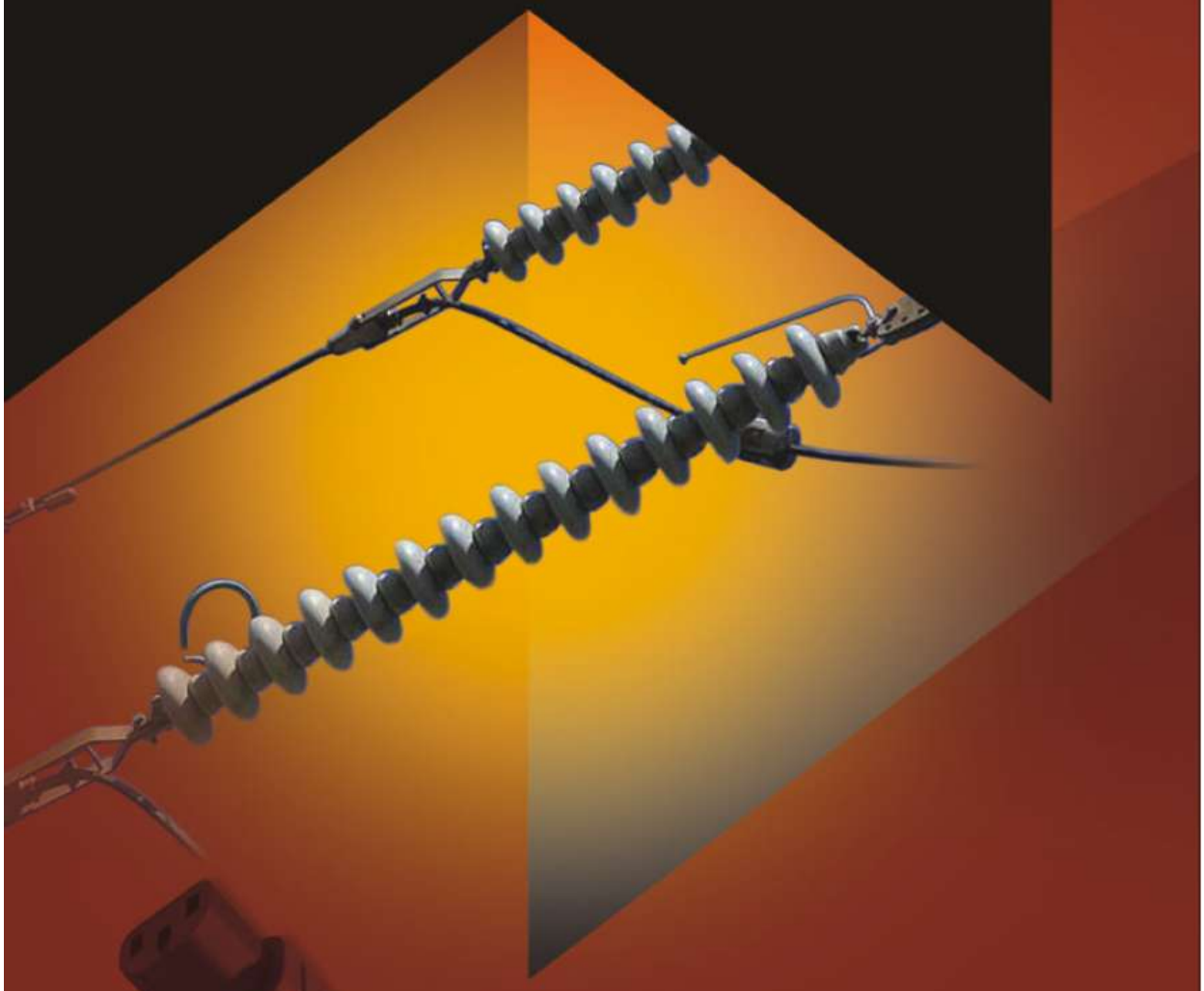
Indian Chamber of Commerce



Excellence in Power Sector Reform

Rating of State Power Utilities in India

2009

Contents

Foreword 2

Background 3

Methodology 7

Sources of Data 11

Results 11

Mathematical Appendices 15

- Reform Status Index (RSI) 18-21
- Revenue Orientation Index (ROI) 22-26
- Profitability Index (PI) 27-32
- Physical Performance Index (PPI) 33-37
- Composite Reform Progress Index (CRPI) 38-40

Foreword

The Power & Energy Infrastructure sector in India is poised for a major take-off. The **APDRP (Accelerated Power Development & Reforms Programme, 2002-2012)** has seen an addition of around 22,000 MW during last five years. And the next five years, a capacity addition of over 78,000 MW has to be set up by 2012. This translates in to a commitment of 15,600 MW capacity additions per annum. Most recently, the Economic Advisory Council to the Prime Minister of India envisaged for a GDP growth rate of 6.5% to 6.75% in coming fiscal, in spite of the lower agricultural production due to bad monsoon and subsequent flood in some states. The estimated figure has been optimistic mainly because of expected high growth rate in industrial sector. But such a rate of growth in GDP would require power sector to grow at minimum 1.8 – 2 times the GDP rate of growth as espoused by economists, planners and industry experts.

Economic liberalization of the nineties along with the pressures from the country's economic growth has forced to open the sector. Previous reform efforts etched slowly into industry's regulatory structure, ownership, investment and management practices. Political will has gradually coalesced through the reform process of the nineties and the **Electricity Act 2003** along with APDRP are now galvanizing the change.

This report represents a rating exercise of power reform in 30 Indian states, based on certain well accepted criterion and data available in public domain. The ranking that we made no way reflects the ability or willingness of respective states in terms implementing policy changes. Rather we want to focus on the areas of concern which states can refer in improvising their plan of action. There is no doubt that each state of our country took some initiative within their individual limitations to implement the reform agenda. However, some states are comparatively lagging behind due to various reasons. And in some cases, states are not fully aware of their areas of inefficiencies. The main objective of our analysis is to pin-point those weak areas of individual states to help them removing any obstacle in the path of excellence.

This is the second report in this series. The first report was published last year, which was highly acclaimed both by the Ministry and private stakeholders. On the basis of the feedbacks that we received, we felt this rating should be made an annual exercise to facilitate all who are really concerned about the development of this happening infrastructure sector. We are thankful to many people from whom we received much needed support in terms of accessing data and suggestions on improvising our research methodology. We want to express special thanks to **Shri Anil Razdan,** former Secretary, Ministry of Power, Government of India and **Shri Malay Kumar De,** Chairman, West Bengal State Electricity Distribution Company Limited. We are also indebted to **Ernst & Young** for providing knowledge support.

Dr Rajeev Singh
Director General
Indian Chamber of Commerce

Background

Electricity is the common denominator for all technologically advanced societies. It is the most crucial input for the sustained development of an economy. Correlation between per capita income and per capita power consumption is very strong. If the power industry is below-par, overall growth is hobbled. The Indian power sector, long considered as a symbol of the nation's state led economic development, had been plagued by operational and commercial inefficiencies for decades. Vertically integrated state utilities **(State Electricity Boards (SEB))** were practically insolvent with huge commercial losses. For FY 2004 alone, the commercial losses of SEBs stood at INR 225 billion. The tariff structure was highly irrational and not at all conducive for industrial growth. Transmission & distribution losses remained high – almost 40% - and power theft were endemic and tolerated.

Considering the urgent need to improve the commercial viability of the power sector and promote investments in it, the Government of India (GoI) notified the **Electricity Act** in June 2003, which proposed several changes in the conduct of the electricity business. The **Electricity Act 2003** struck at the core of all existing concerns. Replacing the disparate reforms of the 1990s, the **Electricity Act 2003** brought together structural and regulatory reforms designed to foster competitive markets, encourage private participation and transform the state's role from service provider to regulator. The act envisaged drastic structural reforms like unbundling of vertically integrated utilities and creation of autonomous state electricity regulatory commissions. Electricity trading had been recognized as a separate line of business and regulatory commissions were directed to develop rules on **Open Access**, rationalize tariffs to progressively reflect cost of supply, reduce cross subsidies, institute strong anti-theft provisions and protect consumer interests. The basic purpose of all these measures mentioned under the reform agenda of **Electricity Act 2003** was to instill commercial vibrancy in to the system.

