Paper on

"Strategic Role of Financial Institutions

in

Sustainable Development of Indian Power Sector"

For

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By

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"Strategic Role of Financial Institutions in Sustainable Development of Indian Power Sector"

By

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1.0 INTRODUCTION

Power is an essential requirement for all facets of our life and is the critical infrastructure on which the socio-economic development of the country depends. The demand of power in India is enormous and is growing steadily. The growth of the economy and its global competitiveness hinges on the availability of reliable and quality power at competitive rates. Accordingly, in India, during the X Plan period (2002-07), power sector was considered as a key driver for delivering targeted levels of 8% annual growth in Gross domestic product (GDP) and a growth rate of above 9% during the XI Plan period (2007-12).

As per the Indian Constitution, the electricity is a *'Concurrent Subject'* and is the joint responsibility of the State and Central Governments. The power sector in India is dominated by the Government. The State and Central Government sectors account for about 58% and 32% of the generation capacity respectively while the private sector accounts for about 10%. The bulk of the transmission and distribution functions are also with the State utilities. The private sector has a small presence in Distribution and is making an entry into Transmission.

In its quest for increasing availability of electricity, India has adopted a blend of thermal, hydel and nuclear sources. Out of these, coal based thermal power plants and in some regions hydro power plants have been the mainstay of electricity generation. Oil, natural gas and nuclear power accounts for a smaller proportion. Of late, emphasis is also being laid on non-conventional energy sources i.e. solar, wind and tidal.

Today, India is the third largest producer of electricity in Asia. Since independence, Indian power sector has made a noteworthy growth which includes :

- The Generating capacity has grown manifold from 1,362 MW in 1947 to 127,423 MW (as on 30.09.2006)
- The transmission network has increased from 2,700 Ckm in 1950 to over 2,50,000 Ckm
- Number of villages electrified has increased from 1,500 in 1947 to about 4,74,982 in 2003 which is about 81% of the villages (5,87,556) in India.
- Per capita consumption of electricity has increased from 15.6 Kwh/ year in 1950 to about 604 kwh/ year (2004-05).

2.0 APPRAISAL OF INDIAN POWER SECTOR

2.1 Investment Outlay in Indian Power Sector

The investment outlay for power sector has been ranging from 9% to 20% of the overall outlay since First five year plan in 1951. However, the expenditure in power sector outlay of the total outlay has been steadily decreasing from 17 % during VII Plan to ~ 13.60% in IX Plan (1997-2002). The estimated expenditure in power sector had exceeded the outlay in most of the Plan periods but had below par in the last 3 plan period including current X Plan.

(Rs. Crore)

	Plan	VIII	IX	X
Investment	**Total outlay**	434100	859200	1484131
	Power outlay	79589	124526	270276
Expenditure	**Power sector outlay (%)**	**18.33%**	**14.49%**	**18.2%**
	Of the Investment Power outlay	76667**(96%)**	110328 **(89%)**	179854 **(67%)**

In terms of physical targets, the capacity addition during VIII Plan and IX Plan has been ~54% and 47% against the targeted addition.

(MW)

	VIII Plan		IX Plan		X Plan	
	Capacity Addition Targeted	**Actual Capacity Added**	**Capacity Addition Targeted**	**Actual Capacity added**	**Capacity Addition Targeted**	**Actual Capacity added**
Thermal	20,154	13,555	29,555	13,597	25,417	20387
Hydro	9,292	2,428	9,820	4,538	14,393	8,854
Nuclear	1,100	440	880	880	1,300	1,400
Total	**30,536**	**16,423**	**40,245**	**19,015**	**41,110**	**30641**
(%)		**(53.7%)**		**(47.3%)**		**(74.5%)**

The capacity addition during **X Plan (estimated**) against the targeted capacity addition of 41,110 MW is as follows:

Summary of likely capacity addition during 10TH Plan

(MW)

	Thermal	**Hydro**	**Nuclear**	**Total**
Original programme	25,417	14,393	1,300	41,110
Dropped	2528	481	0	(-)3009
Capacity slipping to 11th plan	7458	5,058	0	(-)12516
Back up capacity likely to be added	4956	-	100	5056
Total	**20387**	**8,854**	**1,400**	**30641**

2.2 Inadequacies in Indian Power Sector

Despite the above notable accomplishments, the growth of the sector has not been balanced. The availability of power has increased but demand has consistently outstripped supply and the power sector is characterized by substantial peak & energy shortages. The total installed capacity in India as on September 30, 2006, was 1,27,423 MW and the country faced energy shortage of 8.3% and the peak shortage of 12.3% of peak demand requirement.

Coupled with this is the urban-rural dichotomy in supply. As per Census 2001, only about 56% of households have access to electricity, with the rural access being 44% and urban access about 82%. In the case of those who do have electricity, reliability and quality are matters of great concern. The annual per capita consumption is at about 604 kWh/ year as against the world average of about ~ 2,400 Kwh/ year. These problems emanate from:

- inadequate power generation capacity
- lack of optimum utilisation of the existing generation capacity
- inadequate inter-regional transmission links
- inadequate and ageing sub-transmission & distribution network
- T&D losses, large scale theft and skewed tariff structure
- slow pace of rural electrification
- inefficient use of electricity by the end consumer
- lack of grid discipline

2.3 Major Legislative / Policy Initiatives Taken By Government

To address various structural constraints multi pronged initiatives had been taken by the Government which includes:

- The Electricity Regulatory Commission Act, 1998 promulgated for setting up statutory bodies like Central Electricity Regulatory Commission (CERC) and States Electricity Regulatory Commission (SERCs) to bring various activities including rationalization of tariff, within the jurisdiction of regulatory framework. CERC has been set up by Central

Government and many States have set up /initiated action to set up their regulatory mechanisms.

