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- **CRISIL RAM**: For rating projects

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- **Asia Infrastructure Database**, Data on energy, power, telecommunications, and transport markets in Asia.

- **Centre for Monitoring Indian Economy (CMIE)**, Comprehensive database of over 5,000 projects.

- **CRISIL**, Rating data of over 1200 projects

- **Construction Industry Institute**, Data and research reports on the construction industry.

- **Global Infrastructure Projects Database**, The Infrastructure Division of the International Trade Association (US Commerce Dept.) maintains this database which assists the US companies seeking business with large-scale infrastructure projects around the world.

- **International Finance Corporation (IFC) Project Document Database**, Provides information about existing and proposed IFC projects.

- **Sustainable Energy and Economy Network (SEEN)**, A political interest group with the goal of educating people about the problems associated with fossil fuel investments. Has a database of energy projects.


Annexure 1.1

Benefits for Infrastructure Sector announced in the Union Budget from 2001-02 to 2009-10

1. Budget 2009-10
Finance Minister: Shri Pranab Mukherjee

To ensure that infrastructure projects do not face financing difficulties arising from the current downturn, the Government has decided that IIFCL will refinance 60 per cent of commercial bank loans for PPP projects in critical sectors over the next fifteen to eighteen months. The IIFCL and Banks are now in a position to support projects involving a total investment of Rs.100 thousand crore in infrastructure. Combined with the steps we are taking to increase public investment in infrastructure, this will provide a big boost to such investment.

Highway and Railways

The allocation during the current year to National Highways Authority of India (NHAI) for the National Highways Development Programme (NHDP) is being stepped up by 23 per cent over the 2008-09 (BE). Allocation for the Railways has been increased from Rs.10,800 crore made in the Interim Budget for 2009-10 to Rs.15,800 crore.

Urban Infrastructure

The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) has been an important instrument for refocusing the attention of the State governments on the importance of urban infrastructure. In recognition of the role of JNNURM, the allocation for this scheme is being stepped up by 87 per cent to Rs.12,887 crore in the current budget. To improve the lot of the urban poor, allocation has been enhanced for housing and provision of basic amenities to urban poor to Rs.3,973 crore in the current year’s budget. This includes the provision for Rajiv Awas Yojana (RAY), a new scheme announced in the address of the President of India. This scheme, the parameters of which are being worked out, is intended to make the country slum free in the five year period.

Brihan Mumbai Storm Water Drainage Project (BRIMSTOWA)

To address the problem of flooding in Mumbai, Brihan Mumbai Storm Water Drainage Project (BRIMSTOWA) was initiated in 2007. The entire estimated cost of the project at Rs.1,200 crore is being funded through Central assistance. A sum of Rs.500 crore has been released for this project upto 2008-09. Allocation has been enhanced for this project from Rs.200 crore in Interim BE to Rs.500 crore to expedite the completion of the project.

Power

The Accelerated Power Development and Reform Programme (APDRP) is an important scheme for reducing the gap between power demand and supply. Allocation for this scheme has been increased to Rs.2,080 crore, a steep increase of 160 per cent above the allocation in the BE of 2008-09.
Gas

With the recent find of natural gas in the KG Basin on the Eastern offshore of the country, the indigenous production of Natural Gas is set to double with natural gas emerging as an important source of energy. LNG infrastructure in the country is also being expanded. Government proposes to develop a blueprint for long distance gas highways leading to a National Gas Grid. This would facilitate transportation of gas across the length and breadth of the country.

Assam Gas Cracker Project

The Assam Gas Cracker Project sanctioned in April 2006 is being executed at a cost of Rs.5,461 crore. The capital subsidy of Rs.2,138 crore for the project is to be provided by the Central Government. The outlay for this project is being stepped up suitably.

2. Budget 2007-2008:
Financem Minister, Mr. P Chidambaram

Fiscal Benefits

- The benefit u/s 80 1A is extended to cross country natural gas distribution network, including gas pipeline and storage facilities integrated to network and also to navigation channel in the sea.

- To facilitate the creation of urban infrastructure, issue of tax-free bonds is allowed through State Pooled Finance Entities for raising funds for a group of urban local bodies.

- A five-year holiday from holiday from income tax for two, three or four star hotels as well as for convention centers with a seating capacity of not less than 3000. They should be completed and begin operations in the National Capital Territory of Delhi or in the adjacent districts of Faridabad, Gurgaon, Ghaziabad or Gautam Budh Nagar during the period April 1, 2007 to March 31, 2010.

Policy Incentives

- Allocation for Jawaharlal Nehru National Urban Renewal Mission (JNNURM) enhanced from Rs.4,595 crore in 2006-07 to Rs.4,987 crore in 2007-08

- A separate window for rural roads under the Rural Infrastructure Development Fund to continue under RIDF-XIII in 2007-08 with a corpus of Rs.4000 crore Provision for the National Highway Development Programme increased from Rs.9,945 crore in 2006-07 to Rs. 10,667 crore next year.

Public Private Partnership

- Revolving fund with a corpus of Rs.100 crore set up to quicken project preparation of a shelf of bankable projects that can be offered under for competitive bidding. The fund will contribute upto 75% of the preparatory expenditure in the form of interest free loan that will be eventually recovered from the successful bidder.
2. Budget 2006-2007:
Finance Minister, Mr. P Chidambaram

Fiscal Benefits
Industrial Park
• Under Section 80 IA of the Income Tax Act, which applies to infrastructure facilities, the terminal date for developing an industrial park has been extended from March 31, 2006 to March 31, 2009.

Power
• Under Section 80 IA of the Income Tax Act which applies to infrastructure facilities, the terminal date for power sector the date is extended to March 31, 2010

Policy Incentives
Telecommunications
• Rs.1500 crore from the Universal Services Obligation Fund in 2006-07 to achieve the ambitious target of 250 mn telephone connections by December 2007.

Power
• In order to create an enabling and empowered framework to carry out reforms in Power sector, the Prime Minister will establish an Empowered Committee of Chief Ministers and Power Ministers.

Transport
• The Budget support for NHDP enhanced from Rs.9320 crore to Rs.9945 crore in 2006-07.
• A sum of Rs.550 crore for a special accelerated road development programme for the North Eastern region

3. Budget 2005-2006:
Finance Minister, Mr. P Chidambaram

Fiscal Benefits
Transport
• Exemption from tax on income of a foreign entity arising out of agreements between it and an Indian entity to acquire aircraft or aircraft engines on lease, extended up to September 30, 2005.

Policy Incentives
Roads
• Increase in allocations for NHDP from Rs 65.14 billion in 2004-05 to Rs 93.20 billion in 2005-06.
• A special purpose vehicle (SPV) to finance infrastructure projects (roads, ports, airports and tourism) with Rs 100 billion borrowing limit and a provision of Rs 15 billion for viability gap funding for infrastructure projects. An Inter-Institutional Group of banks
and financial institutions will appraise the projects. Government will communicate the borrowing limit to the SPV at the beginning of each fiscal year.

4. Budget 2004-2005:
Finance Minister, Mr. P Chidambaram

Fiscal Benefits
Power
- The benefit u/s 80 IA is extended to power sector projects undertaken during April 1, 2004 to March 31, 2006, in order to promote renovation and modernization of existing transmission and distribution lines.