Key Features of the Electricity Act 2003

- Unbundled vertically integrated state utilities
- Established independent electricity regulatory commissions
- No license required for establishing non-hydel plants
- Distributed generation
- Generation from renewables encouraged
- Non-discriminatory Open Access to transmission system
- Introduction of Power Trading as a separate line of business
- Independent power transmission companies allowed
- Unbundling of transmission and trading

- **Right to choose supplier**
- **Rationalisation of tariff**
- **Progressive reduction of cross subsidies**
- **Metered supply of electricity and strong anti-theft provisions**

Electricity Act 2003 was followed up with the enactment of the **National Electricity Policy (NEP)** and the **National Tariff Policy (NTP)** by the government of India in 2005 and 2006, respectively. Subsequently, the reform measures continued under the **Accelerated Power Distribution Reforms Programme (APDRP**) launched by the government of India. This programme provided a considerable thrust to improve the distribution loss levels of the power distribution sector through metering at 11 kv feeders, consumer points (electronic metering), and distribution transformers so as to enable energy audit; strengthening of distribution network, depending on the age of the existing distribution equipment and demand status; segregation of feeders supplying electricity to rural and agricultural consumers; and initiation of efforts for theft prevention in identified theft-prone areas. While retaining its focus on the APDRP measures, the Government of India has now come up with a **revised APDRP scheme**, which among other things envisages development of IT systems to ensure energy audit and 100% metering before utilities take up system strengthening projects in order to bring down their Aggregate Technical & Commercial (ATC) loss levels to 15% over the period of five years.

India's power sector reforms have been initiated at both the central and state levels. Aside from establishing central and state regulatory commissions, the Electricity Act, 2003 had introduced fairly advanced and comprehensive policy changes. These policy changes are still considered to be the backbone of entire reform process. The success of more recent initiatives like, **Hydro Power Policy** and the **Ultra Mega Power Policy** could be ensured only if the distribution of power and collection of revenues are efficient so that money is promptly re-injected into the cycle of production, transmission and distribution.

Though overall progress at the state level is mixed, almost all the states have initiated some structural and regulatory reforms. Most of the states have unbundled the vertically integrated SEBs and established electricity regulatory commissions empowered to regulate tariffs and establish performance codes. Despite the variation on progress, it is clear that the basic thrust of the Electricity Act has percolated down to the states. A critical mass of reform initiatives has developed and implementation hurdles now relate mainly to difficulties of the restructuring process.

But the most disturbing fact is that**,** after almost a decade of reform experience, the status of state power sectors in successfully implementing the reform agenda are strikingly different from each other.

Some states have taken proactive role to implement all the reform agendas in a very reasonable period. Some others are still laggard in this respect. The reflections of these varied experiences are manifested from the financial and performance parameters which are relevant in this respect. The feedbacks from different states are important to the policy makers at the central Ministry to re-direct the policy measures in solving recently emerging issues. Ministry of Power also offers various incentives and assistances to State and SEBs/ Utilities like allocation of power from Central Sector Generating Company setting up of Power stations by **Central Power Sector Undertakings (CPSUs),** assistance for rural electrification, financial assistance by **Power Finance Corporation (PFC)/ Rural Electrification Corporation (REC)** to ensure that states are confronting reform programme. These policy measures should be re-adjusted according to the current situation in different states to maintain the pace of reform process.

At this moment, there is a clear need to a assess performance of the state power sectors objectively on a scientific basis using various parameters that adequately reflect the reform agenda and the actual implementation of the same in achieving a commercial basis of operation and to evolve a performance framework across all states that will benchmark states on a common platform. Earlier to this end, **CRISIL and ICRA** were mandated by the **Power Finance Corporation Limited (PFC**) at the instance of the **Ministry of Power (MoP), Government of India** to carry out a performance rating of the state power sector across all states. Accordingly, CRISIL and ICRA released their reports containing performance ratings for **four consecutive years (from 2003 to 2006**). However, there were several problems with the methodology of this exercise:

1. The scope of the variables used by CRISIL & ICRA was **too extensive** and as a result drawing inferences on financial performance became problematic. The outcome was hazy in reflecting true picture of the State utilities.
2. The methodology for translating the indicated metric into the final score was not publicly available. This created confusion and ambiguity regarding the entire rating exercise.
3. The **weights** assigned to the aggregated grouping of individual metrices were **purely subjective.** The logic behind significant changes in these weights during four years, over which the ratings score were calculated, was also completely unknown.

For all these reasons, a growing need for a more transparent rating exercise was felt. Ultimately, after the publication of fourth report in **June 2006,** CRISIL & ICRA stopped performing this much needed rating exercise.

Indian Chamber of Commerce felt that this has created a lacuna in the system in terms of information available. There are some crucial issues that need to be cleared at this time. The most important thing that we need to know is whether there has been a real improvement in the intrinsic functioning of SEBs over the period of reforms in terms of revenue generation and profitability. **With this basic objective,**

from 2008 Indian Chamber of Commerce has started doing a rating exercise based on information available in public domain.

The present exercise is the continuation of this annual study. This is the **Second Report** in this series of rating exercise. This time we have attempted to be more comprehensive in our coverage and accomplished rating of all **30 States.**

ICC however, do not claim that the outcome of this rating exercise EXACTLY reflect the situation of power reform process in the states of our reference. The weights used by us are also cardinally subjective, although the ordinality of these weights is based on sound economic logic and rationality.

However, it should be noted that the ratings of different state power sectors and the subsequent ranking are subject to change if the values of the weights used are altered. However we feel that if the ordinality of the weights is maintained, the resulting ranking would not undergo significant changes.

We have used weights on the basis of some logic which we think rational and close to reality. We acknowledge that difference of opinion may well exist and that could change the outcome of this rating exercise.

Methodology

We have tried to focus our study on the status of progress made in reform process of **30 states of India.** We have chosen reform agendas mentioned in **Electricity Act 2003**, as the main benchmark for our calculation and the parameters used to construct the indices are reflective of reform progress and are well defined, authentic and easily available in public domain.

We have formulated **4 different indices** to capture different aspects of reform process and they were finally combined into a composite index, named as **Composite Reform Performance Index (CRPI).**

The progress in reform process should be judged on **two grounds**:

1. Stepwise implementation of the successive reform measures in accordance to the notified reform agenda of the country. That is the extent of physical implementation of different reform measures in the states. This aspect is reflective of the performance of the state governments in implementing the reform agenda. The successful implementation of reform processes is a **NECESSARY but NOT SUFFICIENT** condition for attaining excellence.

We have constructed **Reform Status Index (RSI)** as reflective of this NECESSARY condition. **Since this is the most important and crucial stepping block for reform process, we have assigned maximum weightage (50%) to RSI while constructing the composite index.**

2. The **SUFFICIENT** condition for sectoral development is the manifestation of improvement in terms of some key financial and physical performance parameters. However it is quite clear that without success fulfillment of the aforesaid NECESSARY condition, the SUFFICIENT condition can not be met.

We have constructed 3 indices as representatives of the SUFFICIENT condition. Among them 2 are financial performance indicators [i.e **Revenue Orientation Index (ROI)** and **Profitability Index (PI**)] and 1 indicator on Physical Performance **i.e. Physical Performance Index (PPI).**

Since one of the main purposes of the reform agenda was to convert loss making state utilities into commercially viable entities, we have assigned next highest weightage (45%) to financial indices (35% to Revenue Orientation Index and 10% to Profitability Index).

Rest 5% weightage has been assigned to Physical Performance Index.

We have assigned lowest weightage to physical performance because some physical indicators like T & D losses have been already covered under ATC loss.

The coverage of the constituent indices are as follows :

- **Reform Status Index (RSI) :** This index measures the extent of reforms done in different states. For calculating this index, we have used **Reform Agenda** mentioned in **Electricity Act 2003** as our main benchmark. Accordingly, the reform status has been separated in to two parts: **Successful implementation of some key reform process (mainly institutional)** and **gradual decline in subsidy** provided by the government.

  (a) Reform Process Score :

  The entire reform process has been presented in the form of three successive steps viz. **reforms related to constitution of SERC**, **Unbundling and corporatisation of SEBs** and **distribution reform**. Each of these steps are again constituted of several smaller steps which are also concurrent in nature. We have assigned **Zero or 1** depending on implementation status (NOT implemented =0, Implemented = 1, Some Steps Initiated = 0.5). The **total score** is calculated by weighted average of three parameters with following weightage:

  - ***Reform related to SERC constitution = 10%***
  - ***Unbundling / corporatisation = 30%***
  - ***Distribution Reform = 60%***

  Since these three steps are successive in nature and no state can skip any step to move into the next phase, we have assigned highest weightage (60%) to the measures like distribution reform which could be implemented only at an advanced stage of reform. Preliminary measures like reforms related to SERC constitution have been assigned least weightage (only 10%). The weighted average is then standardized to get a unit-free measure of reform progress.

  (b) Decline in subcidy : Another important component of successful reform initiative is the gradual decline in the subsidy provided by State Governments to the Power utilities. Many State Governments have been providing revenue subsidy to the State-owned Power utilities even after restructuring of the erstwhile SEB. But one of the main objectives of the reform agenda was to make the restructured State power utilities self-sufficient and also to achieve commercial viability in quicker time. Hence we have incorporated reduction in subsidy as one of the key parameters for Reform Status Index (RSI).