- The Electricity Laws (Amendment) Act, 1998 to pave the way for facilitating investment in the transmission sector as well as a coordinated operation of the grid system.
- Energy Conservation Act 2001 enacted, to primarily ensure energy efficiency in consumption & consequently Demand Side Management (DSM).
- Electricity Act 2003 was enacted to introduce competition, protect consumer’s interests and provide power for all. The Act provides for National Electricity Policy, Rural Electrification, Open access in transmission phased open access in distribution, mandatory SERCs, license free generation and distribution, power trading, mandatory metering and stringent penalties for theft of electricity.
- Accelerated Rural Electrification Programme (AREP) which focuses on Un-electrified villages, dalit bastis and hamlets with low cost funds
- Accelerated Power Development and Reform Programme (APDRP) scheme to incentivize financial performance in Distribution sector through reduction of total losses and to improve the system for better quality and reliability of power supply:
- Accelerated Generation & Supply Programme (AG&SP) mainly for Renovation & Modernization (R&M) of power plants
- Rural Electricity Supply Technology (REST) Mission with emphasis on decentralized distributed generation for electrification of rural areas
- 50,000 MW Hydro initiative
- Availability Based Tariff (ABT) implemented inculcating grid discipline and to improve Grid stability, Frequency and Voltage profile.
- A comprehensive Rural Electrification Programme for accelerated electrification of 1 crore households and 1 lakh villages
- Launching of one lakh MW Thermal Power Initiative
- Initiative for private investment into hydel sector to get projects implemented by CPSUs through joint ventures with private entrepreneurs

2.4 Blueprint For Power Sector Development

To mitigate the shortages, the Government of India (GoI) has set a goal – “Mission 2012: Power for All”. The blueprint for Power Sector development revolves around the following:

- Access to electricity to be available for all households in the next 5 years.
- Availability of power on demand to be fully met by 2012
- Energy shortage and peaking shortage to be overcome by providing adequate spinning reserves
- Reliability and quality of power to be supplied in efficient manner.
- Electricity Sector to achieve financial turnaround and commercial viability
- Consumers’ interests to be accorded top priority

2.5 Capacity Addition during XI Plan (2007-2012)

The Capacity requirement to meet the projected demand for the five-year period of 2007-12 is estimated at about 206,000 MW (excluding wind and Renewable Energy Source). The estimated capacity addition of 66,000 MW is planned during XI Plan which includes about 30,300 MW projects already under construction. The task would require commensurate addition of Transmission system & Distribution network to wheel the power to ultimate consumers. The States which have the greater share of generation and transmission assets and almost the entire distribution under their control would need to play a very proactive role in effecting institutional and result oriented changes.

3.0 CREATION OF PFC - FOCUS ON FINANCING THE POWER SECTOR

Power Finance Corporation Ltd. (PFC) was incorporated in 1986, as a company under the Companies Act, 1956 to finance, facilitate and promote India's power sector development, as a dedicated Development Financial Institution in the power sector. The Corporation commenced its commercial operations in 1987-88 and was registered as a Non-Banking Financial Corporation in 1996-97 with the Reserve Bank of India. PFC was also declared a Public Financial Institution in August 1990 under Section 4A of the Companies Act, 1956.

PFC was founded with the sole objective for providing funding and promoting Indian power projects and related activities. During the course of two decades of its journey, PFC had developed extensive power sector knowledge, skills and expertise to provide solutions to various problems faced by power sector utilities which has been amply demonstrated in the variety of products and services that had been introduced from time to time

to meet borrowers requirement. PFC had also provided value to its clients by improving their operational and managerial capabilities and also by assisting them in their sustainable reform and restructuring programs. Thus, PFC has been acting as a ***Change Agent*** and playing a catalytic role in bringing about reforms and restructuring of the power sector and is contributing in ensuring that power sector becomes economically and commercially viable.

3.1 PFC's Products and Services in Changing Face of Power Sector

PFC offers financial assistance through a range of products and services. Term loan, however, forms its principal product. Over the years, PFC has been broadening its product range, both, in the power sector and financial services. While the financial services include both fund-based and non fund-based activities, the portfolio of power sector schemes has been expanded to cover non-conventional energy projects.

PFC, through regular interactions with the borrowers, understands their specific requirements and develops suitable products. The new products/ services developed during the recent years which include the following:

- Rupee Term Loans, Foreign Currency Loans, Bridge Loans, Short Term Loans and Reform-Linked Transitional Loans;
- Bill Discounting, Equipment Leasing, Buyers' Line Of Credit, Loans To Equipment Manufacturers, Line of Credit for the Import of Coal;
- Debt Refinancing;
- Letters Of Comfort; and
- Non-Fund Based Products Viz., Deferred Payment Guarantees.

3.2 Enhancing Customer Relationships

PFC has well developed relationships with the major power sector organizations in India including State power utilities, power departments, central power sector utilities, private power sector utilities, joint sector power utilities, power equipment manufacturers and municipal power utilities. PFC considers its customers as business partners and support their growth and development. PFC interacts with them on a regular basis at various levels and undertakes workshops and seminars to facilitate discussion of issues and identify concerns. These forums also allow promoting products and services and adjusting offerings in-line with client needs.

3.3 Competitive Cost Of Funds And Lending

PFC funds its assets, with market borrowings of various maturities and currencies. The market borrowings include bonds, debentures, term loans, commercial papers and inter-corporate deposits. Given the relationship with the GoI, PFC had also been able to mobilise foreign currency loans from agencies such as the World Bank, ADB and Kreditanstalt fur Wiederaufbau. These sources enable PFC to raise long term funds at competitive costs, which supplement the funds available from commercial sources and broaden the maturity profile of our debt.