Healthcare
- The benefit u/s 80 IB is extended to new hospitals with 100 beds or more set up in rural areas. Such hospitals will be entitled to a 100% deduction of their profits for a period of 5 years

Telecommunications
- The terminal date for benefits u/s 80 IA to telecom sector is extended from March 31, 2004 to March 31, 2005. Under Section 80 I-A, a telecom operator is entitled to 100 per cent exemption on taxable profit for 5 years and 30 per cent exemption for the next 5 years during the initial 15 years from the date of commencement of commercial operations.

Policy Incentives
- Inter-Institutional Group (IDBI, IDFC, ICICI Bank, SBI, LIC, Bank of Baroda and Punjab National Bank) will pool their resources on a callable basis, and a sum of Rs. 40,000 crore will be made available as and when necessary to ensure speedy conclusion of loan agreements and implementation of infrastructure projects. Initially, airports, seaports and tourism will be the target sectors of the IIG
- The Ministry of Shipping proposes to establish a SPV to raise funds for the Sethusamudram Ship Canal Project. The Government will participate in the funding through a mix of equity support and debt guarantee.

5. Budget 2003-2004:
Finance Minister, Mr. Jaswant Singh

Fiscal Benefits
Water Supply
- Depreciation @100% on plant and machinery and buildings that house such plant and machinery forming part of a water supply project or a water treatment system.
- Water supply projects are now totally exempt in regards to capital goods and machinery, both from customs and excise duties.
- Pipes that bring raw water from source to the treatment plant and for conveying treated water to the storage place have been exempted from excise duty.
Power
Custom duty on specific equipment for high voltage transmission projects reduced from 25% to 5%.

Petroleum
Custom duty on LNG regassification plants reduced from 25% to 5%.

Policy Incentives
- The cess on diesel and motor spirit increased by 50 paise per litre to raise additional resources of Rs. 2600 crore for road development.

- 48 projects have been identified where the traffic volume justifies four laning. These projects will be funded on a BOT basis, with Government providing a subsidy in the form of annuity flow to meet only the shortfall between anticipated revenue and loan repayment liabilities.

- The mega power project policy is further liberalised by extending all the various duty and licensing benefits to any power project that fulfills the conditions already prescribed for mega power projects.

- Rs. 20 crore allocated to CSIR for research in solar energy, wind turbines and hydrogen fuels as alternatives to fossil fuels.

6. Budget 2002-2003:
Finance Minister, Mr. Yashwant Sinha

Fiscal Benefits
- The deduction available u/s 80HHD of the Income-tax Act in respect of foreign exchange earnings of hotels or tour operators will be enhanced to bring it in line with the deduction available to exporters u/s 80HHC.

- A deduction of 50% of the profits earned by units setting up and operating large convention centers will be allowed for 5 years u/s 80-IB.

- Customs duty on specified equipment for ports and airports reduced to 10%.

- Aero planes, helicopters, gliders, simulators of aero planes and their parts and raw materials are exempt from duty.

Policy Incentives
Transport
- The Pradhan Mantri Gram Sadak Yojana is further allocated Rs. 2500 crore for the year 2002-03.

- It is proposed to corporatise major ports in a phased manner. With corporatisation of the existing ports and new private sector ports coming up, the regulatory structure will be strengthened.

- Private sector participation in Greenfield airports will be encouraged through a package of concessions.
Power
- A new interest subsidy scheme called Accelerated Rural Electrification Programme is introduced and an outlay of Rs. 164 crore has been provided for this scheme in 2002-03.
- The APDP is being redesigned as the Accelerated Power Development and Reform Programme with an enhanced plan allocation of Rs. 3500 crore for 2002-03. The focus of reform has shifted from generation to transmission and distribution.

Tourism
- SPV will be permitted in tourism sector to raise resources from both public and private sectors for infrastructure development in these circuits.

Infrastructure – Multi sector
- An Infrastructure Equity Fund of Rs. 1000 crore will be set up to help in providing equity investment for infrastructure projects. Contributions to the Fund to be managed by the IDFC, would initially be made by public sector insurance companies, financial institutions and some banks.

- An institutional mechanism is being set up to coordinate the debt financing by financial institutions ad banks of infrastructure projects larger than Rs. 250 crore.

- IDFC will act as the coordinating institution with primary responsibility for different sectors being shared with IDBI and ICICI.

- Public private partnership will be encourage for the provision of infrastructure facilities, the modalities for which are being worked out by a Task Force.

7. Budget 2001-2002:
Finance Minister, Mr. Yashwant Sinha

Fiscal Benefits
Infrastructure – Multi sector
- A 10 year tax holiday proposed for core sectors of infrastructure viz., roads, highways, rail system, water treatment and supply, irrigation, sanitation and solid waste management systems, to be availed during the initial 20 years.

- A 10-year tax holiday is proposed for airports, ports, inland ports and waterways, industrial parks and generation and distribution of power, to be availed during the initial 15 years. The period of commencement of business for power and industrial parks is also being extended up to March 31, 2006.

- Any income by way of interest, dividends or long-term capital gains from such investments (investors providing long term finance or investing in the equity capital of the enterprises engaged in infrastructure facility) is fully exempt. This concession is extended to guarantee commissions and credit enhancement fees earned by FIs from infrastructure enterprises. Co-operative Banks will also be eligible for exemption of their income from investments in approved infrastructure facilities. This benefit has been withdrawn vide Finance Act 2006 wef FY 2006-07.
SEZs

- To encourage development of industrial infrastructure, the 10-year tax holiday will be available to developers of SEZs on the same lines as developers of industrial parks. The income of investors making long term investment for the development of SEZs will also be exempt.

Telecommunications

- A 5-year tax holiday and 30% deduction for next 5 years will be available to units in the telecommunications sector commencing the operations on or before March 31, 2003. These concessions will also be extended to internet service providers and broadband networks.

Transport

- Tax holiday for 5 years and 30% deduction of profits for next 5 years to the enterprises engaged in the integrated business of handling, transportation and storage of food-grains.
- Rate of depreciation increased to 25% for ships and inland water vessels

Policy Incentives

Transport

- With the objective of achieving rural connectivity, a central allocation of Rs.2500 crore is made towards the Pradhan Mantri Gramodaya Yojana. 50% of the diesel cess is earmarked for development of rural roads.

Power

- To improve the power distribution system in rural areas, a sum of at least Rs.750 crore out of RIDF has been earmarked for rural electrification works. REC is allowed to float capital gains tax exemption bonds along with NABARD and NHAI under Section 54 EC of the Income Tax Act.
- The Central Government is accelerating the programme of reforms in SEBs on the basis of specific milestones that are being built into MOUs entered into with State Governments. Plan allocation to the Accelerated Power Development Programme has been stepped upto Rs.1500 crore next year from Rs.1000 crore this year. Priority under APDP would be given to those states that undertake reform.
Annexure 1.2

Regulation of Infrastructure Sector

1. The Regulatory State
With the economic liberalisation initiated in the 1990s, the state has tentatively begun to vacate some of the commanding heights of the economy, where state responsibility for the provision of services was synonymous with state ownership. The new approach makes space for public private partnerships in provision of infrastructure and services combined with extensive state regulation for safeguarding user interests. The command and control mode of governance that relied on state ownership of infrastructure services is gradually moving towards a new mode of regulatory governance where public private partnerships and private sector participation require governmental priorities to be achieved through independent regulation and the law of contract. This transformation, however, remains an inadequately understood process.