  Hence, RSI = Std. Reform Process Score – Std. Subsidy

- **Revenue Orientation Index (ROI) :** This index captures capabilities of the state Power utilities in generating revenues. This is actually a measurement of the commercial orientation of the power utilities. The coverage of this index are as follows:

  1. The gap between the **Average Cost of Supply (ACS)** and the **Average Revenue Realisation (ARR)**
  2. **Collection Efficiency:** This provides a measure of the effectiveness of energy audits, metering and billing processes.

     Collection efficiency = Rupees realized / Rupees billed

3. **Aggregate Technical & Commercial (AT&C) Losses:** This include theft, non-billing, incorrect billing, inefficiency in collection and transmission & distribution losses

The standardized values of each of these parameters were used with equal weightage and added to yield Revenue Orientation Index (ROI) as per the following formula:

ROI = ***Standardized Collection Efficiency– Standardized (ACS-ARR) – Standardized ATC Loss***

- **Profitability Index (PI) :** This is a measure of profitability of the state power utilities. This index takes into consideration standardized values of following parameters:

  1. **Profit on subsidy received basis as percentage of revenue**
  2. **Ratio of Cash profit (on Revenue and subsidy received basis) and total expenditure in power utilities**
  3. **Return on Capital Employed (RoCE)**
  4. **Return on Net Worth (RoNW)**

The formula used to derive Profitability Index is:

PI = (**Standardised Profit without subsidy as percentage of revenue**

+ **Standardised Ratio of Cash profit without subsidy and total expenditure in power utilities + Standardised RoCE + Standardised RoNW)**

- **Physical Performance Index (PPI) :** This index captures the physical performances of the state power utilities. The coverage of this index is as follows:

  1. **Peak demand met**
  2. **Percentage of villages electrified**
  3. **T&D Losses**

The standardized values of these parameters are used to arrive at the PPI from following formula.

PPI = Standardized Peak Availability + Standardized Percentage of Villages Electirfied - Standardized T&D loss.

Finally the **Composite Reform Progress Index (CRPI)** is calculated using the following formula with already explained weightages :

Composite Reform Progress Index = 0.5 X **RSI** + **0.35** X **ROI** + **0.10** X **PI** + **0.05** X **PPI**

(The results have been described in the mathematical appendix.)

Sources of Data

Our main source of information has been **"Report on the Performance of the State Power Utilities for the Years 2005-06 to 2007-08"** published by **Power Finance Corporation Limited** in **June, 2009.** This report contains most authentic official source of informations on Indian Power sector available till date. The latest data available in this report is of **2007-08.** So we have used 2007-08 data in most of the cases to stick on reliability. However, purposefully we have used most updated information on Reform Status (up to 2009) and village electrification. This was done to ensure incorporation of latest developments in reform agenda.

Other sources of information have been **Ministry of Power, Planning Commission, Central Electricity Authority** and **RBI**.

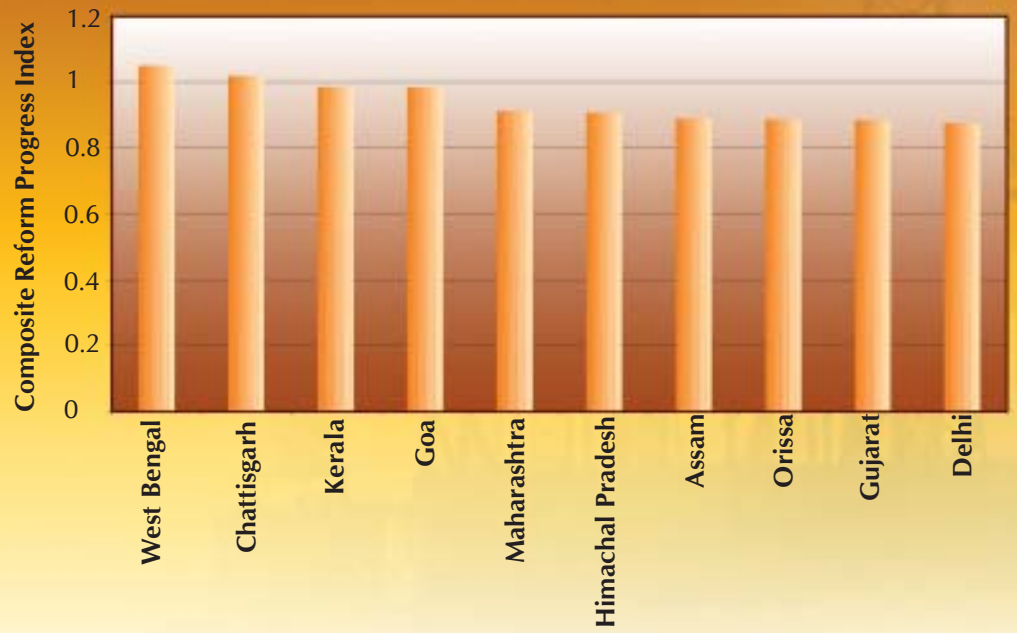
Results

After ranking the **Composite Reform Progress Index (CRPI)** of different states, we get the following result:

2007 - 08
Top Performing States In India

Ranks	States	Composite Reform Progress Index	Ranks	States	Composite Reform Progress Index
1	West Bengal	1.050919	6	Himachal Pradesh	0.909147
2	Chattisgarh	1.019846	7	Assam	0.89027
3	Kerala	0.985798	8	Orissa	0.887581
4	Goa	0.984451	9	Gujarat	0.885048
5	Maharashtra	0.912501	10	Delhi	0.875063

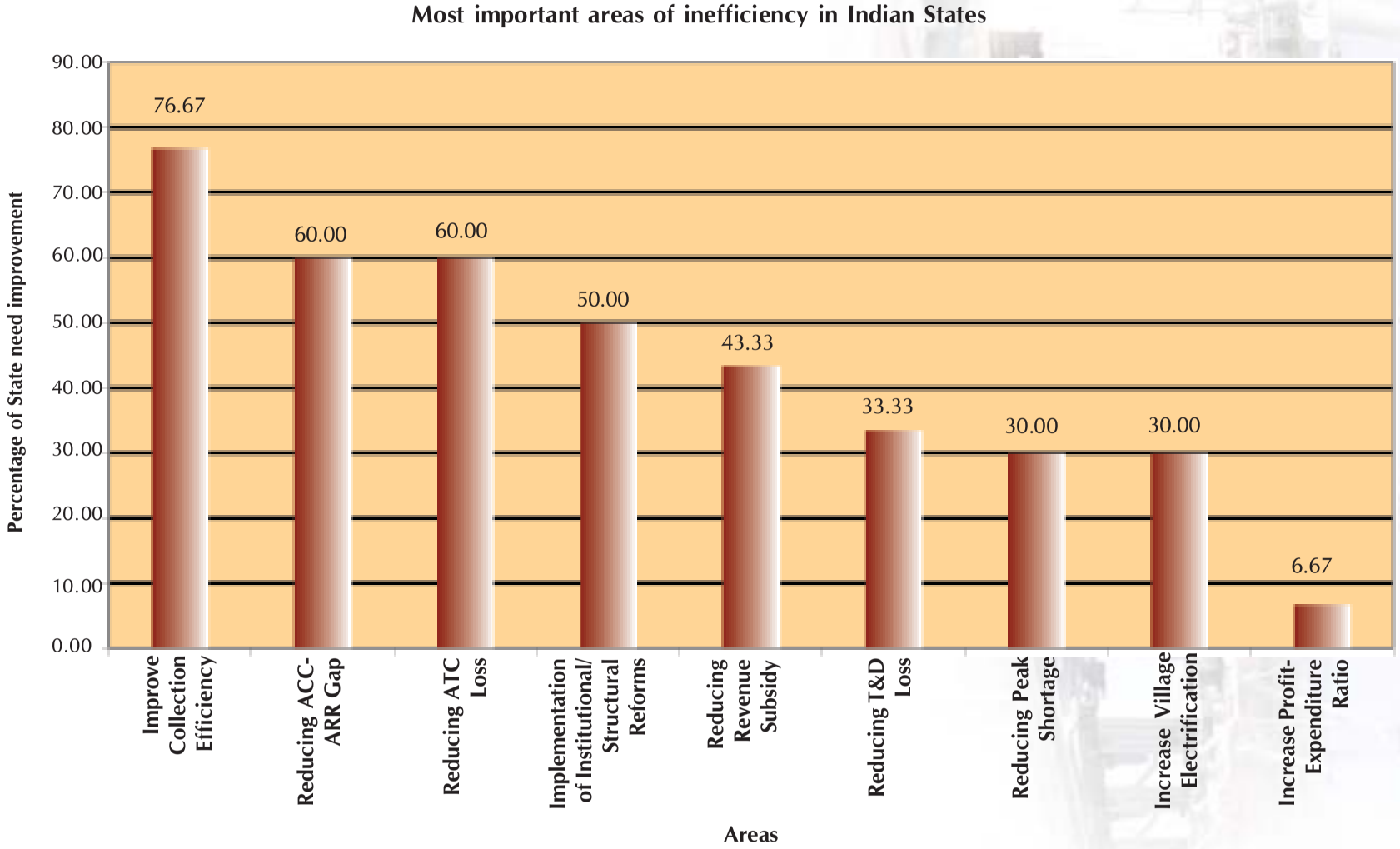
Comparative Position of Top Ten States in Reform Process



