltages and new technologies for bulk power transmission.

Government of India launched Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) as one of its flagship programmes in March 2005 under which electrification of one lakh eighteen thousand un-electrified villages and providing free electricity connections to 2.34 crore rural BPL households have been taken up. The continuation of RGGVY in the 11th Plan was sanctioned by the Government in January 2008 with subsidy outlay of Rs. 28,000 crore. Under this programme, about 85,000 villages have been electrified, 1,50,163 villages have been intensively electrified and 127.87 lakh free electricity connections have been released to BPL households.

To check the loss of large quantum of electricity in the form of Aggregate Technical and Commercial (AT&C) losses, the Central Government is implementing Restructured- APDRP scheme. The focus of this programme is on actual, demonstrable performance in terms of AT&C loss reduction. The aim of the scheme is to reduce the AT&C losses to the level of 15% in project areas. It is expected that reduction of transmission and distribution losses will release more generation into the system without additional burning of coal or new capacity addition, thereby, reducing emission. Total programme size is Rs. 51,177 crores which consists of Rs. 10,000
crores for Part A which is energy audit and Rs. 40,000 crores for Part B, i.e. system strengthening. Under this programme, 1401 projects at the cost of Rs 5305.23 crores have been approved to cover all the eligible towns in the country under Part-A. 644 projects worth Rs 10859.33 Cr have been approved to thirteen states under Part-B. Part-B projects for balance states are expected to be approved by March 2011.

Indian Government is implementing a multi-pronged strategy on energy conservation which is backed by the Energy Conservation Act, 2001. The current programmes focus on achieving energy savings which results in avoided power generation capacity of 10,000 MW during the 11th Plan period. The largest amount of savings are being obtained from the standards and labeling programme, under which we have introduced the BEE star label for a number of energy user appliances, such as refrigerators, air-conditioners, TVs, motors, pumps, etc. The Bachat Lamp Yojana is focusing on replacement of inefficient incandescent bulbs by efficient-CFLs in all households in the country. Further, the Energy Conservation Building Code is targeting new commercial building construction to ensure that they are designed in an energy-efficient manner. In the first three years’ of the plan these measures have resulted in avoided capacity generation of about 5500 MW.

While the Indian power sector has witnessed a few success stories in the last 4-5 years, the road that lies ahead is dotted with innumerable challenges that result from gaps that exist between what’s planned versus what the power has been able to deliver. Understanding these core issues & risks of the power sector help in identifying the opportunities that lie ahead; foreg. Why is private sector participation & competition an important requirement? A peep at our past performances indicates that during the last three five year plans (8th, 9th & 10th); we have barely managed to achieve half of the capacity addition that was planned. We can see there are already slippages for approx. 79 GW in the 11th Five year plan. Once we break the problem down and identify the bottlenecks, we may be better able to understand the integration challenges that such large project pose.

On the basis of finding of the study and the national objectives of the country the following suggestions are made:-
1. There is a general consensus that shortage of talent in the power sector is a long term problem and is likely to continue to push up project costs and risks. The flow of talent into power sector has been gradually drying up as candidates have sought an alternative and often more lucrative career options. The Government, which is the biggest buyer of the capital projects, has also not done enough to address this challenge. The education system is often not delivering the required number of specialists across project management, engineering, estimating, surveying and contract management. Facing a desperate game of catch up, the industry needs a genuine collaboration between project owners, contractors and governments to attract more school leavers and graduates. Companies should also seek to stay in touch with changing employee aspirations. By encouraging diversity in its employment practices and by offering greater flexibility in working hours, the sector can reach out to a wider potential audience that perhaps would not previously have considered such a career. Investment in existing employees is also crucial in order to offer better-defined career structures, with a greater focus on training and higher salaries where possible.

2. Land acquisition poses an increasingly significant challenge in the Indian power sector. Power plants and utilities face major constraints and delays regarding the availability of land and obtaining the requisite environment and other clearances for the projects. The new bill relating to land acquisition has continued to face political opposition. While it provides for acquisition by project development agencies to the extent of 70 percent of the land required for a project, with the balance to be obtained by the Government. In addition, it has been reported that in some cases, even after land owners were asked to sell and handover their land in ‘Public Interest’, the project was not completed for several years due to other delays, a fact that eroded the credibility of both the industry and the government. Consequently there is a significant mismatch of expectations from the Project Affected Persons (PAP), Stakeholders or other land owners who may collectively object of the project execution. In such cases, it is essential to proactively manage the environment and stakeholders’ expectations. Stakeholder identification is required in the project’s early stages to measure their expectations and assess their impact on the overall project life-cycle. The
impact can be on the design or construction scheme which can adversely affect the project schedule and budget. Therefore, R&R and clearance planning should be in place before the project plan is finalized. Communication planning can eliminate the mismatch between stakeholders’ expectations, helping ensure the buy-in from all affected parties to prevent any hurdles in the future. For example, all the project affected persons (PAPs) should be consistently involved throughout the project to make the planning for balance work realistic and achievable. The fact that land acquisition and permits are major concerns for captive coal blocks operations exemplifies that stakeholder identification and communication planning was missing during the 11th plan formulation.