Regulation may be broadly understood as an effort by the state ‘to address social risk, market failure or equity concerns through rule-based direction of social and individual action.’ Economists regard economic regulation by the state as necessary only when a natural monopoly exists, or where a dominant player abuses monopoly power or to overcome some other form of market failure. Economic regulation is seen to be that part of regulation which seeks to achieve the effective functioning of competitive markets and where such markets are absent, to mimic competitive market outcomes to the extent possible. Within economic regulation, the two core regulatory tasks are the setting of maximum tariffs and enforcing of minimum service standards. It also identifies and addresses subsidies and cross-subsidies in the pricing of infrastructure services. States generally use economic regulation in a broader context to achieve a range of non-market objectives which include ensuring universal and equitable access, consumer protection and maintaining safety and health standards. (Planning Commission, 2008)

2. Regulatory Framework for the Infrastructure Sectors
The regulatory framework in the infrastructure sectors has developed autonomously within each infrastructure sector with very little co-ordination or cross fertilisation of ideas across sectors. The table on the next page (Table 4) captures the broad legislative and institutional framework currently prevailing in the key infrastructure sectors.

A survey of the provisions of the existing statutory and institutional framework suggests the absence of a common regulatory philosophy guiding the evolution of regulatory institutions in these infrastructure sectors. Political constraints and ministerial preferences over time seem to have dominated the reform agenda in different infrastructure sectors. It is time to recognise that institutionalising a robust regulatory philosophy based on a framework with adequate capacity is a necessary, though not sufficient, condition for accelerated and sustainable growth of infrastructure.
<table>
<thead>
<tr>
<th>Sector</th>
<th>Relevant Statutes</th>
<th>Regulatory Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>- National Highways Act of India</td>
<td>No sectoral regulator</td>
</tr>
<tr>
<td></td>
<td>- Central Road Fund Act, 2000</td>
<td>No regulatory authority. NHAI acts as regulator as well as the operator. States have</td>
</tr>
<tr>
<td></td>
<td>- The control of National Highways ( Land and Traffic Act, 2002)</td>
<td>floated their own corporations and agencies.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Investors have no recourse to an independent regulator</td>
</tr>
<tr>
<td>Rail</td>
<td>- Indian Railway Board Act1905</td>
<td>Railways act as the operator as well as the regulator.</td>
</tr>
<tr>
<td></td>
<td>- Railways Act 1989</td>
<td>Investors have no recourse to an independent regulator</td>
</tr>
<tr>
<td>Airports</td>
<td>- Aircraft Act 1934</td>
<td>AAI is the operator as well as the regulator. Director General of Civil Aviation (DGCA)</td>
</tr>
<tr>
<td></td>
<td>- Airports Authority of India Act, 1994</td>
<td>as well Bureau of Civil Aviation Security (BCAS) regulates safety and technical aspects</td>
</tr>
<tr>
<td></td>
<td>- Air Corporation ( Transfer of Undertaking and Repeal Act)</td>
<td>only.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Investors have no recourse to an independent regulator.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proposed to set up the Airports Economic Regulatory Authority.</td>
</tr>
<tr>
<td>Ports</td>
<td>Indian Ports Act, 1908</td>
<td>Tariff authority for major ports (TAMP) has the sole function of tariff setting.</td>
</tr>
<tr>
<td></td>
<td>Major Port trust Act, 1963</td>
<td>Investors and users have no recourse to an independent regulator on other matters such</td>
</tr>
<tr>
<td></td>
<td></td>
<td>as dispute resolution, performance standards, consumer protection and competition.</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>Electricity Act 2003</td>
<td>- No energy sector regulator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Regulatory commissions at centre and state with very extensive functions and powers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Track record not as yet convincing.</td>
</tr>
</tbody>
</table>
| Energy Oil and Gas | - Petroleum and Natural Gas Regulatory Board Act 2006.  
- Petroleum Act, 1934  
- Petroleum and Minerals Pipeline (Acquisition of Right of user in Land) Act, 1962  
- Oil Fields (Regulations and Development) Act, 1948 | The Petroleum and Natural Gas regulatory Board set up in October 2007 will regulate the refining, processing, storage, transportation, distribution and marketing of petroleum products. Director General of Hydrocarbons licenses and regulates the exploration and optimal exploitation of hydrocarbons. |
| Communication | Communication Convergence Bill 2001 | The draft bill proposes a sectoral regulator to promote, facilitate and develop the carriage and content of communications. |
| Telecom and Internet | Indian Telegraph Act, 1885  
Indian Wireless Telegraphy Act, 1933  
Telecom Regulatory authority of India Act, 1997  
Information Technology Act, 2000 | TRAI has been given the responsibility to regulate telecom and internet service providers. |
| Water Supply and sanitation | Indian Easement Act, 1882  
Water (Prevention and control of pollution) Act, 1974 | No regulatory authority  
Central ground water authority is responsible for regulation and control of ground water development with powers to control pollution and protect the environment. |

3. Comparative Analysis

The approach to the creation of a regulatory framework in four jurisdictions, namely the United States, United Kingdom, Australia and Sri Lanka is looked into.

**United States**
The US has pioneered the creation of Independent Regulatory Agencies whose core function is to create and improve the legal and institutional structures which support a market economy. These agencies are created by Acts of Congress and may be either specific in their remit, like the Federal Aviation Authority or a multi-sector regulator like the Federal Communication Commission. The enabling legislations have created regulatory institutions in a piece meal fashion over the last century and these are not uniform in scope and design. Regulatory agencies are regarded as a part of the executive branch, but they are not subject to everyday political interference. Instead they are closely supervised by the Congress which vets appointments,
requires all rules to be presented before it and may subject agencies to careful scrutiny through the committee system. Regulatory agencies are empowered to create and enforce rules which carry the force of a law. Individuals, businesses, and private and public organizations can be fined, sanctioned, forced to close, and even jailed for violating federal regulations. To ensure greater transparency and democratic accountability to the rule making process, the Congress laid out the basic framework under which rulemaking is conducted in the Administrative Procedure Act (APA), 1946. It remains the basic legislative standard on the process of rulemaking which applies across all regulatory institutions.

United Kingdom

The programme of economic reform involved the privatization of state utilities and the creation of independent regulators to take over the responsibilities of erstwhile ministries. Through the 1980-90s this process was carried out on a case by case basis where regulators, non-departmental government bodies and quasi non-governmental organizations were created in each sector to carry out the state’s role. By the mid-90s there were several such bodies which came into being with overlapping and clashing jurisdictions. Moreover there was lack of a common approach, consistency and quality of performance of these non-state bodies resulting in a situation where some bodies were performing worse than their previous avatar – the department! An important feature of the regulatory institution in UK is that the regulators term and autonomy are not necessarily enshrined in law. For example, the electricity and gas regulator is appointed by the government and serves at the pleasure of the Queen without any statutory guarantee relating to its terms or conditions of service. However, the conventions in UK have ensured that the selection is credible while autonomy in functioning is virtually taken for granted. Since the mid-1990s regulatory reform has topped the agenda in the UK. This has taken two directions. First, there has been the attempt to create a multi-sector regulator in some utilities industries with the Utilities Act 2000 which sought to bring the gas and electricity regulators under a single statute to streamline the regulatory framework and eliminate overlapping regulations. Similarly, the communications regulator has jurisdiction over telecommunications, television, radio and wireless communications. Secondly, there has been an attempt to empower the ministers to remove or reduce burdens resulting from legislation. This has been done through the Legislative and Regulatory Reforms Act, 2006 (“LRRA”) which replaced the Regulatory Reform Act, 2001. The LRRA permits a minister to pass any orders specifically and only for the purposes of "reducing any burden or the overall burden resulting directly or indirectly for any person from any legislation" where burden is defined to include (a) a financial cost, (b) an administrative inconvenience, (c) an obstacle to efficiency, productivity and profitability, or (d) a sanction criminal or otherwise, which affects the carrying on of any lawful activity. Before making an order, LRRA requires the relevant minister to be satisfied that the proposed order is "transparent, accountable, proportionate and consistent", and that legislative change is required to secure the policy objective, that the proposed order "strikes a fair balance" between the public interest and the interests of any persons adversely affected, does not remove any "necessary protection", and does not prevent anyone from exercising rights or freedoms that they "might reasonably expect to continue to exercise".