Areas where respective states should improve performance													
Sr No	States	Implementation of Institutional/ Structural Reforms	Reducing Revenue Subsidy	Reducing ACC-ARR Gap	Reducing ATC Loss	Improve Collection Efficiency	Increase cash profit as percentage of revenue	Increase Profit-Expenditure Ratio	Increase RoCE	Increase RoNW	Reducing Peak Shortage	Increase Village Electrification	Reducing T&D Loss
1	Bihar	1	1	1	1	1					1	1	1
2	Jharkhand	1	1	1	1	1						1	1
3	Orissa			1	1	1						1	1
4	Sikkim	1		1	1	1							
5	West Bengal							1			1		
6	Arunachal Pradesh	1		1	1	1					1	1	1
7	Assam	1			1	1							
8	Manipur	1		1	1	1					1	1	1
9	Meghalaya	1	1	1	1	1							1
10	Mizoram	1									1	1	1
11	Nagaland	1		1	1	1					1	1	1
12	Tripura		1	1	1						1	1	1
13	Delhi				1	1							
14	Haryana		1										
15	Himachal Pradesh	1		1	1	1		1					
16	Jammu & Kashmir	1		1	1	1							
17	Punjab	1	1	1		1							
18	Rajasthan		1	1		1							
19	Uttar Pradesh		1	1	1	1							
20	Uttarakhand				1	1							
21	Andhra Pradesh		1	1		1							
22	Karnataka		1	1	1	1							
23	Kerala	1											
24	Puducherry												
25	Tamil Nadu	1	1	1		1							
26	Chattisgarh					1							
27	Goa	1									1		
28	Gujarat		1			1							
29	Madhya Pradesh		1	1	1	1							
30	Maharashtra				1	1					1	1	1
	Sum	15	13	18	18	23	0	2	0	0	9	9	10
	Average	50	43.33	60	60	76.67	0	6.667	0	0	30	30	33

Note: Here we have assigned 1 where inefficiency exits

Comparative Importance of Sources of Inefficiencies		
Sr No	Areas of concern	Percentage of Indian States need improvement in this area
1	Improve Collection Efficiency	76.67
2	Reducing ACC-ARR Gap	60.00
3	Reducing ATC Loss	60.00
4	Implementation of Institutional/ Structural Reforms	50.00
5	Reducing Revenue Subsidy	43.33
6	Reducing T&D Loss	33.33
7	Reducing Peak Shortage	30.00
8	Increase Village Electrification	30.00
9	Increase Profit-Expenditure Ratio	6.67
10	Increase cash profit as percentage of revenue	0.00
11	Increase RoCE	0.00
12	Increase RoNW	0.00


Most important areas of inefficiency in Indian States
Percentage of State need improvement
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
76.67
60.00
60.00
50.00
43.33
33.33
30.00
30.00
6.67
Improve Collection Efficiency
Reducing ACC-ARR Gap
Reducing ATC Loss
Implementation of Institutional/ Structural Reforms
Reducing Revenue Subsidy
Reducing T&D Loss
Reducing Peak Shortage
Increase Village Electrification
Increase Profit-Expenditure Ratio
Areas

Mathematical Appendices

Some important points to make

- The present exercise is an attempt of ICC to construct a simple and transparent index which is **reflective** of the progress in reform process of different states in India.
- ICC has accomplished this study with some very **positive outlook**. ICC as a responsible business body never intends to point out states which are comparatively lagging behind in successfully implementing the nation wide reform agenda. Rather our only intention is to figure out different areas where these states should concentrate for further development in their respective power sectors. **Our sole objective is to point out weak areas of each state NOT weak states in any respect.**
- The ranking that we made **no way reflects the ability or willingness** of respective states in terms implementing policy changes. Areas like **overall infrastructural situation** and **investment climate** are also out of purview of this study. Our only intention is to focus on the areas of concern in power sector which individual states can refer in fine tuning their plan of action.
- ICC does not claim that the outcome of this rating exercise is reflexive of **overall condition** of the respective power sectors. We have taken in to consideration **only the reform aspect**. Some states can technically achieve excellence in power sector without exactly following the reform path. However, we feel chances of such cases are very remote, at least not known in Indian context.
- The weights used by us are also **cardinally subjective,** although the **ordinality** of these weights is based on sound economic logic and rationality. We have explained these logics in details under methodology.
- It should be mentioned that the ratings of different state power sectors and the subsequent ranking are subject to change if the values of the weights used are altered. But it should be noted that if the ordinality of the weights is maintained, the resulting ranking would not undergo significant changes.
- We have used weights on the basis of some logic which we think **rational** and **justified**. We acknowledge that difference of opinion may well exist and that could change the outcome of this rating exercise.

- As already mentioned in methodology, we have formulated 4 different indices to capture different aspects of reform process and they were finally combined into a composite index, named as **Composite Reform Performance Index (CRPI).**
- **Reform Status Index (RSI):** This index measures the extent of institutional / structural reforms done in different states.
- **Revenue Orientation Index (ROI):** This index captures capabilities of the state Power utilities in generating revenues. This is actually a measurement of the commercial orientation of the power utilities.
- **Profitability Index (PI):** This is a measure of profitability of the state power utilities. This index is indicative of profit prospect for private investors.
- **Physical Performance Index (PPI):** This index captures the physical performances of the state power utilities.
- We standardized all the values under different parameters to get **unit-free values ranging from 0 to 1.** These values are tenable to be combined meaningfully (i.e keeping underlying implications intact) to obtain a Composite Index. We have used the following standardization Formula:

Standardised Value = (Concerned Value – Min. Value)/ (Max. Value – Min. Value)

Reform Status Index

Table 1 : Status of Reforms & Restructuring in States as Compiled on 31st March 2009

Sr No	States	Reforms related to constitution of SERC				Unbundling/ Corporatisation	Distribution Reform	Total score (weightages average)*	Standardised Reform Process Score
		Constituted	Operationalised	Issuing Tariff order	Sum	Unbundling/ Corporatisation Implementation	100% Metering - 11kV Feeder Metering		
1	Bihar	1	1	1	3	0.5	0	0.45	0.375
2	Jharkhand	1	1	1	3	0.5	0	0.45	0.375
3	Orissa	1	1	1	3	1	1	1.2	1
4	Sikkim	1	0	0	1	0.5	1	0.85	0.708333
5	West Bengal	1	1	1	3	1	1	1.2	1
6	Arunachal Pradesh	0	0	0	0	0	0	0	0
7	Assam	1	1	1	3	1	1	1.2	1
8	Manipur	0.5	0	0	0.5	0	0	0.05	0.041667
9	Meghalaya	1	1	1	3	0.5	1	1.05	0.875
10	Mizoram	0.5	0	0	0.5	0	0	0.05	0.041667
11	Nagaland	0.5	0	0	0.5	0	0	0.05	0.041667
12	Tripura	1	1	1	3	1	1	1.2	1
13	Delhi	1	1	1	3	1	1	1.2	1
14	Haryana	1	1	1	3	1	1	1.2	1
15	Himachal Pradesh	1	1	1	3	0	1	0.9	0.75
16	Jammu & Kashmir	1	1	1	3	0	1	0.9	0.75
17	Punjab	1	1	1	3	0	1	0.9	0.75
18	Rajasthan	1	1	1	3	1	1	1.2	1
19	Uttar Pradesh	1	1	1	3	1	1	1.2	1
20	Uttarakhand	1	1	1	3	1	1	1.2	1
21	Andhra Pradesh	1	1	1	3	1	1	1.2	1
22	Karnataka	1	1	1	3	1	1	1.2	1
23	Kerala	1	1	1	3	0.5	1	1.05	0.875
24	Puducherry				0			0	0
25	Tamil Nadu	1	1	1	3	0	1	0.9	0.75
26	Chattisgarh	1	1	1	3	1	1	1.2	1
27	Goa	1	0	0	1	0	1	0.7	0.583333
28	Gujarat	1	1	1	3	1	1	1.2	1
29	Madhya Pradesh	1	1	1	3	1	1	1.2	1
30	Maharashtra	1	1	1	3	1	1	1.2	1

Source: Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC

** We have assigned 1 for positive status, 0 for negative status and 0.5 where some steps have been initiated.

** Since figures for Puducherry is not available, we have assigned 0 for all indicators

Note : *We have not used privatization of distribution business as a parameter to estimate the status of reforms & restructuring in states, as it is not a reform component as per either the Electricity Act or of Government of India policies .*