3.4 Grants and Interest Free Loans/ Concessional Loans

PFC has earmarked 2% of its net profit for providing grants, interest-free loans and concessional loans for Studies/ consultancy assignments that may be required by the State

Utilities in respect of reform related studies, feasibility reports for R&M, Distribution Management Systems (DMS), training, etc. For an equitable utilization, it has kept a ceiling of Rs.1 crore per State per year.

3.5 Training & Workshops

PFC believes in continuous updating of the professional knowledge of not only of its employees, but of its borrowers, also. To this end, PFC organises regular workshops, training and seminars on various technical and financial subjects related to power sector, both in India and abroad.

3.6 Higher Extent of funding

Considering the importance of providing assistance to completing schemes that can add to generation capacity, the Corporation attaches high priority to projects/ schemes relating to R&M of old thermal power stations, old hydro stations, system improvement, communication, urban distribution etc.

3.7 Implementation of Government Policies and Programmes

PFC a government owned Company occupies a key position in government plans for the growth and development of the Indian power sector. PFC had played and will continue to play a key role in the implementation of government policies and programs. PFC is acting as a nodal agency to implement various policies and programmes of the GoI as detailed below:

3.7.1 *Accelerated Generation & Supply Programme (AG&SP)*

In fiscal 1998, the GoI started the Accelerated Generation and Supply Program ("AG&SP"), a scheme for providing interest subsidies for projects involving renovation, modernisation and life extension of old thermal and hydro plants, completion of on-going generation projects, construction of transmission links, system improvements and including grants for various studies. During fiscal 2002, the scheme was modified to restrict it to renovation and modernisation schemes and generation projects and interest subsidy was reduced from 4% to 3% towards loans to eligible projects. The interest subsidy is passed on to the utilities over the life of the loans.

Under AG&SP, during IXth Plan period MoP has released Rs. 1,476 crore to PFC for passing it on to eligible borrowers as per the Programme. During Xth Plan period, a budgetary provision of Rs. 1,500 crore was made to MoP for the Programme. PFC has so far received Rs. 1,135 crore from the Programme.

3.7.2 *Accelerated Power Development & Reform Program*

The Government introduced the Accelerated Power Development Program ("APDP") in fiscal 2001 as part of the reform of the power sector. APDP was subsequently upgraded to the Accelerated Power Development & Reform Program ("APDRP") in fiscal 2003.

APDP and APDRP schemes seek to reform electricity distribution by providing investment and incentives to SPUs and distribution companies to strengthen and improve sub-transmission and distribution systems. The reform of electricity distribution systems is an essential component of efforts to make these entities financially viable. As per the revised APDRP Guidelines of the GoI in November, 2005, the financial assistance from the GoI will be restricted to 25% of the project cost as grant only for non special category States. For special category States the GoI will finance 90% of the project cost as grant. The balance requirement will have to be arranged by the respective SEB's and utilities either from internal resources, PFC or any other source. Under the incentive component, the MoP gives a grant to the States of 50% of the SPUs actual cash loss reduction year over year. The year 2000-01 is the base year for the calculation of loss reduction, in subsequent years the losses are calculated as net of subsidy and receivables. Funds under incentive components are provided as 100% grant to all the States (special category and non-special category) as additional plan assistance.

Under APDRP scheme, the GoI has allocated a total of Rs. 40,000 crore for Xth Plan period. Under the Programme, 583 scheme costing Rs. 19,180 crore with APDRP component of Rs. 9,265 crore has been approved.

3.7.3 *Distribution Reform, Upgrades and Management ("DRUM")*

DRUM is an Indo-US joint initiative designed by the MoP in conjunction with the United States Agency for International Development with a planned funding of US$ 30 million. PFC's responsibilities under DRUM technical assistance and training component include coordinating with stakeholders, providing management and implementation support, acting as a financial intermediary and banker for controlling and directing funds in the form of loans and grants, and designing a mechanism for leveraging the resources of other financial intermediaries and banks.

Major objectives of the DRUM training program are

(i) to enhance the knowledge and experience of a significant number of distribution engineers, managers and technicians through the facilitation of technical and managerial training delivered by professional Indian training institutions; and
(ii) to support the development and institutional capacity enhancement of selected Indian institutions for sustainable delivery of distribution business management, reform and regulation training.

One of the components of DRUM is to establish pilot distribution projects in rural and urban areas to demonstrate commercially viable and reliable electricity distribution systems that provide quality power to consumers. Currently, there are four DRUM pilot technical assistance projects in Karnataka, Gujarat, Delhi and Maharashtra. PFC had sanctioned Rs. 132.33 crore for pilot projects in Karnataka, Gujarat and Maharashtra.

The fulfillment of these objectives involves the delivery of training programs designed to provide training to approximately 25,000 utility engineers, managers, regulatory commission and staff personnel in various States. With guidance from the MoP, training activities are targeted regionally to deliver high impact education through 19 regional Indian training institutions engaged in power sector and distribution reform activities. From January 1, 2005 to December 31, 2006, training was imparted to over *8,800 officers through 360 training programs.* The focus of this training is to reach the grass-root level staff of the distribution utilities, represented by linemen, foremen, technicians, electricians, meter readers, bill collectors, engineers, managers and other customer interface personnel.

3.7.4 *Delivery through Decentralised Management ("DDM")*

DDM is a scheme sponsored by the MoP that showcases participatory models of excellence in electricity distribution. Its objectives are to promote public participation, encourage community management and to attract private investment in distribution by establishing distribution franchisee and distributed generation projects. PFC has been appointed as nodal agency for successful implementation of DDM schemes. So far, grants of Rs.1.3 Crore to NTPC and Rs.3.4 Crore to West Bengal Renewable Energy Development Agency (WBREDA) has been sanctioned for implementation of Distributed Generation Projects.

3.7.5 *Rural Electrification Initiative*

A Memorandum of Understanding on April 25, 2006 with International Finance Corporation and National Rural Electric Cooperative Association International Limited, a subsidiary of the National Rural Electric Cooperative Association (NRECA), for cooperation in implementing pilot rural area electrification enterprises. The objective of the program is to devise and implement sustainable and replicable business models for rural electrification by utilising proven international experience.