The Utilities Act 2000 regulates three utilities industries by specifying precise sectoral goals to be achieved by each regulator. While this UK statute allows the several existing regulators to continue to exist, it brings their regulatory functions and objectives under a single statute.
Further, the statute streamlines the appointment and dismissal of regulators, their accountability to Parliament and the regulatory processes they adopt. In some ways, the legal framework for regulation of the utilities sector in the UK at the turn of the century was akin to the present Indian situation where existing regulators were governed by sector specific statutes with diverse regulatory objectives as well as different regulatory structures and processes. Much like the UK we will need a period of consolidation whereby regulation across utility sectors is standardized through a consolidating legislation which applies to all existing regulators.

**Australia**

The regulation of public utility industries in Australia is divided between the Commonwealth and the States in an intricate manner. The Commonwealth or Central government has control over competition policy, ensuring access to essential infrastructure and regulating access to national networks in all sectors, as well as telecom, airports and national road projects. The States may regulate water, intra-state transport, ports and electricity and gas generation, distribution and retail supply. The often complex distribution of regulatory competence between the federal government and the provincial governments resembles the Indian regulatory context. The legal framework which establishes this regulatory framework is diverse. There is no standardization in regulatory institutional formats, objectives or regulatory process at either State or Central level. Each regulator is established under its own legislation which sets out the objectives of regulation, the institutional framework and the processes to be followed while achieving these objectives. Most states have adopted a multi-sector regulatory model so that a single regulator covers electricity, gas, water, urban transport as well as ports and other sectors. The regulators are invariably commissions whose members are drawn from the fields of economics, business, legal and finance, and consumer protection. They are usually appointed for fixed terms by the Premier of the State. The most important learning from the Australian experience is with respect to Centre State co-ordination to develop a common regulatory approach in some sectors. For example, the national markets in electricity and gas through inter-connected networks were developed using common national market rules agreed upon after extensive consultation between the provincial and federal governments, utility industries, consumers and other stake holders.

**Sri Lanka**

The Independent Regulatory Agency is a relatively new feature in Sri Lanka. In the last two decades, several regulators were created by enabling statutes to regulate specific sectors of the economy. More recently there has been an effort to set up multi-sector regulatory institutions which combine the jurisdiction and scope of the previously sectoral regulators in a single institution. The rationales articulated for the multi-sector regulatory approach are eclectic and diverse. Some suggest that the degree of commonality in the object of regulation where the rapid economic development of core infrastructure areas through private sector participation allows for an integrated approach. Moreover the tools and form of regulation used in these sectors are often similar. For example, tariff regulation and universal service are concerns of all these sectors. Further, if the regulatory processes and regulatory knowledge are shared across sectors then the costs of running a single multi-sector regulator may be lower than that of running several multi-sector regulators. Finally, it is suggested that a multi-sector body will be less vulnerable to political and regulatory capture as several ministries and industries will be vying for very different regulatory outcomes across several sectors of the economy.
The Public Utilities Commission of Sri Lanka Act, 2002 was the result of this reform initiative. This statute establishes the Public Utilities Commission of Sri Lanka to regulate certain utilities industries pursuant to a coherent national policy. The statute provides for the regulation of public utilities industries set out in a Schedule to the Act which may be amended by a Parliamentary resolution adding or deleting any utilities industry. Presently the schedule includes just two industries: electricity and water services but potentially several other sectors may be brought under the single utilities regulator. The Sri Lankan approach sets out a common regulatory approach by specifying the objectives of regulation of utilities industries to be: the protection of consumer interests, promoting competition, promoting efficiency in the operations of and capital investment in public utilities industries, benchmarking utilities services against international standards, promoting safety and quality in service and ensuring that price controlled entities are able to raise adequate financial resources. The relationship between the concerned Minister and the Commission is clearly spelt out as the Minister may only issue general policy guidelines in writing which set out national priorities in the sustainable development of the sector and any measures which may be necessary to service under-developed areas of the country or disadvantaged sections of consumers. The independence of the regulator in day to day affairs is ensured by allowing for no other instructions to be issued by the Minister. Though Ministers are empowered to appoint regulators they must do so with the concurrence of a bipartisan Constitutional Commission. Ministers cannot dismiss the regulator. However, under exceptional circumstances the Minister may petition the Parliament to have a regulator removed, and this resolution must be passed by a majority of members in Parliament.

The Commission is made accountable to Parliament by requiring it to submit annual reports which outline a general survey of developments including how it has achieved its specific mandates. This report should present the enforcement actions carried out by the Commission and outline the extent to which the particular sectors of the economy have achieved the targets set for them.

All the above point out to a need for transparent and effective regulatory practices for the development of infrastructure sector.
Annexure 4.1

Project Appraisal and Measurement of Risk in Infrastructure Financing by Indian Banks: A Survey
Questionnaire

Name of the Bank:

Name of the Respondent:

Position Held:

No. of Years experience
In Banking
In Credit/Project Appraisal

General items on Infrastructure Projects Financing

1. Does your bank give specific exposure norms for exposure to infrastructure sector?

2. Have you appraised:

   i) Corporate Projects

   ii) Infrastructure Projects

3. Have you appraised projects in the following sectors:

   i) Roads

   ii) Power

4. (a) Does your bank follow Reserve Bank of India guidelines, dated Nov 30, 2007 to identify projects in
   Infrastructure sector? Yes ________ No ________
   (b) Please mention any other source of guideline you follow in identifying Infrastructure sector
   
   (c) Does your bank categorize projects in Infrastructure sector as
       Large Corporate
       Real Estate
       Any other?
   (d) Can you name any other category of project in Infrastructure sector, apart from the ones mentioned above, in which your bank may classify infrastructure projects?