***Weightages are as follows :**

Reform related to SERC constitution = 10%

Unbundling = 30%

Distribution Reform = 60%

2007-08 Table 2 : Revenue Subsidy to State Power Utilities			
Sr No	States	Percentage of subsidy booked to revenue-sale of power	Standardised Subsidy Percentage
1	Bihar	50.82	0.904592382
2	Jharkhand	15.04	0.267710929
3	Orissa	0	0
4	Sikkim	0	0
5	West Bengal	0	0
6	Arunachal Pradesh	0	0
7	Assam	0	0
8	Manipur	0	0
9	Meghalaya	10.39	0.18494126
10	Mizoram	0	0
11	Nagaland	0	0
12	Tripura	19.98	0.355642577
13	Delhi	0	0
14	Haryana	49.17	0.875222499
15	Himachal Pradesh	0	0
16	Jammu & Kashmir	0	0
17	Punjab	37.15	0.661267355
18	Rajasthan	56.18	1
19	Uttar Pradesh	18.46	0.328586686
20	Uttarakhand	0	0
21	Andhra Pradesh	29.76	0.529725881
22	Karnataka	32.4	0.576717693
23	Kerala	0	0
24	Puducherry	0	0
25	Tamil Nadu	9.53	0.169633321
26	Chattisgarh	0	0
27	Goa	0	0
28	Gujarat	10.39	0.18494126
29	Madhya Pradesh	6.58	0.117123532
30	Maharashtra	0	0

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page: 11, 12

2007-08 Table 3 : Calculation of Reform Status Index (RSI)				
Sr No	States	Standardised Reform Process Score	Standardised Subsidy Percentage	Reform Status Indes(RSI)
1	Bihar	0.375	0.904592	-0.52959
2	Jharkhand	0.375	0.267711	0.107289
3	Orissa	1	0	1
4	Sikkim	0.708333	0	0.708333
5	West Bengal	1	0	1
6	Arunachal Pradesh	0	0	0
7	Assam	1	0	1
8	Manipur	0.041667	0	0.041667
9	Meghalaya	0.875	0.184941	0.690059
10	Mizoram	0.041667	0	0.041667
11	Nagaland	0.041667	0	0.041667
12	Tripura	1	0.355643	0.644357
13	Delhi	1	0	1
14	Haryana	1	0.875222	0.124778
15	Himachal Pradesh	0.75	0	0.75
16	Jammu & Kashmir	0.75	0	0.75
17	Punjab	0.75	0.661267	0.088733
18	Rajasthan	1	1	0
19	Uttar Pradesh	1	0.328587	0.671413
20	Uttarakhand	1	0	1
21	Andhra Pradesh	1	0.529726	0.470274
22	Karnataka	1	0.576718	0.423282
23	Kerala	0.875	0	0.875
24	Puducherry	0	0	0
25	Tamil Nadu	0.75	0.169633	0.580367
26	Chattisgarh	1	0	1
27	Goa	0.583333	0	0.583333
28	Gujarat	1	0.184941	0.815059
29	Madhya Pradesh	1	0.117124	0.882876
30	Maharashtra	1	0	1

RSI = Std.Reform Process Score - Std. Subsidy Percentage

Revenue Orientation Index

2007-08 Table 1 : Gap between ACS and ARR (without subsidy)			
Sr No	States	ACS-ARR gap (without subsidy)	Standardised ACS-ARR gap
1	Bihar	1.88	0.797250859
2	Jharkhand	1.66	0.721649485
3	Orissa	0.06	0.171821306
4	Sikkim	0.79	0.422680412
5	West Bengal	-0.05	0.134020619
6	Arunachal Pradesh	1.2	0.563573883
7	Assam	0.27	0.243986254
8	Manipur	2.47	1
9	Meghalaya	0.2	0.219931271
10	Mizoram	1.1	0.529209622
11	Nagaland	1.75	0.75257732
12	Tripura	0.24	0.233676976
13	Delhi	0.003	0.152233677
14	Haryana	1.2	0.563573883
15	Himachal Pradesh	0.04	0.164948454
16	Jammu & Kashmir	1.58	0.694158076
17	Punjab	1.03	0.505154639
18	Rajasthan	1	0.494845361
19	Uttar Pradesh	1.16	0.549828179
20	Uttarakhand	0.31	0.257731959
21	Andhra Pradesh	0.51	0.326460481
22	Karnataka	0.56	0.343642612
23	Kerala	-0.13	0.10652921
24	Puducherry	-0.08	0.12371134
25	Tamil Nadu	0.77	0.41580756
26	Chattisgarh	-0.3	0.048109966
27	Goa	-0.44	0
28	Gujarat	0.21	0.223367698
29	Madhya Pradesh	0.66	0.378006873
30	Maharashtra	-0.02	0.144329897

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page - 26

2007-08 Table 2 : ATC Losses (%)			
Sr No	States	ATC Losses (%)	Standardised ATC Losses
1	Bihar	44.45	0.385837438
2	Jharkhand	58.17	0.554802956
3	Orissa	41.38	0.348029557
4	Sikkim	51.32	0.47044335
5	West Bengal	22.70	0.117980296
6	Arunachal Pradesh	61.59	0.596921182
7	Assam	34.18	0.259359606
8	** Manipur	94.32	1
9	Meghalaya	39.45	0.324261084
10	Mizoram	17.91	0.058990148
11	Nagaland	49.11	0.443226601
12	Tripura	30.16	0.209852217
13	Delhi	37.96	0.30591133
14	Haryana	32.29	0.236083744
15	Himachal Pradesh	17.15	0.049630542
16	Jammu & Kashmir	71.92	0.724137931
17	Punjab	19.10	0.07364532
18	Rajasthan	32.87	0.243226601
19	Uttar Pradesh	34.99	0.269334975
20	Uttarakhand	38.32	0.310344828
21	Andhra Pradesh	16.19	0.037807882
22	Karnataka	32.13	0.2341133
23	Kerala	21.52	0.103448276
24	Puducherry	18.69	0.068596059
25	Tamil Nadu	15.70	0.031773399
26	Chattisgarh	32.18	0.234729064
27	Goa	13.12	0
28	Gujarat	22.81	0.119334975
29	Madhya Pradesh	46.78	0.41453202
30	Maharashtra	31.32	0.224137931

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page - 130,131

** Since figure for Manipur is not available for 2007-08, we have taken 2006-07 figure

2007-08 Table 3 : Collection Efficiency			
Sr No	States	Collection Efficiency (%)	Standardised Collection Efficiency
1	Bihar	91.17	0.41276757
2	Jharkhand	69.38	0
3	Orissa	93.77	0.462019322
4	Sikkim	70.18	0.015154385
5	West Bengal	99.57	0.571888615
6	Arunachal Pradesh	93.79	0.462398181
7	Assam	98.02	0.542526994
8	#Manipur	91.46	0.418261034
9	Meghalaya	96.02	0.50464103
10	Mizoram	122.17	1
11	Nagaland	79.30	0.187914378
12	Tripura	102.70	0.631180148
13	Delhi	87.15	0.336616783
14	Haryana	94.12	0.468649365
15	Himachal Pradesh	95.86	0.501610153
16	Jammu & Kashmir	69.74	0.006819473
17	Punjab	100.44	0.588369009
18	Rajasthan	97.85	0.539306687
19	Uttar Pradesh	90.96	0.408789543
20	Uttarakhand	87.67	0.346467134
21	Andhra Pradesh	98.11	0.544231862
22	Karnataka	86.58	0.325819284
23	Kerala	95.23	0.489676075
24	Puducherry	95.43	0.493464671
25	Tamil Nadu	98.75	0.55635537
26	Chattisgarh	95.28	0.490623224
27	Goa	103.44	0.645197954
28	Gujarat	99.57	0.571888615
29	Madhya Pradesh	86.70	0.328092442
30	Maharashtra	90.47	0.399507482

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page - 130,131

 # Collection Efficiency for Manipur is calculated from its relation with ATC loss of Jammu & Kashmir (having closest ATC loss to Manipur)

