

State Updates – Presentations

- Andhra Pradesh
- Delhi
- Gujarat
- Haryana
- Karnataka
- Maharashtra
- Tamil Nadu

Andhra Pradesh Power Sector Status and Issues Ahead

Presentation by

People's Monitoring Group
on Electricity Regulation (PMGER)
Hyderabad, Andhra Pradesh

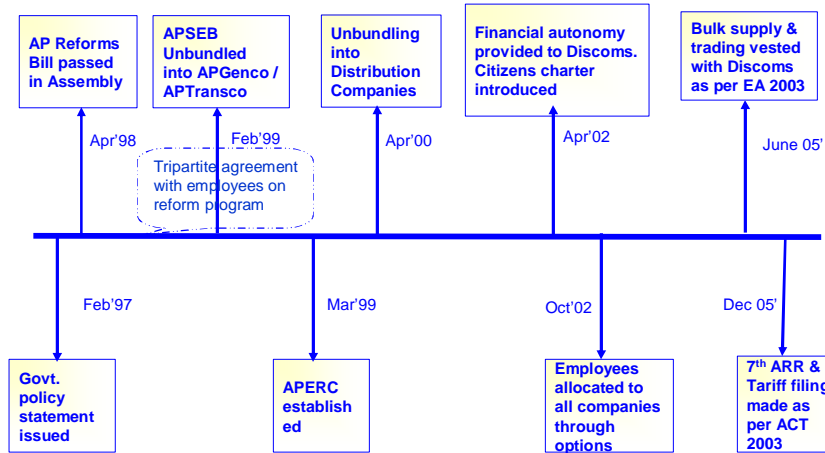
22nd- 23rd March 2007, Mumbai

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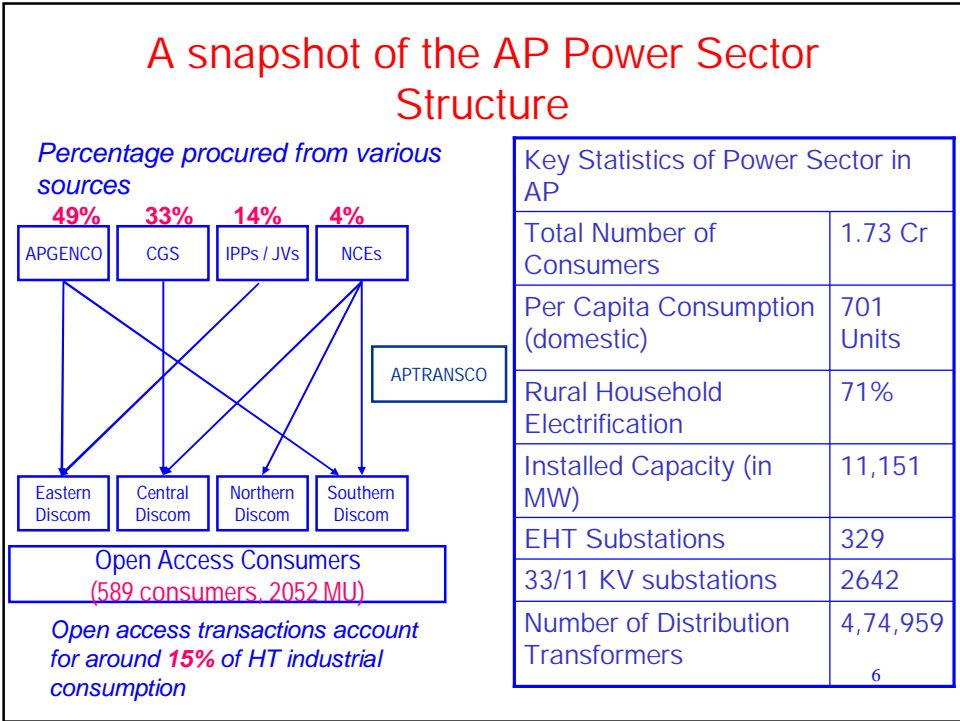
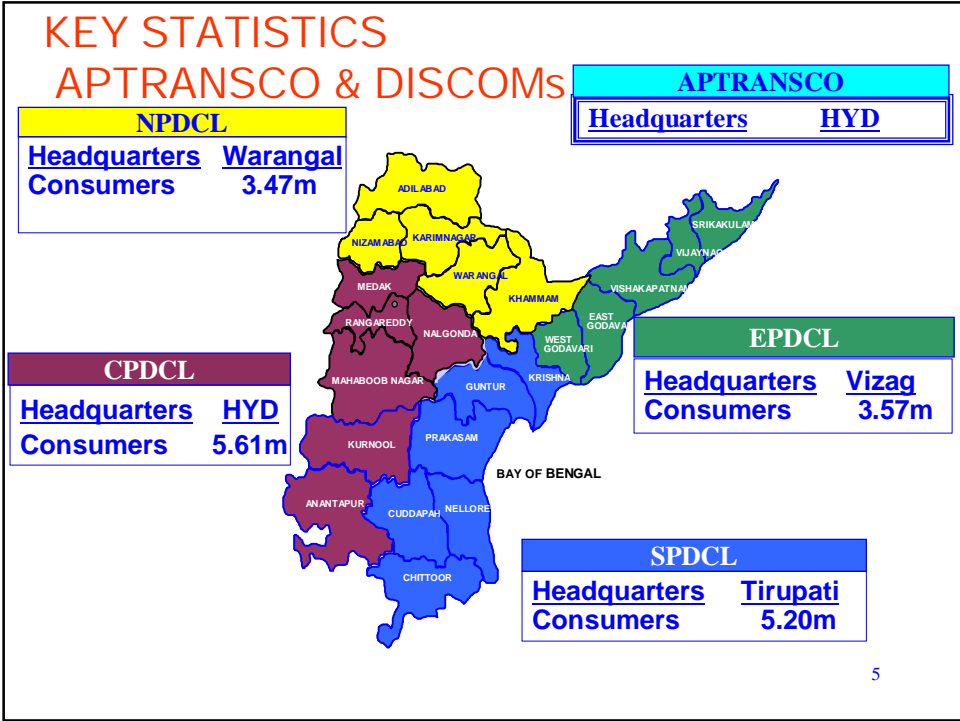
Reform Milestones

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Reform Milestones in AP



Key statistics



Important APERC orders/regulations after Electricity Act'2003

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Important APERC orders/regulations after Electricity Act'2003

- ✓ Regulation 7 of 2007: Regulation on **Transmission Standards of Performance**.
- ✓ Regulation 5 of 2005: Terms and conditions for **determination of Transmission Tariff** including the procedure for calculating the expected revenue.
- ✓ Regulation 4 of 2005: Terms and conditions for **determination of tariff for wheeling and retail sale** of electricity including the procedure for calculating the expected revenue.
- ✓ Regulation 3 of 2005: Regulation providing for the treatment of **Other Businesses** of Transmission Licensees and Distribution Licensees, the proportion of revenues from Other Business to be utilised for Licensed Business and the matters incidental and ancillary thereto.

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Important APERC orders/regulations after Electricity Act'2003

- ✓ Regulation 2 of 2005: Terms and conditions of **Open Access to Intra-State Transmission and Distribution networks**.
- ✓ Regulation 7 of 2004: Licensees' **Standards of Performance** and repeal of Regulation 6 of 2000. This regulation has since been amended in 2005.

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Important APERC orders/regulations after Electricity Act'2003

- ✓ Regulation 5 of 2004: **Electricity Supply Code**. Matters connected with recovery of electricity charges, intervals for billing of electricity charges, disconnection of supply for non-payment, restoration of supply, tampering, distress or damage to electrical plant, electric lines or meter, entry of Licensee's officials for disconnecting supply and removing the meter, and entry for replacing, altering or maintaining of electric lines, or electric plant or meter. This regulation is since amended on 4th of March 2006. A new clause 7A is added in the Regulation.
- ✓ Regulation 2 of 2004: **Constitution of State Advisory Committee** and its functioning. This regulation also repealed Regulation 1 of 1999 which constituted the Commission Advisory Committee.
- ✓ Regulation 1 of 2004: **Establishment of Forum and Vidyut Ombudsman for redressal of grievances of consumers**.