5. Projects that you have appraised, what was the role of your bank (Please Tick)
   a) Lead Banker of the Loan Consortium/Syndicate
   b) Member of the Consortium / syndicate

6. Was your bank also responsible for project appraisal at the development stage before looking at the
   funding issues? Yes ________ No ________

7. (a) Are you aware of relaxed exposure ceiling and other prudential norms for individual/group borrowers for
   financing infrastructure projects? Yes ________ No ________
   (b) Are you aware of relaxed prudential norms for classifying assets as NPA in Infrastructure sector?
   Yes ________ No ________

8. Does your bank enjoy take out financing facilities with any other Bank/Financial institution?
   Yes _____ No _____
9. What are the credit facilities that you extend to the borrower normally while financing in Infrastructure (Please Tick)
   i) Rupee Term Loans
   ii) Foreign Currency Term Loans
   iii) External Commercial Borrowings
   iv) Non Fund Based including Bank Guarantee and Line of Credit
   v) Suppliers Credit
   vi) Subordinated Loans
   vii) Bond Loans
   viii) Soft Loans by Govt.
   ix) Seed Capital assistance
   x) Grants by Government
   xi) Guarantees (Financial/Performance)
   xii) Any others

Note: You are requested to proceed further only if your answer to Question no. 1, 2 and 3 above is “YES” in all the choices.

Thank You for your time, if the answer to even one of the choices in Question no. 1, 2 and 3 is NO.

Please note that there are three sections a, b and c in this questionnaire.
Section A: PROJECT APPRAISAL

Please answer this section keeping in mind only the issues concerning project appraisal

a) Please indicate the relative importance of following factors along with the subvariables, in appraisal of the project (on a scale of 1-5, where 1 is of Very Low importance/not relevant; 2= low importance; and 5 very high importance) for

For Highways (Roads) Projects (please use column I)

For Power Projects (please use column II)

10. Management Quality

<table>
<thead>
<tr>
<th></th>
<th>I (Road)</th>
<th>II (Power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sponsors of SPV have a transparent shareholders agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sponsors have a good track record in executing similar projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sponsors are known for financial prudence</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(corporate governance, existing account, conduct of which is satisfactory)</td>
<td></td>
</tr>
<tr>
<td>4. Sponsors can infuse additional capital later on</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Government grant or viability gap funding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Any Other, please specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Market Potential

<table>
<thead>
<tr>
<th></th>
<th>I (Road)</th>
<th>II (Power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demand Issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Single or multiple buyer(s) of Infrastructure service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Contractual agreement with the buyer(s)</td>
<td></td>
<td></td>
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<tr>
<td>c) Long term demand supply gap/market growth</td>
<td></td>
<td></td>
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<tr>
<td>d) Competition from new entrants/Alternate facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Cyclical/Recession in general economy, Govt policies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Any other, please specify</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Price Issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Charges predefined by the Govt. agency/Bidder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Are charges /bids servicing costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Offtake: Demand Driven or Take or Pay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Charges economical for the offtaker</td>
<td></td>
<td></td>
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<tr>
<td>e) Level of competition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Location/size etc)</td>
<td></td>
</tr>
<tr>
<td>f) Any other, please specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Technological /Technical Issues

<table>
<thead>
<tr>
<th></th>
<th>I (Road)</th>
<th>II (Power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Land acquisition/ Rehabilitation &amp; Resettlement issue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Clearance from MOEF/PCB/Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Lenders Independent Engineer's opinion on aggressiveness of project cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Technology and operational risk issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Testing and commissioning risks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Any other, please specify</td>
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</tr>
</tbody>
</table>

13. Construction Issues

<table>
<thead>
<tr>
<th></th>
<th>I (Road)</th>
<th>II (Power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fixed Time Fixed Price all inclusive EPC contract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Liquidated damages, Defects Liability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Parent company guarantees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Reasonability of EPC contract price</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Benchmarking EPC against similar contracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Any other, please specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
14. Operations Issues

1. Pricing of operations and management contract
2. Track record of O & M contractor, Management strength, Turnover etc
3. Defining events of default
4. Input Linkages (Supply and Transport)
5. Termination/Quick replacement in case of suboptimal performance
6. Any other, please specify

15. Legal Issues

1. Charter of the special purpose entity
2. Trustee and inter-creditor arrangements
3. Enforceability of rights & remedies in case of project distress
4. Legal opinion on documentation and taxation
5. Dispute redressal mechanism
6. Any other, please specify

16. Force Majeure Issues

1. Identification of Force Majeure Events (Political/Non Political)
2. Sufficient Insurance coverage to prevent default
3. Enforceability of contract termination due to Force Majeure Event
4. Coverage of supply default/Ease with project can return back to operations
5. Termination benefits/Compensation to lenders
6. Any other, please specify

17. Funding Issues (I)

1. Strength of project sponsors
   (Equity commitment, sources of funding)
2. Stability of project cash flows
3. Tenor of loans
4. Reasonableness of capital costs
5. Viability and Bank ability of projects
6. Any other, please specify

18. Funding Issues (II)

Q. What in your opinion is the reasonable range for under mentioned ratios while you are appraising projects in Road sector (Please Tick)

1) Internal rate of return (IRR)
   Roads-- a) <5%  b) 5-10%  c) 10 -15%  d) >15%
   Power-- a) <5%  b) 5-10%  c) 10 -15%  d) >15%

2) Earnings before Depreciation, Interest Taxes and Amortisation (EBIDTA) margins
   Roads-- a) 0-15%  b) 15-30%  c) 30-45%  d) >45%
   Power-- a) 0-15%  b) 15-30%  c) 30-45%  d) >45%

3. Return on Investment (ROI)
   Roads-- a) 0-10%  b) 10 -20%  c) 20 -30%  d) >30%
   Power-- a) 0-10%  b) 10 -20%  c) 20 -30%  d) >30%

4. Debt Equity Ratio
   Roads-- a) 1-1.5  b) 1.5- 2.0  c) 2 - 2.5  d) >2.5
<table>
<thead>
<tr>
<th></th>
<th>Power</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Debt Service Coverage Ratio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>a) &lt;1</td>
<td>b) 1-1.5</td>
<td>c) 1.5-2.0</td>
<td>d) &gt;2.0</td>
</tr>
<tr>
<td>Power</td>
<td>a) &lt;1</td>
<td>b) 1-1.5</td>
<td>c) 1.5-2.0</td>
<td>d) &gt;2.0</td>
</tr>
<tr>
<td>6. Fixed Asset Coverage Ratio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>a) &lt;1</td>
<td>b) 1-1.25</td>
<td>c) 1.25-1.50</td>
<td>d) &gt;1.50</td>
</tr>
<tr>
<td>Power</td>
<td>a) &lt;1</td>
<td>b) 1-1.25</td>
<td>c) 1.25-1.50</td>
<td>d) &gt;1.50</td>
</tr>
<tr>
<td>7. Minimum Promoters contribution (equity) in Special Purpose Vehicle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>a) &lt;10%</td>
<td>b) 10-15%</td>
<td>c) 15-20%</td>
<td>d) &gt;20%</td>
</tr>
<tr>
<td>Power</td>
<td>a) &lt;10%</td>
<td>b) 10-15%</td>
<td>c) 15-20%</td>
<td>d) &gt;20%</td>
</tr>
<tr>
<td>8. Total Outside Liabilities to Tangible Net Worth Ratio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>a) &lt;1</td>
<td>b) 1-1.50</td>
<td>c) 1.5-2</td>
<td>d) &gt;2</td>
</tr>
<tr>
<td>Power</td>
<td>a) &lt;1</td>
<td>b) 1-1.50</td>
<td>c) 1.5-2</td>
<td>d) &gt;2</td>
</tr>
</tbody>
</table>
Section B: RISK IDENTIFICATION AND MEASUREMENT