3.8 Promoting Reform & Restructuring Of State Power Utilities by PFC

3.8.1 *State Entity Action Plans*

PFC has been adopting a proactive and pragmatic approach to encourage improvement in the financial and operational efficiency of the State power sector. In 1991, PFC started linking its funding to the Operational and Financial Action Plan (OFAP) for State Power Utilities (SPUs) that emphasized improvement in operations and performance of utilities over a period of time within the existing State institutional framework. The OFAP system was a precursor to the structural reforms later introduced. The objectives of these reforms are to:

- Achieve operational and commercial efficiency and improved viability of State Power Utilities;
- Improve delivery of services and achieve cost effectiveness through technical, managerial and administrative restructuring of utilities;
- Create an environment which will attract private capital, both domestic and foreign, to supplement public sector investment;
- Operate State Power Utilities in a manner that enables them to generate sufficient return to meet operational and investment requirements, such that they cease to be a burden on the State; and
- Achieve conservation of energy through integrated resource planning, demand side management and minimize waste.

Keeping this in view, Reform Operational and Financial Action Plans (R-OFAP) consisting of a series of time bound action plan for different functional areas of the utilities are formulated. The elements of the action plan include developing a scheme for improvement of the entities' technical and financial performance; preparing a financial package where funding is linked to the entity reaching specified targets and goals. Reform-OFAP has helped in initiating a process of improvement and has contributed in bringing about perceptible change in quantitative and qualitative aspects of functioning of SPUs. Besides aiming at bringing about efficiency improvements in the State power sector, R-OFAP focuses on reform/ restructuring activities needed to create an institutional framework for the self-sustainability of the sector in the long run.

The Action Plans are formulated with active participation of the concerned utility and approved by the respective Board of the Utilities. The implementation of various activities included in R-OFAP is monitored regularly and progress report on the same is sought from the utilities. As on September 30, 2006, action plans for 45 utilities had been formulated, this includes five (5) utilities that formulated their action plan in consultation with PFC during fiscal 2006.

PFC provides grants and soft loan for reform and restructuring, institutional development and implementation of Electricity Act 2003 by the State power utilities for improving their performance in the areas of financial, technical and commercial operations. So far, PFC has sanctioned grants for Rs. 12 crore, out of which Rs. 8 crore stands disbursed for reform and institutional strengthening studies. Further, Rs. 5 crore has been sanctioned as interest free loans, out of which Rs. 2 crore has been disbursed. Also, Rs. 1 crore has been sanctioned as concessional loan for computerization and disbursement is yet to start.

PFC is also assisting in utilization of Information Technology for improvement in efficiency in the operation of utilities. PFC has extended loans at lower interest rate to the utilities for computerization scheme for MIS, Networking, Billing, GIS, etc. In this category, PFC has disbursed an amount of Rs. 38.85 crore during the current year.

3.8.2 *Appraisal Mechanism*

PFC follows a systematic institutional and project appraisal process to assess and mitigate credit risk. These processes include a detailed appraisal methodology, identification of risks and suitable structuring of credit risk mitigation measures. PFC uses a range of quantitative as well as qualitative parameters as a part of the appraisal process to make a sound assessment of the extent of underlying credit risk in a project. While assessing borrowers' eligibility criteria, emphasis is on their financial and operational strength, capability and competence. PFC evaluate the credit quality of the borrowers by assigning risk weightings (scores) on the basis of the various financial and non-financial parameters.

3.8.3 *Entity Appraisal*

PFC lending policies are guided by its Operational Policy Statement and assessment of borrower's eligibility criteria is on financial and operational strength, capability and competence. While certain schemes are encouraged through differential lending rates, eligibility criteria and funding decision is made on merit of the project and no funds are pre-allocated.

PFC evaluates the entity with reference to a set of qualitative and quantitative factors. Methodology of rating of the entities takes into account its operational and financial efficiency and progress made by the entity towards implementing the government's reform program helps to identify the relative strength and weakness of each entity. The credit quality of the borrower is evaluated by assigning risk weightings on the basis of these various financial and non-financial parameters. The result of the evaluation is considered while determining the interest rates, exposure and extent of funding to each of the borrowers.

PFC's appraisal and sanctioning process for projects and schemes in power and allied sector is ISO 9001:2000 certified by M/s. NQAQSR Certification Private Limited which was awarded in June 2004. PFC appraisal process is considered as a benchmark for the power industry and that other lenders rely on our appraisals when funding projects.

3.8.4 *Monitoring and Review of Performance of SPUs*

PFC work closely with State governments and State power sector utilities and assist them to undertake reforms within their organizations. As on September 30, 2006, 28 States have set up State Electricity Regulatory Commissions and 15 States have reorganized their operations to establish unbundled and / or corporatised State Power Utilities.

PFC role in promoting the institutional development and reform of State Power Utilities had added advantages like:

- Enabling PFC to extend finance to certain entities based on an action plan and subject to milestones and targets that it otherwise could not have lent to due to their weak financial position and thus PFC's support would benefit the entity by improving its overall financial position;
- Those entities that are subject to a reform agenda are better placed to improve their financial position and thus are better able to service their debt; and
- PFC is able to access funding from multilateral agencies based on reform related activities taken up by the borrowers.

PFC's track record in promoting and supporting reform in the power industry is a unique selling proposition and customers appreciated this role and value our skills and experience. PFC is committed to continue to assist State Power Utilities to adhere to the policy directives of the GoI and looks forward to its involvement in the development of the policy and regulatory framework of the Indian power sector and in enhancing its role in influencing grass root reforms to improve the financial and operational performance of these entities.