3. Rapid build up of the generation capacity is being aided by setting up of Ultra Mega Power Projects (UMPPs) each of which is 4000 MW. However, the execution of the Ultra Mega Power Projects (UMPP) is a significant challenge as India has not witnessed an execution of such a large scale power project before. Furthermore, with each UMPP costing above INR 16,000 crore, financing such a large project is a critical constraint for any developer. In addition, considering the high financial stake involved, delay in payments may put severe pressure on developers/suppliers to meet the performance commitments. Government should ensure timely payments to the developers for the smooth developments of the project.

4. Equipment shortages have been a significant reason for India missing its capacity addition targets for the 10th five year plan. While the shortage has been primarily in the core components of Boilers, Turbines and Generators, there has been lack of adequate supply of Balance of Plant (BOP) equipment as well. These include coal-handling, ash handling plants, etc. Apart from these, there is shortage of construction equipment as well. The Working Group on Power for 11th Plan has outlined the requirement for construction equipment for Hydro and Thermal power plants. This is a key element which is essential to execute and monitor a project successfully. A detailed procurement level planning that can address the current challenges equipment shortage should be prepared showing the over all impact on the achievement of the 11th plan.
5. Fuel shortage is also one of the problems faced by Indian power sector. While additional gas supply from KG Basin has eased shortage to a limited extend, supply constraints for domestic coal remain and are expected to continue going forward. Consequently, public and private sector entities have embarked upon imported coal as a means to bridge the deficit. This has led to some Indian entities to take upon the task of purchasing, developing and operating coal mines in international geographies. While this is expected to secure coal supplies it has again thrown upon further challenges. For example, the main international market for coal supply to India – Indonesia, poses significant political and legal risks in the form of changing regulatory framework towards capacity and the capacity at ports is controlled by a group of existing users making it difficult for a new entrant to ensure reliable evacuation. In this case it is essential to manage the risk of supply disruption by different options like – diversification of supply, due diligence on suppliers, unambiguous contracting and strict monitoring. By addressing the constraints of coal transportation through Indian railways and ports availability, a realistic procurement plan can be prepared showing the overall impact on the achievement of the 11th plan.

6. By 2020, India will require 400,000 MW of electricity. Energy is going to be required in a large quantity in view of rapid economic growth. The government also aims to increase per capita consumption of electricity to 1,000 units by 2012. The government has estimated that India will require an installed capacity of over 200,000 megawatt (MW) by 2012 to meet the electricity demand, which will be 60 percent more of what the country has at present. It has to be done on the priority basis as the government intends to provide access to electricity to all the households by 2009. For this purpose generation in Indian power sector requires diversification. Coal is the mainstay of the power production in India and is expected to remain so in future. But to meet the demands for power, diversification is must. At present, about 26 percent of installed power generation capacity in India is hydropower against 50 percent in the 1960s, while around 66 percent is thermal generation including gas. Nuclear energy constituted only about three percent of the country’s total power generation, and non-conventional energy sources, of which wind energy is predominant,
accounted for about five percent. It is suggested to increase the share of other sources of energy to overcome shortage of supply of power.

7. The distribution segment of the Indian power sector is dominated by state government sponsored utilities has reached a point of near collapse in 2000, but the initiatives taken by Government has started bringing some change in aggregate level. Reduction in technical and other losses is still a major issue before the State government on account of restructured but still unmanageable distribution’s monopolistic structure. The Ministry of Power, GoI has rightly thought to manage the crisis by pin pointing the loss making areas with this intent the MoP issued instructions to segregate the AT&C losses. While some progress has been made at reducing the T&D losses, these remain substantially higher than the global benchmarks. The following are the ways by which we can contain distribution losses:

- Meters on all 11kV feeders be made functional.
- Meters on all Distribution transformers be installed.
- All consumers should be indexed feeder wise/distribution transformer wise.
- 100% metering of consumers be insured.
- Meter reading of all the feeders, Distribution Transformers and consumers be insured on the same date.

8. Competition for the right to enter the power market on contractual or regulated terms plays an important role in developing countries. However the tender should be made under competitive bidding so as to obtain better terms for the host country.