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Performance During Reform Period

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Where AP Power Sector stands today...

- ✓ All utilities in **profit** for the **THIRD** consecutive year
- ✓ **Tariff Subsidy** for consumers by State Government being **reduced**
 - Ø From Rs.1715 Crs. in 2004-05 to Rs.1351 Crs. in _____ 2006-07.
- ✓ **No increase for 4 years** and **declining tariffs for industries**
- ✓ Consistently ranked by **CRISIL** as No. 1 for **three years**

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Financial Performance

Financial Performance – Sector Turnaround trend

Year	Deficit / Surplus
1999-2000	-1720
2000-2001	-1310
2001-2002	-1262
2002-2003	-125
2003-2004	+76
2004-2005	+57
2005-2006	+291

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Financial Performance – Reduced dependence on Government Support

Year	GoAP Revenue Subsidy Support (Rs. Cr.)
1999-2000	3064
2000-2001	2936
2001-2002	2457
2002-2003	1876
2003-2004	1513
2004-2005	1715
2005-2006	1599
2006-2007	1351

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Financial Recovery through increase in revenue and controlling cost.

Year	Revenue Unit (Rs./Unit)	Cost Unit (Rs./Unit)	Revenue (Rs. crs)
1999-2000	2.41	3.08	6226
2000-2001	2.8	3.28	7617
2001-2002	2.67	3.1	7860
2002-2003	2.97	3.01	9628
2003-2004	3.01	3.04	10877
2004-2005	2.84	2.85	11473
2005-2006	2.88	2.95	12291

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Year	Distribution AT & Closes	Collection Efficiency	T & D Loss	Distribution Losses (%)
1999-2000			37.1	
2000-2001	32.77	95.75	34.8	26.04
2001-2002	-	-	30.2	23.6
2002-2003	-	-	26.1	19.5
2003-2004	-	-	22.3	17.8
2004-2005	21.05	97.07	21.4	16.9
2005-2006	17.09	100.01	20.2	15.8

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Initiatives for AT&C loss reduction

Comprehensive Energy Audit of high revenue areas

- ✓ 1,038 industrial feeders have been segregated so that they can be provided with uninterrupted supply and closely monitored
 - Ø Energy audit is carried out continuously & losses are less than 4%
- ✓ 115 town feeders and 1,126 Mandal headquarter feeders (100% metering completed) have been separated from rural feeders
 - Ø Losses in town feeders between 5% to 12%, except Hyderabad(S)
 - Ø Losses in Mandal HQ feeders between 10% to 15%¹⁷

Industrial tariff reduction combined with good quality of supply has yielded sustained growth in consumption

✓ Further reduction of tariff to an average of Rs 3.56 / kWh in 2006-07

✓ Despite tariff reduction of 13% between 2001-02 & 2005-06, cross subsidy contribution has increased by Rs.447 crores

Industrial Tariff and Growth Trends

Year	Sales Growth (%)	HT Industrial Tariff (Rs./ Units)
1999-2000	-	-
2000-2001	-	-
2001-2002	-4	4.26
2002-2003	27	4.06
2003-2004	28.7	3.96
2004-2005	22.1	3.86
2005-2006	23.4	3.7

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Capacity additions during 10th Plan (MW)

Particulars	Added from 2002-03 to 2005-06	To be added during 2006-07	Total
State Sector	640	459	1099
Central Sector	1071		1071
Private Sector	80	1499	1579
NCEs & Others	304	203	507
Total	2095	2161	4256

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AP's industrial and domestic tariff (in comparison with major states)

✓ AP's industrial tariff is the lowest among major states and domestic tariff is also among the lowest

S. No	State	Average HT Industrial Tariff	State	Average Domestic Tariff (Rs./unit)
1	Andhra Pradesh	3.56		
2	Orissa	3.59	Tamil Nadu	2.18
3	Chattisgarh	3.91	Orissa	2.23
4	Kerala	3.97	Andhra Pradesh	2.30
5	Tamil Nadu	4.19	Delhi	2.77
6	Gujarat	4.27	Maharashtra	2.79
7	Uttar Pradesh	4.45	Gujarat	2.89
8	Rajasthan	4.46	Madhya Pradesh	3.14
9	Karnataka	4.80	Karnataka	3.33

Tariff for power intensive industries at EHT voltage and different LFs:

LF - 90% : 2.82 Rs/kwh
 LF - 80% : 2.91 Rs/kwh₀
 LF - 70% : 3.12 Rs/kwh

Reforms - Concerns

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Total Neglect of APGENCO

- √ Total neglect of APGENCO by TDP Government
- √ Now, many projects are contemplated by Congress- but without any PPAs

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Coal prices are rising and this is putting pressure on costs

- ✓ Coal prices have been rising sharply
 - Ø Rate per tonne from Mahanadi Coalfields has increased at CAGR of 8% from 2001 to 2005
 - Ø Rate per tonne from Singareni Collieries has increased at CAGR of 2% from 2000 to 2004
 - Ø NTPC plants have also used imported coal which has a projected impact of Rs. 123 Cr in the current year
- ✓ Coal constitutes a significant part of power cost and even small increases puts significant pressure due to inability to increase power tariffs
- ✓ For FY 2005-06, the impact was Rs.142 crores for AP alone

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Gas availability & price are major issues

- ✓ For 1599 MW of capacity from four new IPPs Gas availability is not confirmed, despite firm Gas Supply Agreements with GAIL.
- ✓ Pricing of Gas & Transportation charges is a major issue.
- ✓ Separation of Trading from TRANSCO- creating confusion- lack of expertise with DISCOMS • many other complications-subsidy distribution etc.,
- ✓ HVDS implementation- huge investments without evidence of reduction in T&D losses

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√ **Regulatory process** • lack of public participation- complicated procedures- lack of public awareness on latest developments- apathy among Regulators- Restricting public participation

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Other Issues

√ NCE Costs

- Ø Currently 4% is being sourced and the Regulator has mandated 5% of power to be purchased from NCE sources
- Ø Average cost of NCE sources is Rs.3.11/kwh against Rs.1.72/kwh overall. This puts an additional cost of Rs.145 crores on power sector.
- Ø Going forward the additional amount of power from NCE sources will put additional pressure on tariffs

√ Rural Electrification Costs

- Ø Rs. 251 Cr revenue subsidy is required for around 45 lakh rural households to be electrified under RGGVY

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Outsourcing • Huge Vacancies

- Ø Spot billing is outsourced
- Ø Customer service centers are outsourced
- Ø 80% of EHT 33/11 KV Substations manning and maintenance is outsourced
- Ø 80% of Low Tension (LT) service collections are outsourced
- Ø 90% of transformer repairing is outsourced

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Phasing of Open Access by APERC

Phase	Eligibility criteria	Commencement date
1.	Consumers availing of power from NCE developers irrespective of the quantum of contracted capacity	September, 2005
2.	Contracted capacity being greater than 5 MW	September, 2005
3.	Contracted capacity being greater than 2 MW	September, 2006
4.	Contracted capacity being greater than 1 MW	April, 2008

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Open Access in AP

- ✓ About 259 no. of Consumers of DISCOMS with contracted capacity > 1 MW consuming about 3700 MU.
- ✓ Higher cross subsidy surcharge fixed by APERC
- ✓ No one opted for open access under EAct'2003

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Cross-Subsidy Surcharge in AP

LT			
Category	Cost of Service in Rs./ kWh	Expected Average Revenue in Rs./ kWh	Cross Subsidy Surcharge leviable in Rs. / kWh
Category II - Non-Domestic	3.61	5.67	2.06
Category III - Industrial	2.84	4.10	
Category VII - General Purpose	3.51	4.00	0.49
HT			
Category I (A), Industrial - General			
132 kV	2.17	4.24	2.07
33 kV	2.17	3.79	
11 kV	2.17	4.23	2.06
Category II - Other than Industrial	2.54	5.33	2.79
Category V - Railway Traction	2.72	4.40	1.68
Category VI - Residential Colonies	2.99	3.50	0.51

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Free Power in AP

- ✓ Additional financial burden of Rs 414 cr.
- ✓ Free Power linked to Efficiency improvement measures(DSM):
 - Ø Frictionless Foot Valves
 - Ø Capacitors
 - Ø HDPE/RPVE pipes
 - Ø ISI pumpsets
- ✓ Categorisation of farmers- Dryland/Wetland
- ✓ Corporate farmers & IT Assessees are not eligible for free power.