19. Please Tick the risks sub-elements, if they are relevant risks associated with infrastructure projects

**Development stage**

a) Development or bid risk
b) Equity Partners related risk
c) Financing Risk (Financial Closure)
d) Any other, please specify

**Construction Stage**

a) Time overrun risk
b) Cost overrun risk
c) Performance risk
d) External Parties Risk
e) Any other, please specify

**Operational Stage**

a) Input related risk
b) Performance related risk
c) Economic offtake risk
d) Currency Risk
e) Political risk
f) Refinance Risk
g) Any other, please specify

20. Based on your opinion on the bearing that these factors will have on project cash, please tick the relevant risks

**Highways (Roads) Projects (please use column I)**

**Power Projects (please use column II)**

<table>
<thead>
<tr>
<th>Column I (Highways)</th>
<th>Column II (Power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Promoters Risk</td>
<td></td>
</tr>
<tr>
<td>2. Market Risk (Demand, Price etc)</td>
<td></td>
</tr>
<tr>
<td>3. Financing Risk (Financial Closure, Equity Infusion etc)</td>
<td></td>
</tr>
<tr>
<td>4. Construction Risk (Time, Cost Overrun)</td>
<td></td>
</tr>
<tr>
<td>5. Supply Risk (Supply and Transportation)</td>
<td></td>
</tr>
<tr>
<td>6. Regulatory and Legal Risk</td>
<td></td>
</tr>
<tr>
<td>7. Force Majeure Risk</td>
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</tr>
<tr>
<td>8. Operations and Maintenance Risk</td>
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</tr>
<tr>
<td>9. Environmental Risk</td>
<td></td>
</tr>
<tr>
<td>10. Interest Rate Risk</td>
<td></td>
</tr>
<tr>
<td>11. Any other, please specify</td>
<td></td>
</tr>
</tbody>
</table>

21. Please tick whether the following elements are used for credit risk assessment and analysis:

a) Stipulating Benchmarks for important ratios
b) Perform sensitivity and scenario analysis on cash flows
c) Single/Group borrower limits
d) Maximum exposure limit to each sector
e) Maturity profile of loan book
f) Any other, please specify
22. Does your bank perform the following activities for Credit Risk Management(Please Tick)

   a) Industry Studies/Profiles
   b) Periodic Credit calls
   c) Develop MIS
   d) Credit Risk Rating/Risk scoring
   e) Annual Review of accounts
   f) Credit Audit
   g) Any Other, Please specify

23. Please indicate if your bank uses these under mentioned techniques for pricing credit risk?(Please Tick)

   a) Portfolio Quality
   b) Value of collateral
   c) Market forces
   d) Perceived value of accounts
   e) Strategic reasons
   f) Portfolio Sector Exposure
   g) Any other, please specify

24. At what interval, credit risk assessment is repeated in your bank?

   Monthly_____ Quartery_______ Bi annually_______ Annually_______

25. Does your bank use “portfolio approach” for modeling credit risk in each sector?

   Yes________________ No________________

26. Please indicate which of the following Credit Risk Model you use for evaluating Credit Portfolio (Please Tick)

   a) Altman’s Z score model
   b) Merton Model
   c) KMV Credit Monitor Model
   d) Credit Metrics
   e) Credit Risk
   f) McKinsey Credit Portfolio View
   g) Any Other,

27. Which approach you are using for measuring capital requirements for credit risk in Infrastructure sector? (Please Tick)

   1. Standardised Approach
   2. Foundation Internal Rating Based Approach
   3. Advanced Internal Rating Based Approach
Section C: STRUCTURAL AND SECURITY ISSUES

28. a) What are the major Transaction Documents that you come across in financing the Infrastructure sector? (Please Tick)

**PROJECT DOCUMENTS**

i) Concession Agreement
ii) Govt. Licenses
iii) Document of Title to Land
iv) Shareholders' Agreement
v) EPC Contract
vi) O & M Contract
vii) Environmental Clearances
viii) Any Others

**FINANCING DOCUMENTS**

i) Common Loan Agreement
ii) Hypothecation Agreement
iii) Mortgage Deed
iv) Inter Creditors Agreement
v) Trust & Retention Account Agreement

29. What are the major security documents? (Please Tick for each column, if applicable)

**a) Mortgage Documents**

<table>
<thead>
<tr>
<th>Does the bank create a charge on</th>
<th>Corporate Projects</th>
<th>Infrastructure projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) All Fixed assets of the sponsor company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Limited to Project assets only</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**b) Deed of Hypothecation**

<table>
<thead>
<tr>
<th>Does the bank create a charge on</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Movable, fixed/current assets of the sponsor company</td>
<td></td>
</tr>
<tr>
<td>ii) limited to Project assets</td>
<td></td>
</tr>
</tbody>
</table>

**c) Share Pledge agreement**

<table>
<thead>
<tr>
<th>Equity Pledge from the sponsors</th>
<th></th>
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</thead>
</table>

If no in either case, what charges so you seek on the sponsor equity?

**d) Escrow accounts/Trust and Retention account**

<table>
<thead>
<tr>
<th>Is the escrowable capacity of the offtaker an issue?</th>
<th>Yes</th>
<th>No</th>
</tr>
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</table>

**e) Indicate whether your bank adopts the following practices:**

i) Full recourse to the balance sheet of the sponsor as security

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ii) No recourse to the balance sheet of the promoter as security

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</table>

iii) Partial recourse to the balance sheet of the promoter

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</table>

that means recourse and support in defined conditions like cost overrun etc.

**f) In a corporate finance, normally the bank obtains more security than Infrastructure projects. Do you agree?**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

30. Please rate the following parameters on a scale of 1-5 (where 1 is of Very Low importance/not relevant; 2= low importance; and 5 very high importance) based on their relative importance in appraisal for projects in:
(Please Tick) | Corporate Projects | Infrastructure Projects |
--- | --- | --- |
1. Sponsors Track Record/Support & Capital Cost |  |  |
2. Project Cash Flows & Project Viability |  |  |
3. Collateral/Security/Recourse to promoter |  |  |
4. Legal and contractual dependence |  |  |
5. Capital Costs and Ideal Debt: Equity, DSCR ratios |  |  |

Any thing else you consider important regarding Infrastructure sector which is not covered in this questionnaire?