2007-08 Table 4 : Calculation of Revenue Orientation Index (ROI)					
Sr No	States	Standardised Collection Efficiency	Standardised ACS-ARR gap	Standardised ATC Losses	ROI
1	Bihar	0.41276757	0.797250859	0.385837438	-0.77032
2	Jharkhand	0	0.721649485	0.554802956	-1.27645
3	Orissa	0.462019322	0.171821306	0.348029557	-0.05783
4	Sikkim	0.015154385	0.422680412	0.47044335	-0.87797
5	West Bengal	0.571888615	0.134020619	0.117980296	0.319888
6	Arunachal Pradesh	0.462398181	0.563573883	0.596921182	-0.6981
7	Assam	0.542526994	0.243986254	0.259359606	0.039181
8	Manipur	0.418261034	1	1	-1.58174
9	Meghalaya	0.50464103	0.219931271	0.324261084	-0.03955
10	Mizoram	1	0.529209622	0.058990148	0.4118
11	Nagaland	0.187914378	0.75257732	0.443226601	-1.00789
12	Tripura	0.631180148	0.233676976	0.209852217	0.187651
13	Delhi	0.336616783	0.152233677	0.30591133	-0.12153
14	Haryana	0.468649365	0.563573883	0.236083744	-0.33101
15	Himachal Pradesh	0.501610153	0.164948454	0.049630542	0.287031
16	Jammu & Kashmir	0.006819473	0.694158076	0.724137931	-1.41148
17	Punjab	0.588369009	0.505154639	0.07364532	0.009569
18	Rajasthan	0.539306687	0.494845361	0.243226601	-0.19877
19	Uttar Pradesh	0.408789543	0.549828179	0.269334975	-0.41037
20	Uttarakhand	0.346467134	0.257731959	0.310344828	-0.22161
21	Andhra Pradesh	0.544231862	0.326460481	0.037807882	0.179963
22	Karnataka	0.325819284	0.343642612	0.2341133	-0.25194
23	Kerala	0.489676075	0.10652921	0.103448276	0.279699
24	Puducherry	0.493464671	0.12371134	0.068596059	0.301157
25	Tamil Nadu	0.55635537	0.41580756	0.031773399	0.108774
26	Chattisgarh	0.490623224	0.048109966	0.234729064	0.207784
27	Goa	0.645197954	0	0	0.645198
28	Gujarat	0.571888615	0.223367698	0.119334975	0.229186
29	Madhya Pradesh	0.328092442	0.378006873	0.41453202	-0.46445
30	Maharashtra	0.399507482	0.144329897	0.224137931	0.03104

ROI = Std.Collection Efficiency - Std.Average Cost Revenue Gap - Std.ATC Loss

Profitability Index

2007-08 Table 1 : Profit of State Utilities as Percentage of Revenue			
Sr No	States	Profit without Subsidy as % of Revenue	Standardised Profit % Revenue
1	Bihar	-93.91	0.582819667
2	Jharkhand	-71.4	0.663489106
3	Orissa	22.5	1
4	Sikkim	-60.56	0.702336583
5	West Bengal	6.14	0.941370413
6	Arunachal Pradesh	-77.09	0.643097764
7	Assam	-8.88	0.887543005
8	Manipur	-256.54	0
9	Meghalaya	-8.98	0.887184633
10	Mizoram	-50.28	0.739177179
11	Nagaland	-93.24	0.585220757
12	Tripura	-10.46	0.881880734
13	Delhi	-1.28	0.914779243
14	Haryana	-54.18	0.725200688
15	Himachal Pradesh	-1.08	0.915495986
16	Jammu & Kashmir	-158.81	0.350236525
17	Punjab	-51.47	0.734912557
18	Rajasthan	-45.36	0.75680906
19	Uttar Pradesh	-67.74	0.676605505
20	Uttarakhand	-19.74	0.848623853
21	Andhra Pradesh	-18.29	0.853820241
22	Karnataka	-14.95	0.865789851
23	Kerala	4.16	0.934274656
24	Puducherry	5.87	0.94040281
25	Tamil Nadu	-31.05	0.80809203
26	Chattisgarh	11.92	0.962084289
27	Goa	17.46	0.981938073
28	Gujarat	-8.8	0.887829702
29	Madhya Pradesh	-33.97	0.79762758
30	Maharashtra	3.22	0.930905963

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page: 23

2007-08 Table 2 : Profitability of State Utilities Selling Directly to the Consumers					
Sr No	States	Cash Profit without subsidy (Rs. Crores)	Total Expenditure (Rs. Crores)	Profitability Ratio	Standardised PR
1	Bihar	-1495	3088	-0.48413212	0.252759006
2	Jharkhand	-1235	2964	-0.41666667	0.325222663
3	Orissa	-111	3468	-0.03200692	0.738380045
4	Sikkim	-30	79	-0.37974684	0.364877711
5	West Bengal	108	5956	0.01813298	0.79223457
6	Arunachal Pradesh	-83	190	-0.43684211	0.303552521
7	Assam	-92	1643	-0.05599513	0.71261466
8	Manipur	-159	221	-0.71945701	0
9	Meghalaya	-31	382	-0.08115183	0.685594217
10	Mizoram	-42	125	-0.336	0.411865544
11	Nagaland	-75	156	-0.48076923	0.256371041
12	Tripura	-27	281	-0.09608541	0.669554281
13	Delhi	-222	8280	-0.02681159	0.743960268
14	Haryana	-3046	8400	-0.36261905	0.383274416
15	Himachal Pradesh	-25	2378	-0.01051304	0.76146631
16	Jammu & Kashmir	-1385	2236	-0.61940966	0.107459392
17	Punjab	-4238	12468	-0.33991017	0.407665688
18	Rajasthan	-3636	11655	-0.31196911	0.437676768
19	Uttar Pradesh	-6074	15389	-0.39469751	0.34881941
20	Uttarakhand	-220	1425	-0.15438596	0.606934511
21	Andhra Pradesh	-2759	16557	-0.16663647	0.593776426
22	Karnataka	-1699	11248	-0.15104908	0.610518615
23	Kerala	217	5010	0.04331337	0.819280465
24	Puducherry	21	552	0.03804348	0.813620148
25	Tamil Nadu	-4955	20914	-0.23692264	0.518283086
26	Chattisgarh	473	3497	0.13525879	0.91803769
27	Goa	139	657	0.21156773	1
28	Gujarat	-1176	13638	-0.08622965	0.680140205
29	Madhya Pradesh	-2357	9409	-0.25050484	0.503694644
30	Maharashtra	117	20878	0.00560399	0.778777365

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page: 6,7

2007-08 Table 3 : Return on Capital Employed (RoCE)			
Sr No	States	RoCE (%)	Standardised RoCE
1	Bihar	-0.4	0.927780372
2	Jharkhand	-9.84	0.910150341
3	Orissa	12.45	0.951778878
4	Sikkim	0	0.928527407
5	West Bengal	6.46	0.940592025
6	Arunachal Pradesh	-11.17	0.907666449
7	Assam	-2.14	0.924530769
8	Manipur	-15.28	0.899990662
9	Meghalaya	2.55	0.933289756
10	Mizoram	-9.13	0.911476328
11	Nagaland	-12.81	0.904603604
12	Tripura	-13.31	0.90366981
13	Delhi	7.53	0.942590345
14	Haryana	-2.08	0.924642824
15	Himachal Pradesh	3.86	0.935736297
16	Jammu & Kashmir	-8.15	0.913306565
17	Punjab	-4.48	0.920160613
18	Rajasthan	5.05	0.937958726
19	Uttar Pradesh	-497.18	0
20	Uttarakhand	-2.55	0.923765057
21	Andhra Pradesh	7.16	0.941899337
22	Karnataka	10.09	0.94737137
23	Kerala	8.11	0.943673546
24	Puducherry	6.06	0.93984499
25	Tamil Nadu	-18.67	0.893659539
26	Chattisgarh	10.03	0.947259315
27	Goa	16.07	0.958539546
28	Gujarat	5.18	0.938201513
29	Madhya Pradesh	38.27	1
30	Maharashtra	6.78	0.941189654

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page: 95, 96, 97

2007-08 Table 4 : Return on Net Worth (RoNW)			
Sr No	States	RoNW subsidy received basis	Standardised RoNW
1	Bihar	-33.71	0.938559017
2	Jharkhand	-1011.36	0
3	Orissa	30.29	1
4	Sikkim	0	0.970921135
5	West Bengal	12.11	0.982546921
6	Arunachal Pradesh	-12.94	0.958498536
7	Assam	-195.14	0.783583737
8	Manipur	-14.59	0.956914511
9	Meghalaya	-0.62	0.970325925
10	Mizoram	-12.1	0.959304949
11	Nagaland	-13.25	0.958200931
12	Tripura	-13.31	0.95814333
13	Delhi	-205.18	0.773945183
14	Haryana	-59.59	0.913713819
15	Himachal Pradesh	-87.03	0.887370998
16	Jammu & Kashmir	-7.15	0.964057025
17	Punjab	-31.2	0.940968655
18	Rajasthan	-85.7	0.888647818
19	Uttar Pradesh	-29.11	0.942975088
20	Uttarakhand	-8.86	0.962415399
21	Andhra Pradesh	-18.7	0.952968848
22	Karnataka	-20.3	0.951432823
23	Kerala	8.13	0.97872606
24	Puducherry	6.06	0.976738828
25	Tamil Nadu	-49.38	0.923515576
26	Chattisgarh	19.96	0.990083041
27	Goa	16.7	0.986953391
28	Gujarat	0.16	0.971074737
29	Madhya Pradesh	-96.06	0.878702059
30	Maharashtra	6.77	0.977420439