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Free Power in AP

- ✓ But administration is not serious in implementation of DSM measures.(Farmers purchased capacitors but only 5 to 10% installed so far- Lack of awareness)
- ✓ Pumpset efficiencies are very low- 17%-18%
- ✓ Increase in consumption due to good monsoon, rise in water table and many old pumpsets put into re-use.

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Recent Power Crisis

- ✓ Demand went up to 8100 MW
- ✓ Supply was around 7000 MW
- ✓ Purchased power from outside sources at Rs 6/unit
- ✓ Shortages are likely to continue for two more years (till gas supply position improves).

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World Bank and AP

- ✓ TDP and Congress- Differences in approach to WB Reforms.
- ✓ GoAP Stopped taking loan from WB.
- ✓ WB agreed with the present policy of 'Free Power to farmers' (i.e.exclusion of rich and linking it with DSM measures) of Govt of AP.

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Thank You

People's Monitoring Group on
Electricity Regulation (PMGER)

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Power Reforms in Delhi

Presentation by:

Society for Protection of Culture, Heritage,
Environment, Traditions and Promotion of
National Awareness(Regd) (CHETNA)

22nd March 2007 at YMCA, PUNE

Power Reforms in Delhi

- n OVERVIEW
- n Genesis of reforms
- n Post privatisation scenario
- n Issues
- n Suggestions



Genesis of Reforms

Pre-reform scenario

- n Unreliable power supply- severe power cuts
- n High T & D Losses-Theft
- n Outdated infrastructure
- n Inefficient work culture
- n Precarious Financial position of DVB



Genesis of Reforms

Starting Point

- n Amendment in Electricity Act 1948-Electricity Act, 2003
- n States role in power sector redefined
- o Corporatisation, privatisation, unbundling- essential parts of the package



Genesis of Reforms

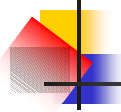
Objectives

- n Ensure availability of Electricity to consumers at reasonable and competitive rates;
- n Ensure financial viability of the Sector to attract investment;
- n Promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimise perceptions of regulatory risks;
- n Promote competition, efficiency in operations and improvement in quality of supply



Power Reforms in Delhi

- n Unbundling of DVB
- n Generation- Delhi Power Supply Co. Ltd
- n Transmission- Delhi Transco. Ltd.
- n Distribution- Three private sector companies
 - n North- NDPL
 - n South & West -BRPL
 - n East -BYPL
- n Signing of MOU with GNCTD



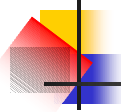
Power Reforms in Delhi-Mandate

- n Regulatory Mechanism-Policy Directions
- n A T & C Losses to be brought down
- n Share Revenue from reduction of AT&C losses 50:50 with consumers
- n Non- reduction to be borne by DISCOMS
- n Guaranteed return on equity 16%
- n Avoid Tariff shock- Rs.3450 crores support



Power Reforms in Delhi-Mandate

- n 1999 -Constitution of DERC mandated to
 - (i) Determine retail and bulk supply tariff
 - (ii) Regulate power procurement
 - (iii) promote competition, efficiency and economy
 - (iv) Monitor performance of DISCOMS
 - (v) protect consumer's interest
 - Formulate standards of Metering & Billing
 - establish standards of Quality of Service



Power Reforms- Relevant Dates

- n September 2000- Concept Paper on Tariff issued by DERC;
- n 16th January 2001- Issued order no. 2/2001 titled as Rationalization of Tariff (2000-01) for DVB without revising tariff but settling various contentious issues;
- n 23rd May 2001-ARR for 2001-02 Tariff Determination turned down multi year tariff determination principles for the years 2002- 03 to 2005-06



Power Reforms- Relevant Dates

- n 22nd February 2002- Determination of Bulk Supply Tariff and Determination of opening level Aggregate of Technical & Commercial losses-
- n 26th June 2003: Tariff setting for 7/02 to 3/03 (9 months) and 03-04 by increasing power tariff for domestic consumers by 5.6%
- n 9th June 2004; Tariff setting for the year 2004-05
 - (i) increasing power tariff for domestic consumers by 10%
 - (ii) Creating regulatory asset to avoid tariff shocks



Power Reforms- Relevant Dates

- n 7th July 2005: Tariff setting for the year 2005-06 increasing power tariff for domestic consumers by 10%
- n Govt and DISCOMS announced subsidy of 5% each in view of public outcry
- n July 2006: Tariff order for the year 2006-07 increasing tariff for domestic power by -10% subsidy withdrawn



Power Reforms -Impact

- n The billing impact Tariff Hike on consumers is almost double of the basic tariff hike.
- n Till date the basic tariff hike is $23\% + 5.6\% + 10\% + 10\% = 48.6\%$ -Domestic category
- n Billing Impact would be 97.2% (Compare with the bill for 2000-01).
- n Government does not speak about 23% increase in 2001-02-pre Privatisation



Power Reforms-Impact

- n CGHS- DDA demand Affidavit before holding draw of Flats-Society shall not demand Water & Electricity from DDA
- n DDA Flats-Allottee to submit affidavit that it shall not demand Water & Electricity from DDA
- n Thousands of houses un-allotted
- n Unscheduled power cuts
- n Lack of political and bureaucratic will in controlling theft



Power Reforms -Impact

- n Reduction in A T & C losses
- n Stabilization in power supply
- n Reduction in power cuts



Power Reforms- Impact

CRISIL-ICRA Rating-2006

- n Strengths
 - n All DISCOMS recovering operational Exp w/o government subsidy
 - n Strong financial position of the State Govt.

- n Weaknesses
 - n High systematic losses with Transco- 37.78 billion
 - n High A T & C losses 2004-05- 2004-05
 - n Generation at low Plant load factor
 - n Yet to issue open access policy

u Source Report to Ministry of Power June 2006



Power Privatisation

Computation of A T & C Losses- BRPL

Particulars	Oct 04 to Sept 05	April 05 to Sept 05
Input Units (MU)	8,509	4855
Billed Units	5132	2698
T & D Loss	3377	2157
% of T & D Losses	39.68	44.43



Power Privatisation- Computation of A T & C Losses- BYPL

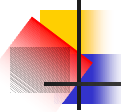
Particulars	Oct 04 to Sept 05	April 05 to Sept 05
Input Units (MU)	5332	2983
Billed Units	2705	1371
T & D Loss	2627	1612
% of T & D Losses	49.27	54.04



Power Reforms -Impact

Performance of NDPL(2005-06)

- n Overachieved AT&C loss reduction target against target of 31.1% brought down to 28.4% from 53.4%
- n Capital expenditure over 1000 crore in four years
- n Additional revenue of Rs. 172.16 crores
- n Additional Operating profits of Rs. 55.39 crores



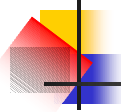
Power Reforms -Issues

- n BSES performance under cloud
 - Dismal Loss reduction
 - Poor consumer grievance redressal mechanism
 - Un-reasonable costs



Power Reforms -Issues

- n DISCOMS refuse to be covered under RTI Sec. 2(h)(d(i) of RTI Act 2005
- n Need to look into loss reduction reporting
- n Why DISCOM should spend on Corporate Office Building
- n High Employee Cost -cost cutting
- n Efficiency improvement
- n Allowance of higher depreciation by Apex Court-
Impact-Increase in tariff



Power Reforms -Issues

- n BSES
- n Poor Consumer Grievance handling mechanism

- n Absence of contact numbers of Jurisdictional Officers

- n Focus on investment in land, building, Corporate Office

- n Priority investment in reduction of non technical loss

- n Anti consumer attitude-Meters or otherwise



Power Reforms -Issues

- n Potential to reduce losses in initial years is very high. The DISCOMS have been asked to reduce on 17% app. Losses in first five years . Why?