4.0 RESOURCE MOBILISATION

PFC has been raising resources in domestic markets as well as in external markets on very competitive terms and rates. PFC has mobilised resources from various multilateral & bilateral agencies viz. World Bank, ADB, KfW, EDC etc. and from the external debt markets through various instruments viz. Syndicated bank Loans, Fixed rate bonds, Floating rate bonds and Export credits

PFC also accesses domestic debt markets through various instruments which include Bonds, Long Term and Short-term Loans from various Bank and Financial Institutions, Commercial Papers, Infrastructure Bonds etc. The rating of the debt instruments are continuously reviewed by international and domestic credit rating agencies and during the past 10 years, various Domestic and International Credit Rating agencies have accorded highest credit ratings.

Rating Agency	**Long Term borrowings**	**Short Term Borrowings**
• **CRISIL**	**'AAA'**	**`P1+'**
• **ICRA**	**'LAAA'**	**'A1+'**
• **Moody's**	**Baa3**	**At par with 'Sovereign' rating**
• **Standard & Poor's**	**BB^{+}**	

The foreign currency loans and domestic loans raised in recent years are unsecured, raised on the strength of its balance sheet and credit worthiness and not guaranteed by Govt. of India or any other agency.

5.0 PFC's Competitive Edge over Other Banks/ FIs

The following table sets forth the growth statistics for the years as indicated:

(Rs. in crore except %)

	Fiscal year					4-year CAGR
	2002	2003	2004	2005	2006	
Sanction	8,523	14,001	16,472	18,573	22,502	27.47%
Disbursements	5,168	7,341	8,975	9,409	11,681	22.61%
Operating Income	2,105	2,641	2,822	2,838	3,020	9.45%
Profit After Tax as ReStated	663	1,033	1,018	971	975	10.13%
Loan Assets	16,458	20,805	24,827	29,520	35,603	21.28%
Total Assets	17,984	22,490	26,673	31,146	37,490	20.16%

Comparative Statement of Banks vis-à-vis PFC

	PFC	All Banks' Average	Foreign Banks (28 Nos)	Nationalized Banks (20 Nos)	SBI & its Associates (8 Nos)	Other Scheduled Commercial Banks (27 Nos.)
			Group Average	Group Average	Group Average	Group Average
	2005-06	2005-06	2005-06	2005-06	2005-06	2005-06
No. of offices	**3**	680	9	1768	1755	259
No. of employees	**289**	10458	724	23375	33826	4189
Business per employee (Rs.lakhs)	**4042**	423.74	1006.24	388.17	337.73	677.86
Profit per employee (Rs.lakhs)	**336**	2.84	14.61	2.26	2.20	4.60
Capital and reserves & surplus (Rs. Crs)	**6938**	2205	837	3869	4704	1682
Advances (Rs. Crs)	**35603**	18261	3364	36730	46440	11999
Interest income (Rs. Crs)	**3126**	2221	422	4425	6140	1328
Other income (Rs. Crs)	**2.03**	454	179	677	1224	352
Interest expended (Rs. Crs)	**1790**	1287	178	2623	3476	824
Operating expenses (Rs. Crs)	**84**	707	194	1288	1971	443
Cost of funds	**7.07**	4.35	3.61	4.26	4.74	4.31
Return on advances adjusted to cost of funds	**2.02%**	3.79	4.93	3.86	3.04	4.21
Wages as % to total expenses	**2.59%**	20.17	18.35	21.37	24.47	12.22
Return on Assets	**2.84%**	1.00	2.09	0.88	0.87	1.08
CRAR (Capital to Risk weighted Assets Ratio)	**18.23**	12.24	12.58	12.38	11.53	12.49
Net NPA ratio (%)	**0.2**	1.22	0.78	1.28	1.39	1.04

PFC is operating with a very meager but highly motivated manpower that is generating more than Rs. 3 crore per employee profit with relatively small operating expenditure. PFC has a negligible NPAs and attractive RoA with CRAR more than 18. With the introduction of ES(A), 2003 there is a tremendous market potential available for which PFC will optimally deploy all its competencies to its advantage.

8.0 BUSINESS STRATEGY

PFC is committed to funding the integrated development of the power and associated sectors. PFC intend to remain a financier of choice in this area by providing financial and consultancy services to ensure the development of economic, reliable, efficient systems and institutions in the power sector. The key elements of Business Strategy includes :

8.1 *Power Lenders' Club*

In January 2006, PFC formalized common lending documents with Life Insurance Corporation of India and ten (10) Indian Banks to establish the *"Power Lenders Club"*, to facilitate "one stop shopping" for clients in the power sector and to provide them access to capital from a consortium of financial institutions and banks to enable power projects to achieve faster financial closure. Later, HUDCO another FI also joined the Power Lenders Club in November, 2006. Power Lenders Club is expected to play a major role in funding of Ultra Mega Power Projects for which PFC is the nodal agency.

8,2 *Ultra Mega Power Projects*

PFC have been designated as the nodal agency by the GoI for the development of seven UMPPs, each with a capacity of 4,000 MW with the objective to develop large capacity power projects in India. These projects will have the advantage of economies of scale on account of large capacity at single location, reduction in emissions on account of super critical technology and lower tariff on account of the above and tariff based international competitive bidding adopted for selection of developers

In order to enhance investor's confidence, reduce risk perception and get a good response to competitive bidding, it was deemed necessary to provide the required water linkage, coal linkage and to obtain various clearances including environment and forest clearance and substantial progress on land acquisition through shell companies (SPVs).