Source : Report on the Performance of the State Power Utilities for the year 2005-06 to 2007-08, PFC, Page: 92, 93, 94

2007-08 Table 5 : Calculation of Profitability Index (PI)						
Sr No	States	Standardised profit as % of Revenue	Standardised Profitability Ratio	Standardised RoCE	Standardised RoNW	PI
1	Bihar	0.582819667	0.252759006	0.927780372	0.938559017	2.701918
2	Jharkhand	0.663489106	0.325222663	0.910150341	0	1.898862
3	Orissa	1	0.738380045	0.951778878	1	3.690159
4	Sikkim	0.702336583	0.364877711	0.928527407	0.970921135	2.966663
5	West Bengal	0.941370413	0.79223457	0.940592025	0.982546921	3.656744
6	Arunachal Pradesh	0.643097764	0.303552521	0.907666449	0.958498536	2.812815
7	Assam	0.887543005	0.71261466	0.924530769	0.783583737	3.308272
8	Manipur	0	0	0.899990662	0.956914511	1.856905
9	Meghalaya	0.887184633	0.685594217	0.933289756	0.970325925	3.476395
10	Mizoram	0.739177179	0.411865544	0.911476328	0.959304949	3.021824
11	Nagaland	0.585220757	0.256371041	0.904603604	0.958200931	2.704396
12	Tripura	0.881880734	0.669554281	0.90366981	0.95814333	3.413248
13	Delhi	0.914779243	0.743960268	0.942590345	0.773945183	3.375275
14	Haryana	0.725200688	0.383274416	0.924642824	0.913713819	2.946832
15	Himachal Pradesh	0.915495986	0.76146631	0.935736297	0.887370998	3.50007
16	Jammu & Kashmir	0.350236525	0.107459392	0.913306565	0.964057025	2.33506
17	Punjab	0.734912557	0.407665688	0.920160613	0.940968655	3.003708
18	Rajasthan	0.75680906	0.437676768	0.937958726	0.888647818	3.021092
19	Uttar Pradesh	0.676605505	0.34881941	0	0.942975088	1.9684
20	Uttarakhand	0.848623853	0.606934511	0.923765057	0.962415399	3.341739
21	Andhra Pradesh	0.853820241	0.593776426	0.941899337	0.952968848	3.342465
22	Karnataka	0.865789851	0.610518615	0.94737137	0.951432823	3.375113
23	Kerala	0.934274656	0.819280465	0.943673546	0.97872606	3.675955
24	Puducherry	0.94040281	0.813620148	0.93984499	0.976738828	3.670607
25	Tamil Nadu	0.80809203	0.518283086	0.893659539	0.923515576	3.14355
26	Chattisgarh	0.962084289	0.91803769	0.947259315	0.990083041	3.817464
27	Goa	0.981938073	1	0.958539546	0.986953391	3.927431
28	Gujarat	0.887829702	0.680140205	0.938201513	0.971074737	3.477246
29	Madhya Pradesh	0.79762758	0.503694644	1	0.878702059	3.180024
30	Maharashtra	0.930905963	0.778777365	0.941189654	0.977420439	3.628293

PI = Std.Profit%Rev + Std.Profitability Ratio + Std.RoCE + Std.RoNW

Physical Performance Index

2007-08 Table 1 : Peak Surplus / Deficit (%)			
Sr No	States	Percentage of Peak Surplus/ Deficit (-)	Standardised Peak Availability
1	Bihar	-32.7	0.186567164
2	Jharkhand	-14.2	0.646766169
3	Orissa	-1.4	0.965174129
4	Sikkim	-4.3	0.893034826
5	West Bengal	-9.8	0.756218905
6	Arunachal Pradesh	-25.7	0.360696517
7	Assam	-9.7	0.758706468
8	Manipur	-18.5	0.539800995
9	Meghalaya	-38.7	0.037313433
10	Mizoram	-40.2	0
11	Nagaland	-3.3	0.917910448
12	Tripura	-17.5	0.564676617
13	Delhi	-1.1	0.972636816
14	Haryana	-2.7	0.932835821
15	Himachal Pradesh	-4.8	0.880597015
16	Jammu & Kashmir	-25.9	0.355721393
17	Punjab	-15.4	0.616915423
18	Rajasthan	-12.8	0.68159204
19	Uttar Pradesh	-22.8	0.432835821
20	Uttarakhand	-4.2	0.895522388
21	Andhra Pradesh	-9.2	0.771144279
22	Karnataka	-15.4	0.616915423
23	Kerala	-6	0.850746269
24	Puducherry	0	1
25	Tamil Nadu	-15.9	0.604477612
26	Chattisgarh	-9.6	0.76119403
27	Goa	-10.7	0.733830846
28	Gujarat	-26.7	0.335820896
29	Madhya Pradesh	-10.6	0.736318408
30	Maharashtra	-26.4	0.343283582

Source : Planning Commission, Government of India

2007-08 Table 2 : Village Electrification as on 31-03-2009			
Sr No	States	Percentage of villages electrified	Standardised Villeage Electrification
1	Bihar	61.3	0.438316401
2	Jharkhand	31.1	0
3	Orissa	55.8	0.358490566
4	Sikkim	94.4	0.918722787
5	West Bengal	97.3	0.960812772
6	Arunachal Pradesh	56.8	0.373004354
7	Assam	78.6	0.689404935
8	Manipur	85.7	0.79245283
9	Meghalaya	59.3	0.409288824
10	Mizoram	80.6	0.718432511
11	Nagaland	64.4	0.483309144
12	Tripura	57.2	0.378809869
13	Delhi	100	1
14	Haryana	100	1
15	Himachal Pradesh	98.2	0.973875181
16	Jammu & Kashmir	98.2	0.973875181
17	Punjab	100	1
18	Rajasthan	69.2	0.552975327
19	Uttar Pradesh	88.3	0.830188679
20	Uttarakhand	96.5	0.949201742
21	Andhra Pradesh	100	1
22	Karnataka	99.9	0.998548621
23	Kerala	100	1
24	Puducherry	100	1
25	Tamil Nadu	100	1
26	Chattisgarh	95.6	0.936139332
27	Goa	100	1
28	Gujarat	99.6	0.994194485
29	Madhya Pradesh	96.4	0.947750363
30	Maharashtra	88.3	0.830188679

Source : Ministry of Power, GoI

2007 - 08 Table 3 : T & D Losses (%) in 2007-08			
Sr No	States	T&D Losses(%)	Standardised T&D Losses
1	Bihar	48.79	0.699722721
2	Jharkhand	23.16	0.281683249
3	Orissa	39.46	0.547545262
4	Sikkim	36.8	0.504159191
5	West Bengal	21.3	0.251345621
6	Arunachal Pradesh	67.2	1
7	Assam	38.6	0.533518186
8	Manipur	63.56	0.940629587
9	Meghalaya	37.62	0.517533844
10	Mizoram	44.63	0.63187082
11	Nagaland	55.61	0.810960692
12	Tripura	42.81	0.602185614
13	Delhi	28.65	0.371228185
14	Haryana	32.83	0.439406296
15	Himachal Pradesh	16.98	0.180884032
16	Jammu & Kashmir	55.71	0.812591747
17	Punjab	22.82	0.276137661
18	Rajasthan	34.81	0.471701191
19	Uttar Pradesh	28.6	0.370412657
20	Uttarakhand	35.66	0.485565161
21	Andhra Pradesh	22.5	0.270918284
22	Karnataka	17.93	0.196379057
23	Kerala	17.82	0.194584896
24	Puducherry	5.89	0
25	Tamil Nadu	17.78	0.193932474
26	Chattisgarh	29.79	0.389822215
27	Goa	21.18	0.249388354
28	Gujarat	26.64	0.338443973
29	Madhya Pradesh	35.7	0.486217583
30	Maharashtra	30.25	0.397325069