__________________________________________________________________________________________

Thanks
<table>
<thead>
<tr>
<th>Annexure 6.1-Rating Data</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Airports Authority of India</td>
<td>2 Apollo Hospitals Enterprise Ltd.</td>
</tr>
<tr>
<td>3 Bharat Heavy Electrical Ltd.</td>
<td>4 Bharat Petroleum Corporation Ltd.</td>
</tr>
<tr>
<td>5 Bharat Sanchar Nigam Ltd.</td>
<td>6 Bharati Airtel Ltd.(Bharti Tele-Ventures Ltd)</td>
</tr>
<tr>
<td>7 Bharti Cellular Ltd</td>
<td>8 Cable Corporation of India Ltd.</td>
</tr>
<tr>
<td>9 Coal India Ltd.</td>
<td>10 Damodar Valley Corporation</td>
</tr>
<tr>
<td>11 Essel Mining and Industries Ltd.</td>
<td>12 Essar Oil Ltd.</td>
</tr>
<tr>
<td>13 Finolex Cables Ltd.</td>
<td>14 Gas Authority of India Ltd.</td>
</tr>
<tr>
<td>15 Gujarat Gas Company Ltd.</td>
<td>16 Hindustan Aeronautics Limited</td>
</tr>
<tr>
<td>17 Hindustan Petroleum Corporation Ltd.</td>
<td>18 Hyderabad Metropolitan Water Supply and Sewerage Board</td>
</tr>
<tr>
<td>19 Indraprastha Gas Limited</td>
<td>20 Jaipur Municipal Corporation</td>
</tr>
<tr>
<td>21 Jawaharlal Nehru Port Trust</td>
<td>22 Jindal Drilling &amp; Industries Ltd.</td>
</tr>
<tr>
<td>23 Kolkata Municipal Corporation</td>
<td>24 Lanco Kondapalli Power Private Ltd.</td>
</tr>
<tr>
<td>25 Nagpur Municipal Corporation</td>
<td>26 National Highways Authority of India</td>
</tr>
<tr>
<td>27 National Hydroelectric Power Corporation Ltd.</td>
<td>28 National Mineral Development Corporation Ltd.</td>
</tr>
<tr>
<td>29 NTPC Ltd (National Thermal Power Corporation Ltd)</td>
<td>30 Neyveli Lignite Corporation Ltd.</td>
</tr>
<tr>
<td>31 Nuclear Power Corporation of India Ltd.</td>
<td>32 Oil and Natural Gas Corporation Limited</td>
</tr>
<tr>
<td>33 Power Grid Corporation of India Ltd.</td>
<td>34 Petronet LNG Limited</td>
</tr>
<tr>
<td>35 RPG Transmission Ltd.</td>
<td>36 Reliance Energy Ltd. (BSES Ltd)</td>
</tr>
<tr>
<td>37 Reliance Petroleum Ltd.</td>
<td>38 Reliance Telecom Ltd</td>
</tr>
<tr>
<td>39 ST-BSES Coal Washeries Ltd.</td>
<td>40 Siemens Ltd.</td>
</tr>
<tr>
<td>41 Siemens Public Communication Networks Ltd.</td>
<td>42 Sterlite Optical Technologies Ltd.</td>
</tr>
<tr>
<td>43 Takshila Educational Society</td>
<td>44 Tata BP Solar India Ltd.</td>
</tr>
<tr>
<td>45 Tata Power Company Ltd. (Tata Electric Companies )</td>
<td>46 Telecommunications Consultants India Ltd.</td>
</tr>
<tr>
<td>47 Torrent Power Limited (Torrent Power AEC Limited</td>
<td>48 The Ahmedabad Electricity Co. Ltd.</td>
</tr>
<tr>
<td>49 Videsh Sanchar Nigam Ltd</td>
<td></td>
</tr>
</tbody>
</table>
## Annexure 4.2

### List of Participating Institutions

<table>
<thead>
<tr>
<th>Reserve Bank of India</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>State Bank of India</td>
<td></td>
</tr>
<tr>
<td>Infrastructure Development Finance Corporation</td>
<td></td>
</tr>
<tr>
<td>India Infrastructure Finance Company Limited</td>
<td></td>
</tr>
<tr>
<td>National Bank for Agriculture &amp; Rural Development</td>
<td></td>
</tr>
<tr>
<td>The Industrial Finance Corporation of India Ltd</td>
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</tbody>
</table>

### Public Sector Banks

<table>
<thead>
<tr>
<th>No.</th>
<th>Bank Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Allahabad Bank</td>
</tr>
<tr>
<td>2</td>
<td>Andhra Bank</td>
</tr>
<tr>
<td>3</td>
<td>Bank of Baroda</td>
</tr>
<tr>
<td>4</td>
<td>Bank of India</td>
</tr>
<tr>
<td>5</td>
<td>Bank of Maharashtra</td>
</tr>
<tr>
<td>6</td>
<td>Canara Bank</td>
</tr>
<tr>
<td>7</td>
<td>Central Bank of India</td>
</tr>
<tr>
<td>8</td>
<td>Corporation Bank</td>
</tr>
<tr>
<td>9</td>
<td>Dena Bank</td>
</tr>
<tr>
<td>10</td>
<td>Indian Bank</td>
</tr>
<tr>
<td>11</td>
<td>Indian Overseas Bank</td>
</tr>
<tr>
<td>12</td>
<td>Oriental Bank of Commerce</td>
</tr>
<tr>
<td>13</td>
<td>Punjab National Bank</td>
</tr>
<tr>
<td>14</td>
<td>Punjab &amp; Sind Bank</td>
</tr>
<tr>
<td>15</td>
<td>Syndicate Bank</td>
</tr>
<tr>
<td>16</td>
<td>UCO Bank</td>
</tr>
<tr>
<td>17</td>
<td>Union Bank of India</td>
</tr>
<tr>
<td>18</td>
<td>United Bank of India</td>
</tr>
<tr>
<td>19</td>
<td>Vijaya Bank</td>
</tr>
</tbody>
</table>

### Private Sector Banks

<table>
<thead>
<tr>
<th>No.</th>
<th>Bank Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ICICI Bank Ltd.</td>
</tr>
<tr>
<td>2</td>
<td>IDBI Bank Ltd.</td>
</tr>
<tr>
<td>3</td>
<td>Axis Bank Limited</td>
</tr>
<tr>
<td>4</td>
<td>The Federal Bank Ltd</td>
</tr>
<tr>
<td>5</td>
<td>The Karur Vysya Bank Ltd.</td>
</tr>
<tr>
<td>6</td>
<td>The South Indian Bank Ltd.</td>
</tr>
</tbody>
</table>

### Foreign Banks in India

<table>
<thead>
<tr>
<th>No.</th>
<th>Bank Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hongkong &amp; Shanghai Banking Corpn. Ltd.</td>
</tr>
<tr>
<td>2</td>
<td>Bank of Nova Scotia Limited</td>
</tr>
<tr>
<td>3</td>
<td>Mizhuo Bank</td>
</tr>
<tr>
<td>4</td>
<td>Bank of Tokyo Limited</td>
</tr>
</tbody>
</table>

### Subsidiaries of State Bank of India

<table>
<thead>
<tr>
<th>No.</th>
<th>Bank Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>State Bank of Bikaner &amp; Jaipur</td>
</tr>
<tr>
<td>2</td>
<td>State Bank of Hyderabad</td>
</tr>
<tr>
<td>3</td>
<td>State Bank of Indore</td>
</tr>
<tr>
<td>4</td>
<td>State Bank of Mysore</td>
</tr>
<tr>
<td>5</td>
<td>State Bank of Patiala</td>
</tr>
<tr>
<td>6</td>
<td>State Bank of Saurashtra</td>
</tr>
<tr>
<td>7</td>
<td>State Bank of Travancore</td>
</tr>
</tbody>
</table>
Annexure 4.3