For this purpose, PFC was entrusted the role of a nodal agency at the initiative of GoI to set up SPVs as wholly owned subsidiaries of Power Finance Corporation Ltd. (A Govt.of India Undertaking). These shell companies (SPVs) would also facilitate tying up of power off takes from these projects with appropriate terms and conditions and Payment Security Mechanism. In the first phase, two projects at pit-head site based on indigenous coal and three projects at coastal locations based on imported coal have been identified for development of these Ultra Mega Power Projects. Wholly owned subsidiaries have been established by Power Finance Corporation Ltd. for taking up developmental work of these Ultra Mega Power Projects:-

- Sasan Power Limited for pit head Project at Sasan, Madhya Pradesh
- Coastal Gujarat Power Limited for imported coal based project at Mundra (Gujarat)
- Akaltara Power Limited for pit head Project at Akaltara, Chhattisgarh
- Coastal Karnataka Power Limited for imported coal based project at Tadri, Karnataka
- Coastal Maharashtra Mega Power Limited for imported coal based project at Girye, Maharashtra
- Orissa Integrated Power Limited for pit head Project in Orissa
- Coastal Andhra Power Limited for imported coal based project at Krishnapatnam, (AP)
- Jharkhand Integrated Power Ltd.
- One more subsidiary in Tamilnadu

Similar endeavour will be made by PFC for formation *of Shell companies for transmission projects* to be offered through competitive route as mandated by Government of India.

8.3 *Explore Private Equity Investment in Venture Capital Funds*

PFC intends to set up a venture capital fund, India Power Fund, to invest in power sector projects. PFC is in the process of incorporating this fund and it is expected that it will become operational in the near future. PFC has committed Rs. 200 crore to this fund. Oriental Bank of Commerce has agreed to invest Rs. 10 crore in the India Power Fund. Further, LIC has also expressed its interest to participate in the India Power Fund.

PFC intends to register India Power Fund as a trust and as a venture capital fund with SEBI.

PFC intends to promote and incorporate a trusteeship company to supervise and administer the trust. PFC also proposes to promote and incorporate an asset management company for the independent day-to-day management of the trust funds.

8.4 *Diversification of Borrowers' Portfolio*

PFC intend to promote private sector participation in electricity generation, transmission and distribution in-line with the government's focus on increasing competition in this sector. PFC intend to *diversify our borrower portfolio by funding coal, lignite, oil and gas companies and infrastructure agencies that transport and handle fuel for power projects.*

PFC have also identified *funding of power projects of non-conventional energy sources* such as wind farms, small hydro projects and bio-mass projects as a focus area. The GoI is committed to developing an increasing number of renewable energy sources. PFC have signed a memorandum of understanding with the State nodal agency of Maharashtra so as to provide "one stop shopping" for the financing of non-conventional energy generation projects in the State. PFC is in discussions with other States about the prospects of entering into similar agreements with other State nodal agencies.

PFC have been identified as a nodal agency for assisting SPUs in preparation of *Clean Development Mechanism ("CDM") project for renovation and modernisation* of old thermal and hydro generation plants. PFC are taking necessary action for capacity building of SPUs and preparation of documents by them to take benefits under the CDM.

PFC intends to continue to focus on providing funding to captive power plants for those clients who wish to establish their own sources of power generation. Since the enactment of the Electricity Act, which allows the surplus power from captive power plants to be sold to the distribution companies and fed into the electricity grid, there has been a renewed interest in captive generation which can be capitalized for growth in this area.

8.5 *Promoting Consulting and Advisory Services*

In pursuance of its diversification strategy, PFC had created a separate Unit namely "Consultancy Services" for providing such services in the power and financial sectors, primarily to cater to State Power Utilities / Electricity Regulatory Commissions. The range and scope of consultancy services include Restructuring and Reform activities, Financial Management of resources, Project Management, HRD, MIS etc.

There will be an increase in r consultancy assignments in the future due to the following factors:

- State governments are increasingly entering into joint venture agreements and partnerships with private entities for power generation projects;

- PFC will continue to provide specialist advice in respect of the restructuring of the State power sector as a consequence of the ongoing implementation of the Electricity Act particularly in the human resources and computerization of accounts areas; and

- The liberalization of the power sector will allow a greater number of entities to enter into the power sector which shall be approached by PFC to provide overall advisory services.

PFC's Consultancy Services Unit has grown in operations manifolds in providing consultancy services and has generated an atmosphere of competitive pricing and confidence in its clients in the areas where PFC has been providing such services.

Till now, Consultancy Services Unit has worked with `30' Clients across `19' States. Some of the assignments are repeat orders which exhibit the Client's satisfaction with the services provided in the past. Our clients include State Power Utilities, licensees, IPPs, PSUs, SERCs and State governments. PFC have been consulted on a number of issues, most particularly issues in connection with the implementation of regulatory provisions for tariff fixation, project appraisal, resource mobilization, computerization of accounting systems and reform and restructuring matters. While PFC continues to undertake the assignments on regulatory matters like tariff, PFC shall also focus on assignments relating to:-

- Developing Financial Restructuring Plans, business models: short term and long term, and reform implementation
- Human Resources Development plans to support / facilitate structural changes in state power sector including retaining / redeployment of personnel
- Developing Accounting Systems including computerization of the unbundled utilities

9.0 FUNDS REQUIREMENTS IN POWER SECTOR DURING XI PLAN (2007-2012)

It has been estimated that investment of about Rs. 9,75,000 crore will be needed to meet the capacity addition requirement during XI Plan alongwith matching transmission and distribution and renovation and modernization of existing plants, development of rural electrification etc.

Funding through any institution or instrument can take the form of either own capital or borrowed funds. Today, the debt-equity mix in the sector is moving towards 80:20 although the prevailing D:E mix is 70:30. Primarily, debt funding comes from AIFIs like PFC, REC, IDFC banks and the corporate debt market etc. Assuming that the overall funds requirement during XI Plan may be to the tune of Rs. 9,75,000 crore, the total debt required will be about Rs. 6,82,500 crore assuming a Debt : Equity ratio of 70:30. The debt shall need to be tapped from various domestic and International sources which shall include Direct market borrowing, Banks and AIFIs, PFC, REC, Multilateral/ bilateral credits, ECA/ ECB/ Syndicated loans etc

9.1 *Institutional/ Banks Funding Scenario*

Indian economy having clocked 8% rate of growth is on the threshold of a takeoff trajectory, leading to double digit growth. In order to maintain this momentum, the infrastructure- physical, financial, institutional etc. needs to be developed and the existing one strengthened.