- n What prevented the DISOMS to reduce more losses than minimum commitment?

- n Why the BSES at the time of filling Annual Revenue Requirement for the year 05-06 did not mention about achievement of T & D losses?



Power Reforms

Planning Commission-Observation

- n Para 10.33

Distribution reforms.....However experience so far in Orissa and Delhi suggests that privatisation is not a guaranteed solution.....

- u Source: 10th Planning Commission report



Power Reforms

- n Concrete steps to be taken for ensuring additional Generation capacity
- n No increase in Generation capacity from 2002-03
- n No concrete plans on table
- n Despite reforms in place the loss reduction in BSES area has clearly demonstrated lack of both Political and Bureaucratic Will



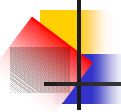
Suggestions

- n DERC should Implement its order dated 10th October 2004 for appointment of a Committee to streamline AT & C Loss level Reporting
- n Result of Regulatory Information Management System (RIMS) not discussed in Tariff determination order 06-07
- n Enforce Quality of Supply
- n Enforce Billing & Metering Performance Standards
- n Post all the orders on its web site



Suggestions

- o DISCOMS
- v make suo motto disclosure of the theft prone areas and make public the A T & C - T & D losses incurred RWA wise
- v Install poll mounted load limiter in theft prone areas instead of shutting down power supply
- v Involve NGO's and RWA's in conducting Social audit of the respective area
...contd



Suggestions.....contd.

- n Improve performance during MYT regime
- n Cost cutting
- n Publish Transformer wise supply, billing details-
highlighting theft
- n Incentives- Reduce tariff in areas w/o theft
- n Strengthen-Actions against Power theft



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POWER SECTOR REFORMS AND REGULATIONS IN INDIA

A Civil Society Experience – Sharing and Learning Event

PRESENTATION ON GUJARAT

BY

K K BAJAJ

HON DIRECTOR, CERC

Organised By

Prayas Energy Group, Amrita Clinic, Athawale Corner, Karve Road, Deccan Gymkhana, Pune – 411004

At

YMCA, PUNE

[22-23 MARCH 2007]

CONSUMER EDUCATION AND RESEARCH CENTRE

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UNBUNDLING OF BOARD

GUJARAT ELECTRICITY BOARD WAS UNBUNDLED INTO SEVEN ENTITIES
WITH EFFECT FROM: 1ST APRIL 2005.

✓ UNBUNDLED COMPANIES

- (1) GUJARAT URJA VIKAS NIGAM LTD (GUVNL)
A HOLDING COMPANY
- (2) GUJARAT STATE ELECTRICITY CORPORATION LTD (GSECL)
A GENERATION COMPANY
- (3) GUJARAT ENERGY TRANSMISSION CORPORATION LTD (GETCL)
A TRANSMISSION COMPANY
- (4) UTTAR GUJARAT VIJ COMPANY LTD (UGVCL)
A DISTRIBUTION COMPANY
- (5) PASCHIM GUJARAT VIJ COMPANY LTD (PGVCL)
A DISTRIBUTION COMPANY
- (6) MADHYA GUJARAT VIJ COMPANY LTD (MGVCL)
A DISTRIBUTION COMPANY
- (7) DAKSHIN GUJARAT VIJ COMPANY LTD (DGVCL)
A DISTRIBUTION COMPANY



POWER AVAILABLE IN GUJARAT

SOURCE	MWS
STATE OWNED COMPANIES	5802
CENTRAL OWNED COMPANIES	2191
PRIVATE COMPANIES	2277
TOTAL	10270 MWS

FUEL BASED GENERATION

COAL	4429	76.4 %
GAS	496	8.5 %
HYDRO	778	13.4 %
RES	99	1.7 %
	5802 MWS	100 %



PERFORMANCE

PERFORMANCE OF STATE OWNED ENTITIES HAS IMPROVED TREMENDOUSLY AFTER UNBUNDLING

PERFORMANCE RATING AS PER MOP

2002-03	7 TH RANK
2003-04	5 TH RANK
2004-05	2 ND RANK
2005-06	2 ND RANK

(Source : As per CRISIL/ICRA)

PERFORMANCE (FINANCIAL)

<u>FY</u>	<u>Rs in Crores</u>
2002-03	- (-) 3200
2003-04	- (-) 1622
2004-05	- (-) 1378
2005-06	- (+) 206

Note: - (-) Loss and (+) Profit



DETAILS OF GSECL PLANTS

Sr. No.	Station	Capacity (MW)	Total (MW)
1	Ukai (Coal)	2 x 120 2 x 200 1 x 210	850
2	Gandhinagar (Coal)	2 x 120 3 x 210	870
3	Wanakbori (Coal)	7 x 210	1470
4	Sikka (Coal)	4 x 120	480
5	Kutch (Lignite)	2 x 70 1 x 75	215
6	Dhuvaran (Oil)	4 x 63.5 2 x 140	534
7	Dhuvaran (Gas)	2 x 106.5	213
8	Utran (Gas)	1 x 135	135
		Thermal Total	4767



POWER SHORTAGE IN GUJARAT

Period	Demand During Peak hours in MWs	Supply during Peak hours in MWs	Shortage	
			MWS	%
October - 2005	8553	7240	1313	15.35
November - 2005	8159	7306	853	10.45
December -2005	8293	7610	683	8.24
January - 2006	8774	7264	1510	17.21
February -2006	8780	7355	1425	16.23
March - 2006	8898	7491	1407	15.81
April - 2006	8993	7510	1483	16.49
May - 2006	8856	7579	1277	14.42
June - 2006	8820	7611	1209	13.71
July - 2006	8121	6677	1444	17.78
August - 2006	7808	6460	1340	17.26
September - 2006	8967	7374	1593	17.77
October - 2006	10203	7670	2533	24.80
November - 2006	9316	7420	1896	20.35
December - 2006	8840	7285	1555	17.59
January - 2007	8635	7612	1023	11.85

Source: Report of Centre for Monitoring Indian Economy (CMIE)

DETAILS OF GSECL PLANTS

Sr. No.	Station	Capacity (MW)	Total (MW)
9	Ukai (Hydro)	2 x 2.5 4 x 75	305
10	Kadana (Hydro)	4 x 60	240
		Hydro Total	545
		TOTAL (Thermal + Hydro)	5312 MWS
11	Torrent Power Ltd (TPL), Ahmedabad (Coal)	2 x 30 3 x 110	390
12	TPL, Ahmedabad (Gas)	1 x 100	100
		TPL Total	490
		GRAND TOTAL	5802 MW



GENERATION COMPANY – GSECL- PERFORMANCE PLF FOR (2005-06)

Name of Plant	Capacity MW	No. of Unity No x MW	PAF - %	PLF - %
Gandhinagar (Coal)	660	2 x 120 2 x 210	84.96	64.06
Wanakbori (Coal)	1260	6 x 210	81.33	76.76
Ukai (Coal)	850	2 x 120 2 x 200 1 x 210	84.86	72.03
Sikka (Coal)	240	2 x 120	79.62	66.81
Dhuvaran (Oil)	534	4 x 63.5 2 x 140	68.72	31.65
Kutch (Lignite)	215	2 x 70 1 x 75	38.13	35.31

NOTE: - PLF = Plant Load Factor
PAF = Plant Availability Factor



GUJARAT DISCOMS – PERFORMANCE : (2005-06)