Source: Central Electricity Authority

2007 - 08 Table 4 : Physical Performance Index (PPI)					
Sr No	States	Standardised Peak Availability	Standardised Village Electrification	Standardised T&D Losses	PPI
1	Bihar	0.186567164	0.438316401	0.699722721	-0.07484
2	Jharkhand	0.646766169	0	0.281683249	0.365083
3	Orissa	0.965174129	0.358490566	0.547545262	0.776119
4	Sikkim	0.893034826	0.918722787	0.504159191	1.307598
5	West Bengal	0.756218905	0.960812772	0.251345621	1.465686
6	Arunachal Pradesh	0.360696517	0.373004354	1	-0.2663
7	Assam	0.758706468	0.689404935	0.533518186	0.914593
8	Manipur	0.539800995	0.79245283	0.940629587	0.391624
9	Meghalaya	0.037313433	0.409288824	0.517533844	-0.07093
10	Mizoram	0	0.718432511	0.63187082	0.086562
11	Nagaland	0.917910448	0.483309144	0.810960692	0.590259
12	Tripura	0.564676617	0.378809869	0.602185614	0.341301
13	Delhi	0.972636816	1	0.371228185	1.601409
14	Haryana	0.932835821	1	0.439406296	1.49343
15	Himachal Pradesh	0.880597015	0.973875181	0.180884032	1.673588
16	Jammu & Kashmir	0.355721393	0.973875181	0.812591747	0.517005
17	Punjab	0.616915423	1	0.276137661	1.340778
18	Rajasthan	0.68159204	0.552975327	0.471701191	0.762866
19	Uttar Pradesh	0.432835821	0.830188679	0.370412657	0.892612
20	Uttarakhand	0.895522388	0.949201742	0.485565161	1.359159
21	Andhra Pradesh	0.771144279	1	0.270918284	1.500226
22	Karnataka	0.616915423	0.998548621	0.196379057	1.419085
23	Kerala	0.850746269	1	0.194584896	1.656161
24	Puducherry	1	1	0	2
25	Tamil Nadu	0.604477612	1	0.193932474	1.410545
26	Chattisgarh	0.76119403	0.936139332	0.389822215	1.307511
27	Goa	0.733830846	1	0.249388354	1.484442
28	Gujarat	0.335820896	0.994194485	0.338443973	0.991571
29	Madhya Pradesh	0.736318408	0.947750363	0.486217583	1.197851
30	Maharashtra	0.343283582	0.830188679	0.397325069	0.776147

PPI = Standardised Peak Availability + Standardised Village Electrification - Standardised T&D Losses

Composite Reform Progress Index

2007 - 08

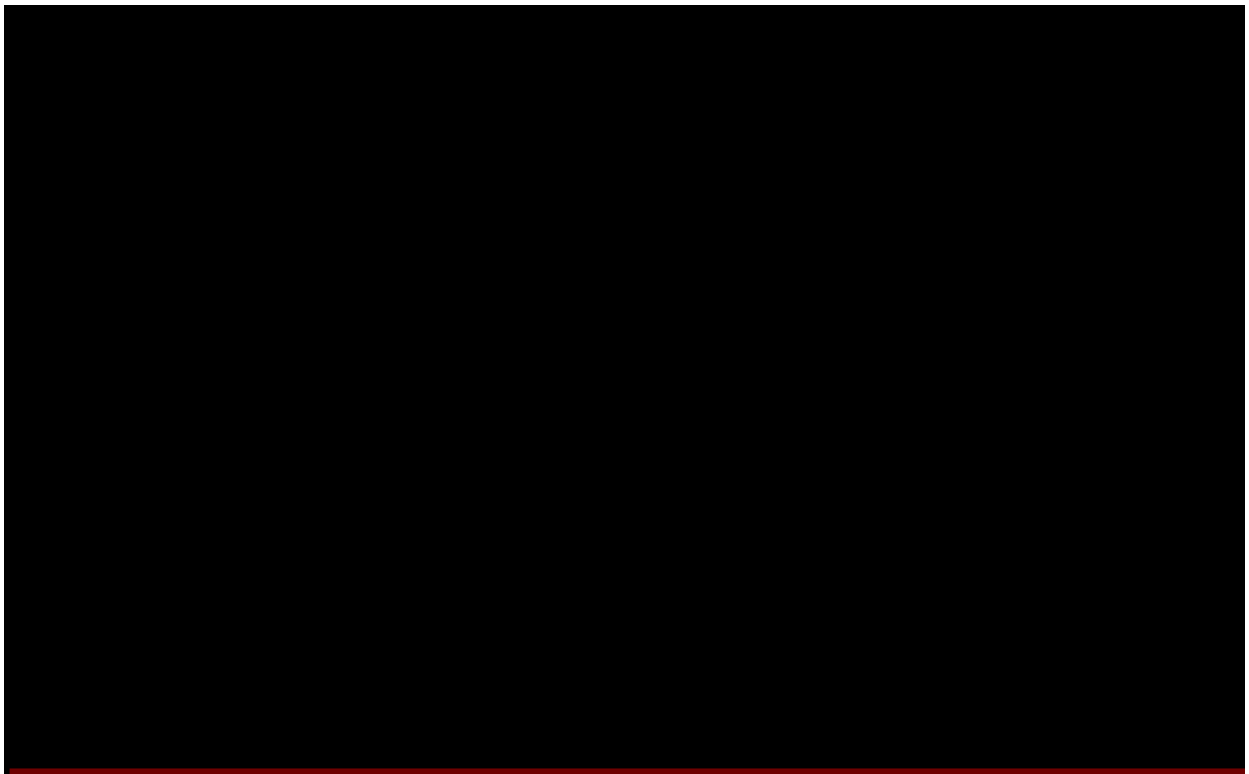
Table 1 : Composite Reform Progress Index (CRPI) Calculation

Sr No	States	RSI	ROI	PI	PPI	CRPI	Rank
1	Bihar	-0.52959	-0.77032	2.701918	-0.07484	-0.26796	29
2	Jharkhand	0.107289	-1.27645	1.898862	0.365083	-0.18497	28
3	Orissa	1	-0.05783	3.690159	0.776119	0.887581	8
4	Sikkim	0.708333	-0.87797	2.966663	1.307598	0.408924	22
5	West Bengal	1	0.319888	3.656744	1.465686	1.050919	1
6	Arunachal Pradesh	0	-0.6981	2.812815	-0.2663	0.023633	26
7	Assam	1	0.039181	3.308272	0.914593	0.89027	7
8	Manipur	0.041667	-1.58174	1.856905	0.391624	-0.3275	30
9	Meghalaya	0.690059	-0.03955	3.476395	-0.07093	0.675279	15
10	Mizoram	0.041667	0.4118	3.021824	0.086562	0.471474	19
11	Nagaland	0.041667	-1.00789	2.704396	0.590259	-0.03198	27
12	Tripura	0.644357	0.187651	3.413248	0.341301	0.746246	12
13	Delhi	1	-0.12153	3.375275	1.601409	0.875063	10
14	Haryana	0.124778	-0.33101	2.946832	1.49343	0.315891	23
15	Himachal Pradesh	0.75	0.287031	3.50007	1.673588	0.909147	6
16	Jammu & Kashmir	0.75	-1.41148	2.33506	0.517005	0.140339	25
17	Punjab	0.088733	0.009569	3.003708	1.340778	0.415125	21
18	Rajasthan	0	-0.19877	3.021092	0.762866	0.270685	24
19	Uttar Pradesh	0.671413	-0.41037	1.9684	0.892612	0.433546	20
20	Uttarakhand	1	-0.22161	3.341739	1.359159	0.824568	11
21	Andhra Pradesh	0.470274	0.179963	3.342465	1.500226	0.707382	14
22	Karnataka	0.423282	-0.25194	3.375113	1.419085	0.531929	18
23	Kerala	0.875	0.279699	3.675955	1.656161	0.985798	3
24	Puducherry	0	0.301157	3.670607	2	0.572466	17
25	Tamil Nadu	0.580367	0.108774	3.14355	1.410545	0.713137	13
26	Chattisgarh	1	0.207784	3.817464	1.307511	1.019846	2
27	Goa	0.583333	0.645198	3.927431	1.484442	0.984451	4
28	Gujarat	0.815059	0.229186	3.477246	0.991571	0.885048	9
29	Madhya Pradesh	0.882876	-0.46445	3.180024	1.197851	0.656777	16
30	Maharashtra	1	0.03104	3.628293	0.776147	0.912501	5

CRPI is calculated giving following weightage

Reform Status = 50%, Revenue Orientation = 35%, Profitability = 10%, Physical Performance = 5%

Comparative Position of Different States in India in Terms of Progress in Power Sector Reform
Manipur
Bihar
Jharkhand
Nagaland
Arunachal Pradesh
Jammu & Kashmir
Rajasthan
Haryana
Sikkim
Punjab
Uttar Pradesh
Mizoram
Karnataka
Puducherry
Madhya Pradesh
Meghalaya
Andhra Pradesh
Tamil Nadu
Tripura
Uttarakhand
Delhi
Gujarat
Orissa
Assam
Himachal Pradesh
Maharashtra
Goa
Kerala
Chattisgarh
West Bengal
States
1.2
1
0.8
0.6
0.4
0.2
0
- 0.2
- 0.4
Composite Reform Progress Index



For enquiry and details regarding this publication, please contact

Dr. Rajeev Singh, Director General

INDIAN CHAMBER OF COMMERCE

ICC Tower, 4 India Exchange Place, Kolkata - 700 001

Tel. : 91-33-2230-4088, Fax : 91-33-2231-3377

E-mail : ceo@indianchamber.net Website : www.indianchamber.net