The Indian Financial System is no longer a mere network of Banks engaged in the deposit of savings and disbursal of cash. Today, the Banks and Financial Institutions are creators of economic momentum. The high credit elasticity shown by the economy, with an 8% plus growth has led to 30% growth in credit off-take. As the economy prepares to move to the forefront of global economic order, there is a need that financial infrastructure leverages the growth opportunities.

The exposure norms in the form of single borrower exposure norm of maximum exposure of 25% of the net owned (capital) funds and maximum possible exposure limit to a group borrower of maximum exposure of 55% of the net owned (capital) funds and the industry norm of sectoral limits of about 15% of the outstanding assets, are posing a question mark on the extent to which the present setup can provide the debt funding.

However, on December 12, 2006, Reserve Bank of India has issued guidelines on the subject of Financial regulation of systemically important NBFCs (with asset size of more than Rs. 100 crores) and Banks' relationship with them. Consequently, lending by systemically important NBFCs to a single borrower (15% of Networth) and a group borrower (25% of Networth) is capped by the exposure norms as laid down in the aforesaid guidelines. This will affect the ability of the institutions (such as PFC, REC, IREDA etc) to fund the power sector. Besides, the exposure to be taken by a bank on a single NBFC has also been capped at 15% of Bank's Capital Funds. These guidelines also indicate that Banks may also consider fixing internal limits for their aggregate exposure to all NBFCs put together. This in-turn will affect the ability of the institutions such as PFC, REC, IDFC, IREDA etc to mobilize the resources from the Indian financial system and channelise funds to the power sector. All the affected NBFCs are required to give a roadmap to RBI to comply with these guidelines by March 31, 2007. Thus, these guidelines will adversely impact the availability of funds to the power sector.

Further, Indian financial system does not have an active, liquid and large debt market. The primary debt market is primarily dominated by wholesale players like banks, mutual funds, provident funds and other large investors like LIC etc. The corporate sector bond market has been largely characterized by private placement of debt securities, where the retail participation is almost insignificant. Accordingly, higher investment from the Indian Bond market will not be possible till related gaps are not bridged.

The External Commercial Borrowing (ECB) market has much more depth. The stable exchange rate and comfortable exchange reserves of India have added to the confidence of Commercial Banks in lending to Indian Companies. However, the ECB market is constrained as the lenders prefer to limit their exposure to five-year tenure and the ECB guidelines of RBI restrict financial intermediaries from freely raising funds by not placing them under automatic route but under an approval route.

On the other side, funding by private sector banks to the power sector has not yet picked up.

As per RBI statistics, non-food bank credit to the infrastructure sector as on 31st March 2006 stands at Rs. 108,787 crore. Power is only one constituent of this whole infrastructure pie. The demand for investment in other areas of infrastructure such as ports, airports, roads and highways etc. is also increasing which is bound to affect the availability of funds for power sector in years to come.

Considering the extent of funding required, the inherent problems related to electricity billing, T&D losses and keeping in view the regulated tariff regime, which limits the return to the equity investors, power sector has not been able to invoke much of the interest from the perspective of equity investors.

9.2 *Availability of Financial Resources* and Bridging the Gap

9.2.1 Debt:

The projected investment during XI Plan will require considerable efforts in raising required funds from the Indian Banks, all India Financial Institutions (FIs), Indian Capital Market, Multilateral agencies, Export Credit Agencies (ECA) and External Commercial Borrowing (ECB) etc. and the following financial resources are estimated.

- *Direct Market Borrowing :* Direct Borrowings include direct fund raising through bonds and other instruments by various power sector utilities such as NTPC, NHPC, PGCIL, DVC, NEEPCO, SJVNL, THDC and SEBs and it is estimated that about Rs. 25,000 crore can be raised during the Plan period.

- *Banks/ Indian Financial Institutions (IFIs) :* It is estimated that as per the prevalent guidelines/ prudential norms, the financing limits applicable for Banks/ AIFIs, the funds to the tune of over Rs.1,00,000 crore can be mobilized during XI Plan period.

- *Funding from PFC, REC and IIFCL :* The overall funding from financial institutions like Power Finance Corporation Limited (PFC), Rural Electrification Corporation Limited (REC) and from India Infrastructure Financial Corporation Ltd. (IIFCL) is etimted to be between Rs. 1,50,000 to 2,00,000 crore.

- *Private Sector* : For IPPs, it is assumed that equity portion (debt : equity ratio 70:30) will be funded by promoters investment, foreign direct investment (FDI) and capital market whereas the debt funds will be arranged both from Indian and foreign capital market.

- *Export Credit Agencies (ECA) & External Commercial Borrowing (ECB) and Multi-lateral/ Bi-lateral Credit Agencies :* The funding from multi-lateral/ Bi-lateral credit agencies as well as ECA/ ECBs during XI Plan period is estimated to be about Rs. 85,000 crore.

Thus, overall potential of debt sources that can be galvanized is over Rs. 4,00,000 crore.

9.2.2 Equity :

The funds generation shall also need equity contribution of over Rs. 2,92,000 crore and estimated equity available or can be generated is over Rs. 1,16,000 crore from Promoters including FDI, Internal Resources of CPSUs, State/ Central Govt Government Support and Grants etc. during the XI Plan period.

Thus, there shall be a funding gap both in terms of Debt and Equity which shall need to be bridged up.