Sr. No	Name of DISCOM	Power Purchased In MUS	T & D Losses	
			MUS	%
1	Uttar Gujarat Vij Co Ltd.	15,694	6683	41.95
2	Paschim Gujarat Vij Co Ltd.	12,130	3273	26.98
3	Dakshin Gujarat Vij Co Ltd.	9,331	2266	24.28
4	Madhya Gujarat Vij Co Ltd.	5,457	1,333	24.42
	TOTAL	42,612	13,555	31.81



AGRICULTURAL SECTOR : (As On March 2006)

Name of Discom	No of Agriculture Consumers	No of Consumers without meters		No of consumers with meters	
		Nos.	%	Nos	%
PGVCL	3,37,862	2,60,000	77.00	77,862	23.00
UGVCL	2,01,752	1,57,000	77.80	44,752	22.20
DGVCL	76,116	48,572	63.80	27,544	36.20
MGVCL	57,706	28,286	49.90	28,420	50.10
TOTAL	6,72,436	4,93,858	73.40	1,78,578	26.60

NOTES: -

1. The Electricity Act – 2003 was incorporated in Gujarat from 10th December-2003
2. The Act Mandates 100 % metering in this Sector within two years. I.e. 10th December – 2005
3. GERC taking shelter of Section 55 (1) extended the period up to 10th December 2007



ELECTRICITY DUTY IN GUJARAT

(W.E.F 1.4.2007)

Sr. No.	Category	Duty in %	
		Upto 31.03.2007	From 01.04.2007
1	Rural Areas Residential & Educational Institutions	15	(20) 10
2	Urban Areas Residential and Educational Institutions	30	(40) 20
3	Commercial and Hotels, Auditoriums and theatres etc	30	(60) 25
4	LT Industries	10	(10) 10
5	HT Industries	10	(20) 10
6	Agricultural	5	(5) 0

Figures in brackets indicate electricity duty applicable from 2001-02



GROWTH OF POWER SECTOR IN INDIA (MWS)

Year	Hydro	Thermal				Nuclear	RES	Total
		Coal	Gas	Diesel	Total			
31.03.90	18308	41238	2343	165	43746	1565	18	63637
31.03.92	19194	44792	3095	168	48054	1785	32	69065
31.03.97	21658	54155	6562	294	61010	2225	902	85795
31.03.02	26269	62131	11163	1135	74429	2720	1628	105046
31.03.03	26767	63951	11633	1178	76762	2720	1628	107877
31.03.04	29507	64956	11840	1173	77969	2720	2488	112684
31.03.05	30942	67791	11910	1202	80903	2770	3811	118426
31.03.06	32326	68519	12690	1202	82411	3360	6190	124287
31.01.07	33942	69366	13582	1202	84150	3900	6190	128182

Fuel Based Generation

FUEL	MWS	%
Coal	69366	54.1
Gas	13582	10.6
Diesel	1202	0.9
Total Thermal	84150	65.6
Hydro	33942	26.5
Nuclear	3900	3.1
RES	6190	4.8
TOTAL	128182	100.00

All India deficit during peak hours is 13.2 % compared to 9.1% during non-peak hours

ALL INDIA PLF % APRIL-2006 TO JANUARY 2007

Sector	PLF in %
State Sector	69.5
Central Sector	83.3
Private Sector	87.2
All India	75.6 %

STATE PLF (%)

Sr. No.	Name of Generating Co	PLF %
1	Andhra Pradesh Generating Co Ltd	92.4
2	Tamil Nadu Electricity Board	86.5
3	MP Generation Co Ltd	79.1
4	Maharashtra State Generation Co Ltd	77.4
5	Gujarat State Electricity Corporation Ltd	71.2
6	Indraprastha Generation Co Ltd	42.7
7	Assam State Electricity Board	20.1
8	Jharkhand State Electricity Board	8.3

DEMAND SUPPLY STATUS : January 2007

Sr. No.	State	Peak demand MW	Peak met MW	Deficit MW	Deficit %
1	Maharashtra	17130	12141	4989	29.1
2	Gujarat	10203	7670	2533	24.8
3	Bihar	1349	1042	307	22.8
4	Chhattisgarh	2257	1783	474	21.0
5	Assam	737	591	146	19.8
6	Haryana	3974	3208	766	19.3
7	Rajasthan	5794	4719	1075	18.6
8	Madhya Pradesh	6919	5753	1166	16.9
9	Andhra Pradesh	8920	7520	1400	15.7
10	Punjab	5572	4707	865	15.5
11	Uttar Pradesh	8000	7145	855	10.7
12	Karnataka	5816	5492	324	5.6
13	Jharkhand	651	633	18	2.8
14	West Bengal	4152	4038	114	2.7
15	Tamil Nadu	8379	8174	205	2.4
16	Kerala	2713	2684	65	2.4
17	Orissa	2649	2608	41	1.5
18	Delhi	3332	3289	43	1.3

Source : CEA

STATION HEAT RATE Kcal/kWh : (2005-06)

DEVIATION FROM DESIGNED HEAT RATE :-

Sr. No.	Name of State	SHR IN %
1	Orissa	3.2
2	Andhra Pradesh	4.9
3	Karnataka	7.3
4	Rajasthan	9.6
5	Punjab	10.7
6	Maharashtra	12.9
7	Gujarat	13.1
8	Tamil Nadu	13.2
9	West Bengal	15.2
10	Chhattisgarh	15.3
11	Uttar Pradesh	21.0
12	Haryana	28.0
13	Jharkhand	30.0
14	Madhya Pradesh	34.9
15	Delhi	40.2
16	Bihar	109.8

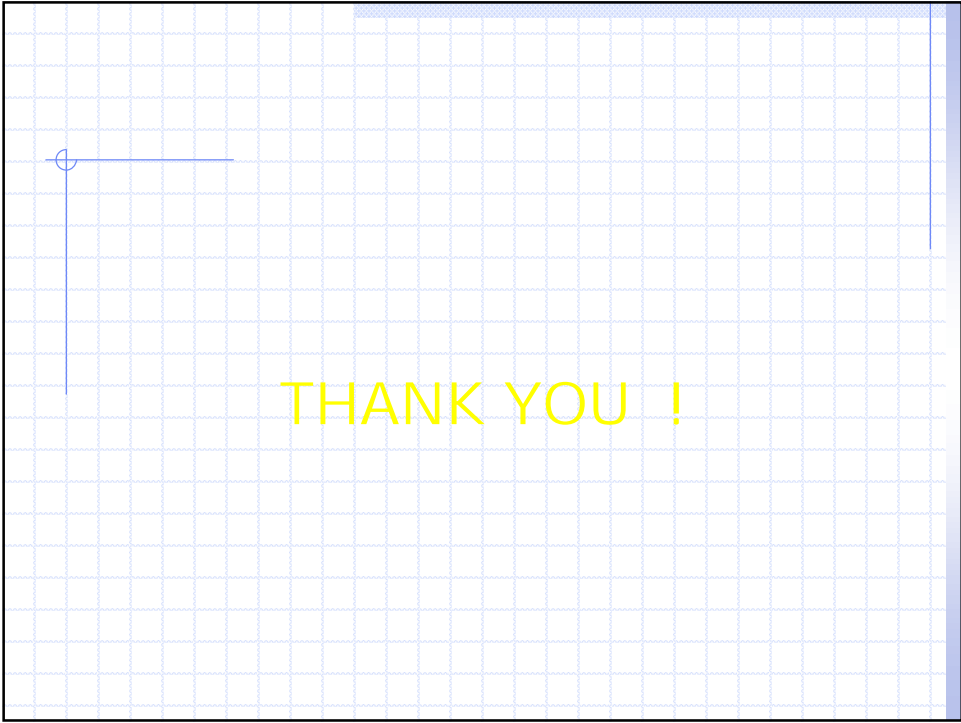
Source : CEA

STATISTICS OF ELECTRICAL ACCIDENTS

Type of Accident	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	Increase from 2002 %	Total
A) HUMAN BEINGS								
Fatal	293	289	346	386	398	422	22	2134
Non Fatal	267	274	267	321	321	363	36	1813
Sub Total (A)	560	563	613	707	719	785	28	3947
B) ANIMALS								
Fatal	472	466	403	542	542	583	45	3008
Non Fatal	1	1	0	2	1	2	...	7
Sub Total (B)	473	467	403	544	543	585	45	3015
Grand Total (A+B)	1033	1030	1016	1251	1262	1370	35	6962

DISTRIBUTION FRANCHISEE MODEL

- Torrent Power Limited (TPL) was appointed by MSEDCL as a FIRST DISTRIBUTION FRANCHISEE for Bhiwandi circle from 1st January 2007
- Bhiwandi – chronic defaulter of Electricity bills : more than 70% consumers defaulting on their bills.
- TPL responsibilities under the MoU
 - Operation and Maintenance of distribution functions
- Consumer's benefit : Better services and quality power
- Present distribution losses : 44%
- Target to reduce distribution losses upto 14% within Franchise period of 10 years
- MSEDCL revenue generation will be Rs. 1.8 billion per annum
- Award to TPL : Best Distribution Company Award for 2005-06 and has lowest T & D losses – 12.63%.