List of Participants in Survey

1. Shri R.P Singh, GM State Bank of India
2. Shri Milind Kelkar, AGM State Bank of India
3. Shri Ashwini Singhal, AGM, State Bank of India
4. Shri. L. Ganesh, AGM, State Bank of India
5. Shri G A Tadas, GM, IDBI Bank
6. Shri. A.L Bongirwal, GM IDBI Bank
7. Shri Rajat Batra, VP IDFC
8. Shri Rajesh Shah, VP Axis Bank
9. Shri R.K. Dash, DGM State Bank of India
10. Shri M S Nayak, Chief Manager, Canara Bank
11. Shri Darpan Gandhi, Manager, Axis Bank
12. Shri Ranga Prasad Immaneni, Vice President, Axis Bank Ltd.
13. Ms Adilakshmi Kameswari Borra, Assistant Manager, Andhra Bank
14. Shri Nishit Rasiklal Sanghvi, Head-Corporate Banking, The Bank of Nova Scotia
15. Shri Lal Fanimukut Shahdeo, Chief Manager (Training), Bank of Baroda
16. Shri P Hampaiah, Technical Manager, Canara Bank
17. Shri D Mallaswarappa, Manager, Canara Bank
18. Shri Gururaj Srinivas G, Chief Manager, Central Bank of India
19. Ms Nutan Milind Patil, Senior Manager (Credit), Corporation Bank
20. Shri Tusar Kant Parida, Senior Manager (Credit), Corporation Bank
21. Shri C S Venkataramu, Senior Manager, Corporation Bank
23. Shri K Anbumani, Manager, Indian Bank
24. Shri E Albin David, Assistant General Manager, Indian Bank
25. Shri P James Thomas, Senior Manager, Indian Bank
26. Shri Subrahmanyam Viswanadha, Assistant General Manager, The Karur Vysya Bank Ltd.
27. Shri R V Raman, Deputy General Manager, The Lakshmi Vilas Bank Ltd.
30. Shri Rajneesh Karnatak, Dy. Chief Manager, Oriental Bank of Commerce
31. Shri Thinley Tharchen, Assistant Manager, Power Finance Corporation Ltd.
32. Shri Diwanchand Mehandiratta, Senior Manager, Punjab National Bank
33. Shri Dinesh Kumar Chawla, Manager, Punjab National Bank
34. Shri O P Kathpal, Senior Manager, Punjab National Bank
35. Shri Sunil Arora, Manager (FA), Punjab National Bank
36. Shri Nagesh Babu C S, Chief Manager, State Bank of Mysore
37. Shri Pritish Vasanth, Assistant Manager, Syndicate Bank
38. Shri V Sudhakar, Chief Manager, Syndicate Bank
39. Shri Bijitendra Mondal, Deputy Chief Officer, UCO Bank
40. Shri Prakash K Rao, Senior Manager, Vijaya Bank
41. Shri Mukund Modi, Deputy Manager, Axis Bank
42. Shri Abhishek Bedbak, Deputy Manager, Axis Bank
43. Shri Vivek Gunwant Adhav, Manager, Axis Bank
44. Shri Anjan Bhattacharya, Chief Manager, Allahabad Bank
45. Shri Ramendra Nath Talukdar, Assistant General Manager, Allahabad Bank
46. Shri Ajaya Kumar Mohanty, Relationship Manager, Bank of India
47. Shri Mahesh Shankar Rao, Vice President, Calyon Bank
48. Shri Y V Shenoy, Manager, Canara Bank
49. Shri Avik Datta, Financial Analyst, Canara Bank
50. Shri Virjin Jawahar, Technical Field Officer, Canara Bank
51. Shri Hari Narayana K K, Manager, Canara Bank
52. Shri B R Jeevan, Senior Manager, Canara Bank
53. Shri Premranjan, Senior Manager, Canara Bank
54. Shri Guru Prasad Pantula, Senior Business Manager, HDFC Bank.
55. Ms Shital Inder Khanna, Assistant Vice President, HDFC Bank.
56. Shri V Thangaraju, Assistant General Manager, Corporation Bank
57. Shri Prem Kumar Rao Parinam, Senior manager, Indian Bank
58. Shri Bhabani Prasad Ray, Chief Manager, Indian Bank
59. Shri Zahoor Ahmad Khan, Executive, Jammu & Kashmir Bank
60. Shri Mohammad Shafi Dar, Executive, Jammu Kashmir Bank
61. Shri P Suresh Kumar, Deputy Chief Manager, Oriental Bank of Commerce
62. Shri C V Rao, Senior Manager, Punjab National Bank
63. Shri Sanjeev Khera, Senior Manager, Punjab National Bank
64. Shri Amarjit Singh, Manager, Punjab and Sind Bank
65. Shri K K Kalra, Chief Manager, State Bank of India
66. Shri K P Sasidharan, Assistant General Manager, State Bank of Travancore
67. Shri Vikram Saraogi, Manager, SREI Infrastructure Finance Ltd.
68. Ms Sangeeta J shinde, Chief Manager, SREI Infrastructure Finance Ltd.
69. Shri Sathish Kamath, Senior Manager, Syndicate Bank
70. Shri Narayanaswamy B S, Senior Manager, Syndicate Bank
71. Shri Niharendu Jana, Chief Officer, UCO Bank
72. Shri Shashidhar Hegde B, Chief Manager, Vijaya Bank
73. Shri Krishna Moorthi K G, Chief Manager, Vijaya Bank
74. Shri Anshuman Mohapatra, Manager, Axis Bank
75. Shri Siddhartha Das, Asstt. Vice President, Axis Bank
76. Shri Rishi Pincha, Deputy Manager, Axis Bank
77. Shri Ramnik Singh, Senior Manager, The Amritsar Central Co-op. Bank Ltd.
78. Shri Prasan Kumar Mahapatra, Senior Manager (Credit), Allahabad Bank
79. Shri Bipin T Chakravarty, Senior Manager, Andhra Bank
80. Shri Mohammad Gaffar, Senior Manager, Andhra Bank
81. Shri Asit Baran Saha, Chief Manager, Bank of India
82. Ms Shylaja S Murthy, Officer, Canara Bank
83. Ms Maya Bhende, Senior Manager, Centurion Bank of Punjab Ltd.
84. Shri Amit Baran Chatterjee, Credit Analyst, Centurion Bank of Punjab Ltd.
85. Shri G Mohandas Shenoy, Chief Manager, Corporation Bank
86. Shri N Vijaya Kumar, Chief Manager, Corporation Bank
87. Shri Simon M S, Manager (Credit), The Catholic Syrian Bank Ltd.
88. Shri V Anish Babu, Asst. General Manager, IFCI Ltd.
89. Shri Suresh Kumar Kaushal, Asst. General Manager, Indian Bank
90. Shri V Nagaswaramu, Asst. General Manager, Indian Bank
91. Shri Chandrasekaran R N, Manager (Credit), The Karur Vysya Bank Ltd.
92. Shri Gurminder Singh Puri, Senior Manager, Punjab and Sind Bank
93. Shri Ajay Kumar, Chief Manager (C&I), State Bank of Hyderabad
94. Shri Subhabrata Bose, Chief Manager (Credit), State Bank of Hyderabad
95. Shri S Venugopal, Dy General Manager, State Bank of Travancore
96. Shri Shankar Subramanya, Manager, Syndicate Bank
97. Shri Bhaskar Hande, Chief Manager, Syndicate Bank
98. Shri C Kasirajan, Deputy General Manager, Tamilnad Mercantile Bank Ltd.
99. Shri Shankar Bommerla, Senior Manager, Union Bank of India
100. Shri Uday V Haladavane, Senior Manager, Union Bank of India
101. Shri Prabir Kumar Pradhan, Senior Manager, United Bank of India
102. Shri A S Rajeev, Assistant General Manager, Vijaya Bank