9. As in Argentina, India should encourage competition by way of restricting the share of market player so as to discourage monopoly and price collusion. The market share of the firm could be determined by Ministry of Power considering the availability of technically and financially sound firms in the market.

10. For developing countries like India with fast-growing power demands that exceed the available supply capacity for the foreseeable future, the persistence
of large supply shortages rules out the possibility of competitive power pools because the development of competition requires adequate supply capacity to meet all segments (base, peak, and shoulder) of the load on the power system. Significant enhancement in construction activity is likely to be required to meet the 11th plan target of additional transmission capacity. A significant portion of this enhancement is likely to be in the North Eastern region, Sikkim and Bhutan, which have difficult terrain reducing the margin of error for project execution. Additional transmission capacity is required to evacuate power from surplus regions to supply to deficit regions and to enable electricity trading. This is essential to meet the target of ‘Power for all’. Hence, the criticality of implementing transmission projects cannot be ignored. In this context, it is imperative to establish sound project management principles to the sector to help ensure timely completion of projects. From the perspective of power generation projects, it is critical for project specific transmission projects to be set up before the commissioning of the plant to enable timely evacuation of power. This adds another scheduling constraint for the project.

11. Private financing (FDI and domestic investment) of power investments is feasible in a sound business environment, and commercial lenders are willing to provide medium-term financing (10–15 years) for investments in well-functioning reformed power sectors that are establishing a good track record of adhering to sound regulatory principles (except during a global or regional macroeconomic crisis). Conversely, in countries with little record of sound regulation and fair dealing for businesses, commercial lenders are conspicuous by their absence or by their willingness to lend only on short maturities (under 3 years). Thus a sound policy and regulatory framework and efficient supporting institutions to enforce the relevant laws and regulations are imperative for FDI and domestic investments to enter and thrive.

12. Power-sector reform can yield huge productivity gains, particularly through dynamic efficiency gains under competitive pressures. However, regulators have difficulty in making power suppliers pass on some of their productivity gains through lower retail power prices to franchised electricity consumers in noncompetitive retail market segments (in Argentina and Chile, for example).
This is because regulators also have to avoid creating or adding to substantial uncertainty about future revenues for private investors in power-supply facilities. Governments and regulators must expect to face unanticipated challenges when radical reforms are proposed or introduced into their power sectors. Such challenges may come for groups that lose from the reforms, such as workers laid off under productivity improvements, power users and fuel suppliers that have benefited from subsidies, and local manufacturers of plant and equipment preferred by the power utility before the reforms but not competitive with other technologies preferred by the new private owners.

13. Completion of a reform program is not the end of the process of change in a liberalized power market. For example, once most of the power-supply industry has been passed into private ownership and is exposed to competitive forces, the private owners may carry out further restructuring with moves to recombine some generation capacity with some distribution capacity to reduce market risks (England and Wales), or they may sell their stakes to other private parties under realignment of their investment strategies, as in Brazil. These tendencies require careful antimonopoly regulation to maintain competitive pressures on power suppliers. Another example is when unexpectedly large profits by the new private producers and suppliers arouse public hostility to the reforms and provoke the regulator into making unscheduled price reviews or the government into considering a windfall tax on these profits (as happened in England and Wales). A third example is the unbearable upward pressure of retail tariffs caused by unanticipated large currency devaluations (As in case of Argentina) that can lead to demands from the utility for reductions in the off-take prices under PPAs with IPPs. However, even though such occurrences have been unpopular, there has been no move to reverse or undo the main steps of any country's liberalization program.

14. Implementing Time of Day (TOD) Tariffs: All utilities should introduce TOD tariffs for large industrial and commercial consumers to flatten the load curve. Utilities should support load research to understand the nature of different sectoral load profiles and the price elasticity of these loads between different time periods to correctly assess the impact of differential tariffs during the day.
The utility should have focus group meetings of industrial or large commercial consumers document a few potential case studies illustrating the potential for shifting loads and provide information and analytical support along with implementation of the TOD tariff.

15. Mandate clear and informative labeling in well-designed standardized form for equipment and appliances. Combine this with consumer awareness programmes that illustrate the savings and gains that can be made.

6.3 Issues for Further Study

Endeavour has been made to produce satisfactory measures of privatization, competition and regulation; however more work would be valuable at an international level to obtain superior measures especially on the effectiveness of regulation.

Similarly a comparative study can be undertaken between India and better performing countries to have a better and wider view of the factors responsible for the differential performances.

Again, a focused study can be undertaken on the issues of Quality of service after implementation of reforms which are crucial indicators of the performance of power sector. It include factors like prices charged for electricity generated, number of blackouts, voltage profile, availability of power to end consumers, intelligent metering & billing, responsiveness & accountability.