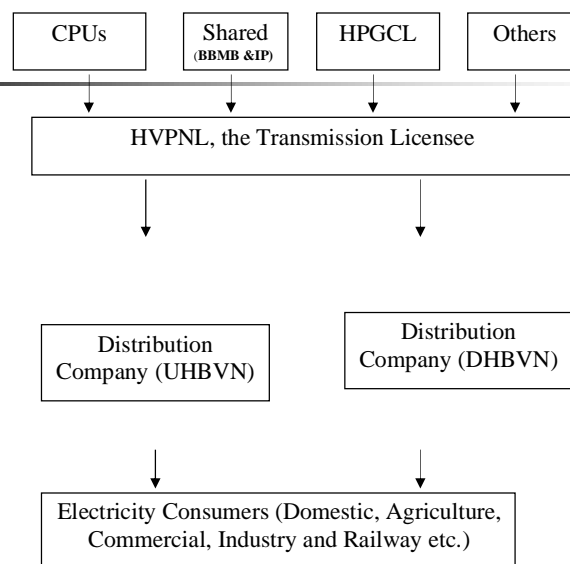


Power Sector Reforms: Haryana Experience

Rajesh Kumar
Hindu College Sonapat

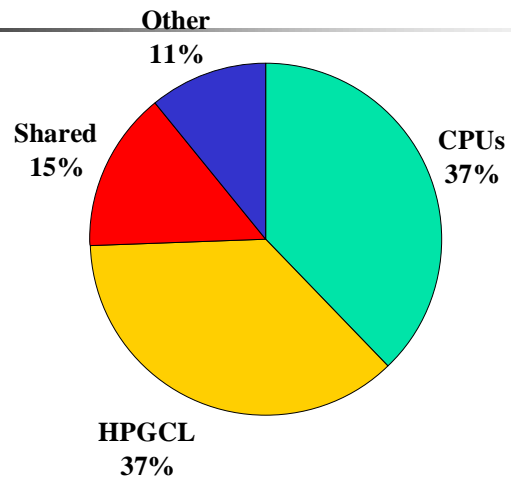
1

Structure of ESI in the State



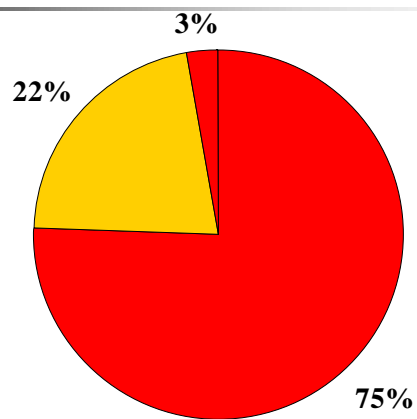
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Shares of various sources ownership wise



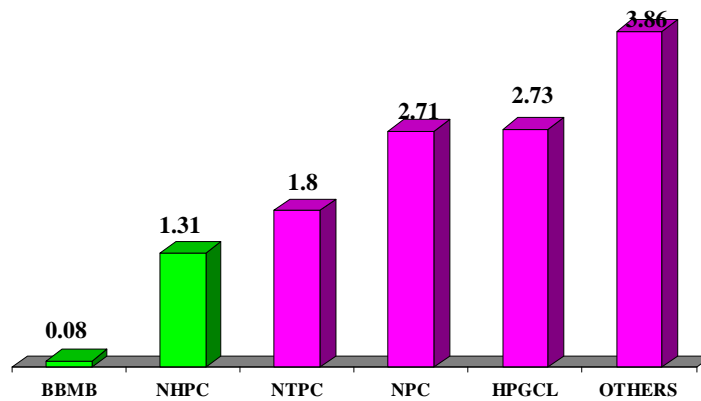
3

Shares of various sources in Fuel-Mix



4

Average cost from various sources (Rs/unit)



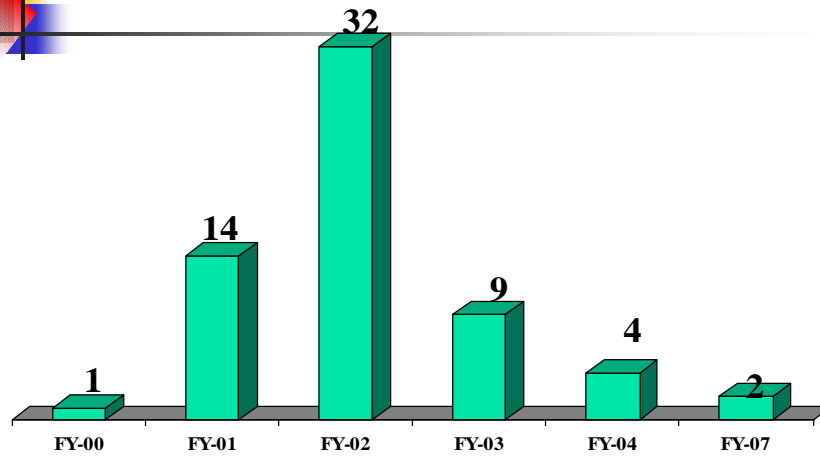
5

Milestones after reforms in ESI

- | | |
|-------------------------------|--------------|
| n The Reform Act Passed | n 22.07.1997 |
| n Gazette Notification Issued | n 10.03.1998 |
| n First Transfer Scheme | n 14.08.1998 |
| n HERC Constituted | n 17.08.1998 |
| n Second Transfer Scheme | n 01.07.1999 |
| n HVPNL filed first ARR | n 31.12.1999 |
| n First Tariff Order issued | n 14.12.2000 |