Power sector is already facing a spill-over in terms of capacity augmentation in generation, distribution as well as transmission. To facilitate and maintain the current economic growth rate, demand for electricity is bound to increase, consequentially, requiring allocation of more resources for the sector. Therefore, there is a strong case for urgent measures that should be taken to ensure that the growth of power sector in India is duly supported by availability of funds.

9.3 Proposals for Raising Resources for Power Sector

In addition to above conventional resources, other innovative financial instruments will need to be evolved with support from Government and to reduce the gap in funding requirements which may include:

9.3.1 Higher Debt Mobilization

- Modification of ECBs guidelines permitting infrastructure borrowers including intermediaries PFC, REC, IDFC etc to borrow funds from overseas market under automatic approval route

- Introduce Power Bonds as transferable bearer instrument for wider retail participation.

- Additional investment for infrastructure bonds

- Investment by Provident Funds, Gratuity, Pension and Insurance funds in Power Bonds.

- Development of Primary Markets for Bonds and Corporate Debt by enhancing Issuer base like Banks' entry into the retail bond market would greatly facilitate in bringing good quality paper to the market. Similarly, e*nhancing investor base by a*llowing cooperative banks to invest in good quality corporate bonds would be helpful as cooperative banks have large deposits. Retail investors should be encouraged to participate in the market through stock exchanges by providing fiscal incentives for such investments as well as encouraging the foreign investor to participate in subordinate/hybrid debt instruments.

9.3.2 Measures for Equity Participation

- Initial Public Offer by Power companies: Profit making Central/ State Utilities in generation, transmission & distribution to be encouraged for supply of PSUs stock in the market by way of IPOs/ FPOs (Follow-on Public Offer)/ Offer for sale.

- Public Private Participation models: PPP on the lines of UMPP where Govt. undertakes to get the various clearances before the bidding facilitates quicker financial closure.

- State Governments to allocate funds through their budget for providing equity support to State Utilities in Power Sector

- Development of a Venture Capital / Private Equity fund to invest in equity of power projects.

- Development of Hydro Power Viability Fund which finances the deferred component of the power tariff of the first five years and recovers its money during 11th to 15th year of the operation.

- Viability Gap Fund (for Remote areas) which finances the deferred component of the power tariff of the first five years and recovers its money during 11th to 15th year of the operation.

- *Specialized debt funds for infrastructure financing:* Creation of specialized long-term debt funds to cater to the needs of the infrastructure sector. A regulatory and tax environment that is suitable for attracting investments is key for channelizing long-term funds into infrastructure development.

Power sector is already facing a spill over in terms of capacity augmentation in generation, distribution as well as transmission. To facilitate and maintain the current economic growth rate, demand for electricity is bound to increase, consequentially, requiring allocation of more resources for the sector. Therefore, there is a strong case for urgent measures that should be taken to ensure that the growth of power sector in India is duly supported by availability of funds.

10.0 CONCLUSION

In the years ahead, PFC's efforts will be directed towards further consolidating its position as the premier Development Financial Institution for the power sector. Towards this end, PFC with the active support of GOI, shall strive to emerge as the nodal agency through which all credits to power sector from bilateral/ multi-lateral sources, would be channelled. PFC endeavours to achieve a share of over 20% of the Indian Power Sector outlay for the period 2002-12.

In this direction, PFC has made a consortium of 11 Banks for lending to power projects as a single window, with common appraisal and loan documents. This will facilitate expeditious Financial closure of projects and disbursements thereafter. Recently, PFC has been given the responsibility as Nodal agency for setting up of Shell companies to set up Ultra Mega Projects in Coal pit head / coastal areas of the size of 4000 – 5000 MW as well as in Transmission sector. The letter for awards to successful bidders in December 2006 for the first 2 Ultra Mega Power Projects through international competitive bidding process and low tariff had set up a new landmark in the power sector. It will ensure creation of new investments from private sector. Thus the phenomenon of establishment of ultra mega projects will provide adequate power at affordable price which will go a long way in maintaining growth rate at 9-10% and in achieving Government of India's goal of `Power for all by 2012' at affordable price.

In addition, there could be many more suggestions to facilitate flow of capital to the power sector but the key challenge is to improve the financial viability of the sector. The ambitious targets of XI Plan and beyond will require a meticulous effort to facilitate funding for such large capacity additions. The future of power sector financing lies in its ability to attract the retail investors both in equity as well as debt markets, institutional lenders and developers willing to take higher exposures, foreign investors and suppliers of goods and services for the power sector. In this endeavour, PFC will also continue to work relentlessly towards maintaining its position as a premier lender to the power sector, with an array of innovative products, enriching the stakeholders' value and being a significant partner in the development and growth of the nation.

Synopsis of the Paper

"Strategic Role of Financial Institutions in Sustainable Development of Indian Power Sector"

By

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The paper focuses on the appraisal of Indian power sector, the achievements and inadequacies in the power sector, the measures and initiatives taken by Government of India and blueprint for the development of Indian power sector for next five years i.e. XI Plan (2007-2012). The role played by various Financial Institutions, Banks, Bilateral/ Multilateral agencies, ECA/ ECB etc. with focus on the role of Power Finance Corporation (PFC) in development and financing of Indian Power sector as well as in Institutional development of State power utilities by facilitating in their reform and restructuring process and thus improving their financial health. The paper also focuses on the role played by PFC in the implementation of various policies and programmes of the Government of India; its competitive edge in Indian financial sector and its growth strategies for enriching the stakeholders' value and acting as a significant partner in the development of power sector and in growth of the nation.

The paper provides information on the capacity addition planned in the next five years with the objective to achieve GOI's "Mission 2012: Power for All with the" in the Indian power sector along with matching transmission and distribution system; the estimated funds required in the Indian power sector ; the funds that can be generated both in the form of Debt and Equity; the funding gap between the fund required and the funds that can be mobilized; proposed measures to meet the overall funding requirement for sustainable development of the power sector.