6

No Of Participants During Public Hearings

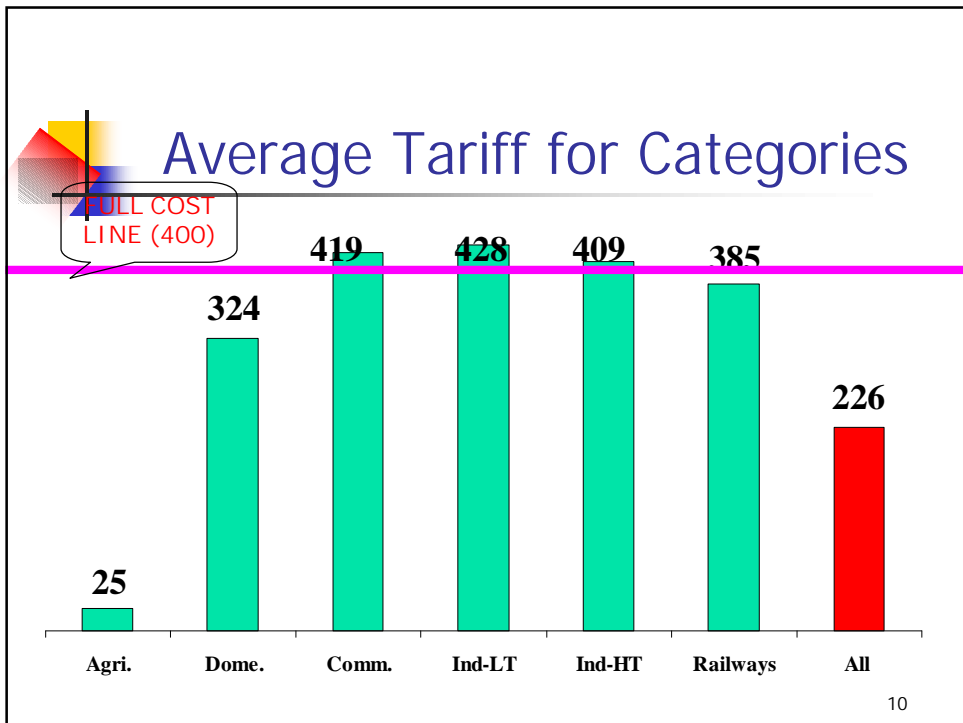
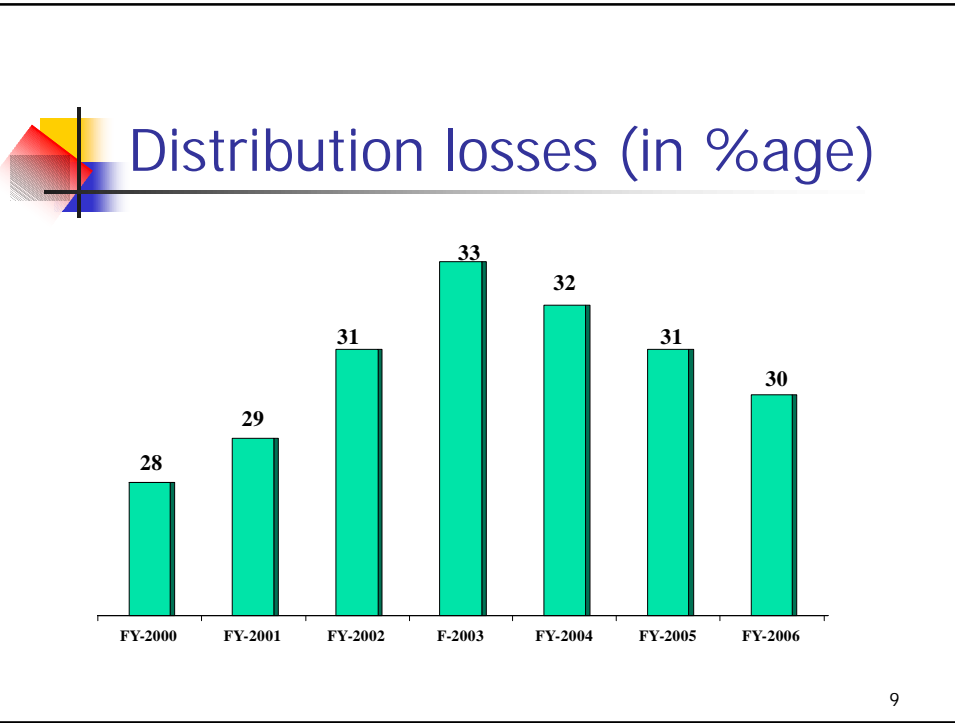


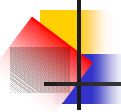
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Reasons for Poor Participation

- n Lack of Awareness among people
- n No special attempts made by HERC of the Companies
- n Single place Public Hearings (Punchkula)
- n The Cost of Participation is high and increasing
- n No adequate time was given at Public Hearings to the intervenors

8





Some Steps taken Recently

- n Appointment of Electricity Ombudsman
- n Establishment of Forum for Redressing Consumers' grievances
- n Discussion Paper on Terms and Conditions Appointing Consultants
- n Order Passed fixing tariff for renewable energy sources



Overview of Karnataka Power sector

Gautam Menon
March 22-23, 2007
Pune



Outline

n Status of the Power Sector

- Institutional Status: Unbundling and Privatisation
- Adequacy of Generation Capacity: Demand-Supply Imbalance; load shedding
- Financial Issues: Tariff issues; subsidy issues and free power to farmers; distribution capital investments
- Key Challenges and Way Forward: T&D losses; capacity additions and power purchases; other issues

n Important Regulatory Developments

- Key Regulatory Orders Important tariff orders; decisions regarding new power purchases; implementation of the requirements of EAct such as cross-subsidy surcharge, open-access, and development of captive power.
- Consumer Issues Formation of consumer grievance redressal forums and ombudsmen; quality of service; important papers, studies, and interventions.
- Issues Regarding Regulatory Process Selection of regulators; staffing issues; transparency, accountability, and public participation (TAP); public hearings.

Outline (contd)

- n Energy Efficiency and Renewables
 - Energy Efficiency and Demand-Side Management Programs
 - Renewable Energy Tariffs for renewable energy; implementation and development of renewable energy technologies
- n Role of State Government
 - Government-Regulator relationship
- n Special Issues
 - Practices to be emulated and those to be avoided
 - Status of Key policy initiatives: Franchisees; Rajeev Gandhi Grameen Vidyutikaran Yojana

Karnataka State – Profile

- n Karnataka is divided into 27 districts
- n 66% of population in rural areas
- n As per Census 2001: 52.9 million with a density of 275 persons/sq km.
- n Urban VS Rural growth rate: 28.8%:12.5%
- n Growth rate - 2005-06: 7.8%
 - 2006-07: 10.1%





Institutional Status

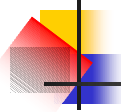
- n Unbundling:
 - 1999 – Karnataka Electricity Reforms Act passed
 - Karnataka Electricity Regulatory Commission was constituted
 - KPTCL was created and entrusted with transmission and distribution of power
 - 2002 – KPTCL unbundled and its distribution function was divided among four distribution companies.
 - KPTCL is now only responsible for transmission.
- n Corporatisation, Competition in Retail Power and Privatisation:
 - With the passing of E-Act there is greater push to invite more competition in GTD (Sec 7, 9 and 12: to name a few)
 - National Electricity Policy has called for the same
 - Privatisation in Generation has taken place.
 - Distribution: status is unknown



Demand-Supply Scenario

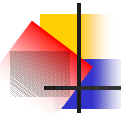
Installed capacity

	Units	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Installed capacity	MW	5217	5526	5908	5872	6063	7678*
Central share	MW	619	722	1133	1170	1450	-
Generation	MW	18222	17127	18426	18990	19889	-



Demand-Supply (contd..)

Generation	2003-04	2004-05	2005-06
Thermal	11393	10730	9165
Hydro+Wind	7033	8260	10724
TOTAL	18426	18990	19889



Energy Imported

- n As on 31st March, 2005 (MU)
Within the State: 18735/18990 (KPCL)
IPPs: 2901
CGS: 11474
Total: 33110/33365 (KPCL)
- n Consumption: The share of commercial HT supply has been showing steady but gradual increase.
1998-99 to 2003-04: 1.79% to 3.42%. The share of other sectors has been constant. (KERC Annual Progress Report- 1999-2004- Energy sales)



Financial Issues

Tariff: Tariff has an impact on every consumer

- n Average Delivery Cost: Rs.3.55/unit
- n Average Rate of Realization: Rs.2.90/unit
- n Average Power Purchase cost:Rs.1.82/unit

Tariff on the rise:2000-03

Tariff Orders Tariff (%)	Average Increase in Consumer
Tariff Order 18.12.00	16.29%
Tariff Order 8.5.02	16.07%
Tariff Order 10.3.03	2.00%
Tariff Amendment Order 15.12.03	2.89%

Cumulative Increase in Tariff	41.65%



Subsidy

- n Subsidy

Year	O.B. of subsidy due	Provision for subsidy in approved FRP	Subsidy claimed for the year	Subsidy released by the government	Balance at the end of the year
1999-00	255.98		1213.09	768.91	700.16
2000-01	700.16	709.00	1820.82	1246.42	1274.56
2001-02	1274.56	1787.70	2231.30	1872.00	1633.86
2002-03	1633.86	1796.50	1903.86	1699.00	1838.72
2003-04	1838.72	1537.50	1623.29	1555.46	1906.55
2004-05	1906.55	928.30	1872.99	935.00	2844.54
2005-06	2844.54	1726.30	1503.00	1457.00	2890.54
2006-07	2890.54	-	1850.00	1500.00	3240.54



IP SETS

- n As per the Annual Report of KERC for 2005-06 the Commission has instituted a study to compute the consumption of IP sets based on DTC metered sampling points. The study is being carried out by TERI. There are 176 sample points and the results would be used to set benchmarks with relation to un-metered IP set installations and losses at such points.



T&D Capital Investments

Transmission:

- n 2003-04 - Rs. 323 crores subject to the condition that specific approval would be taken of the Commission for DPR's of projects costing more than Rs. 5 crores
- n 2004-05 - Rs. 910 crores to Rs. 875 crores and finally Commission decided to approve as per the actual expenditure during FY05
- n 2005-06 – Rs. 900 crores which was approved by Commission in principle in Tariff Order 2005, subject to approval of DPR of schemes costing more than Rs. 5 crores.
- n 2006-07 - Proposed: Rs. 2700 crores; Approved: Rs. 1755 crores

Distribution:

- n 2003-04 (Source: KERC website: Power Data)
- n BESCOM: Rs. 381.61 Crores
- n MESCOM: Rs. 163.94
- n CESC: Formed in 2004 and began functioning in 2005-06
- n HESCOM: Rs. 435.39 Crores
- n GESCOM: Rs. 107.70 Crores
- n 2005-06 (As per ERC) - KERC figures don't match with these
- n BESCOM: Rs. 832.42 Crores (Approved)
- n MESCOM: Rs. 178.52 Crores (Approved)
- n CESC: Rs. 189.92 Crores (Approved)
- n HESCOM: Rs. 341.78 Crores (Approved)
- n GESCOM: Rs. 330.80 Crores (Approved)
- n 2006-07
- n BESCOM: Rs. 1085 Crores (Approved)
- n MESCOM: Rs. 490.49 Crores
- n CESC: 368.72 Crores
- n HESCOM: Rs. 1317.61 Crores
- n GESCOM: Rs. 626.25 Crores



Challenges

n T&D loss:

* As on Dec 2005

* Losses in % of input including EHT sales

Particular	FY03	FY04	FY05	FY06	FY07
As per ERC filing of KPTCL	6.39	6.39	4.87	4.87	4.18
As approved by KERC	6.39	6.00	4.18	4.18	4.06
Actual Transmission Loss	6.83	4.87	4.18	4.12*	

	Distribution Loss Level		
ESCOM	FY04 as per annual accounts	FY05 as per ERC filing	FY06 as approved by KERC*
BESCOM	26.44	23.05	21.00
MESCOM	20.87	21.48	20.50
HESCOM	29.13	27.49	26.37
GESCOM	38.70	37.12	27.05



Regulatory Developments

n 2005-06 - TO 2005

- Standard power purchase agreement formats for NCE
- Amendments to KERC Recovery of Expenditure for Supply of Electricity Regs 2004, Karnataka Electricity Grid Code 2005, Amendment to Tariff Regs 2004, Open Access, Order on Fixed Charges of Tanir Bavi Power Company, Introduction of MYT, Discussion paper on Captive Power, Discussion paper on Competition in Retail Tariff.

n 2004-05

- Determination of Tariff for renewable energy sources, 99 PPA's (of which 49 were approved), Determination of System charges for use of T&D system and cross subsidy charge, Special Incentive Scheme for HT industrial customers, Discussion of Electricity Trading and Elimination of Cross subsidy, MYT, Comments on National Electricity Plan, National Tariff Policy



Regulatory Developments (contd...)

- n 2003-04
PPA's of Almatti Power House and Yelahanka Diesel plant approved. 123 PPA's received for NCE (428 MW): 87 approved, PPA of KPCL hydro stations approved, Benchmarking of ESCOMs, Tariff Amendment Order Dec 2003, Approval of Special Incentive scheme for HT consumers, Power Purchase and Other Cost Adjustment-POCA, Commission disapproves fixed charges of Tanir Bavi being passed through.



Consumer Issues

- n Along with the establishment of KERC, the Office of Consumer Advocacy was setup to protect consumer interests.
- n OCA is headed by a Consultant: Mr. YG Muralidharan; There is also Grievance Redressal Relations Officer as well.
- n Complaints Handling: <http://www.kerc.org/complaints.htm>
- n Publications from OCA: A number of publications are available on the KERC site on issues relating to Review of Standards of Performance for various ESCOMs, Consumer Guide to Electricity Terms, Living Safely with Electricity (English, Kannada) and Consumer Survey Report.
(<http://www.kerc.org/publications.htm>)
- n Further more, Mr. YG Muralidharan had initiated Electricity Consumers Network (ECON). A lot of the work ECON supplements the work of OCA.
- n The Ombudsman at KERC is Mr. Shaik Ahmed (Secretary, KERC) since May 17, 2006. Cases before the Ombudsman are listed on the KERC site.



Quality of Service

n Quality of Service: Electrical Accidents

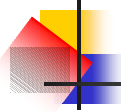
COMPANY	Year	Fatal	Non-fatal	Fatal Animal	Total	Solatium in Rs. Lakhs
KPTCL	FY05	5	25	-	30	-
	FY06	6	24	1	31	0.00
BESCOM	FY05	119	93	87	299	9.07
	FY06	130	64	79	273	82.50
MESCOM	FY05	92	117	146	355	62.44
	FY06	53	71	80	204	4.64
HESCOM	FY05	72	107	131	310	21.28
	FY06	88	82	110	280	46.67
GESCOM	FY05	52	62	196	310	27.62
	FY06	80	61	210	351	1.85
CESC	FY05	-	-	-	-	-
	FY06	59	41	53	153	23.32
TOTAL	FY05	340	404	560	1304	120.41
	FY06	416	343	533	1292	158.98



Quality of Service

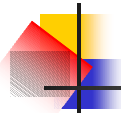
n Transformer Failures (%):

ESCOM	FY03	FY04	FY05	FY06
BESCOM	14.79	12.98	13.27	12.76
MESCOM	18.32	17.81	15.82	15.42
HESCOM	16.99	14.94	15.12	14.38
GESCOM	NA	16.37	21.07	15.64 (End of Third Qtr)
CESC	-	-	22.45	23.94



Issues: Regulatory process

- n Selection of Members of Commission: Prayas observations in this respect continue to hold true.
 - Transparency of short-listing process
 - KER Act does not address justification and final approval of candidates and publicity
- n Transparent and Self reliant
- n Commission minds made up on many issues and hearings are not interactive
- n KERC has been proactive: Tannir Bavi & Transmission Capital Expenditure of Rs. 2700 crores
- n Consumer Participation: 2000-244; 2002-9312; 2006-11,748



Energy efficiency and Renewables

- n Energy Conservation Act, 2001 (BEE-Energy Mgmt Centre)
- n USAID/India and Energy Conservation and Commercialization project
- n BESCO initiates DSM program
- n Energy efficient lighting scheme launched in September 2004 in BESCO (Bangalore Urban District)
- n Full-time DSM cell at BESCO corporate office to administer this program.
- n Solar Water Heaters and other such schemes (Check!)



Renewable Energy: Tariff & Technologies

Issues around NCE projects:

- n Single part tariff
- n Should incentives be factored in tariff determination? No!
- n Return on Equity: 16%
- n Should environmental benefits be factored in tariff? No
- n Wheeling charges, surcharges and banking in the case of third party sales – TBD separately
- n MOD- not applied
- n Old and new projects- Differential tariff

Average Tariff:

- n Mini-Hydel: Rs. 2.80/unit
- n Wind: Rs.3.40/unit
- n Co-Generation: Rs. 2.80/unit
- n Biomass: Rs.2.85/unit



Role of State Govt..

According to Navroz Dubash and Narasimha Rao, government control of utilities remained strong due to structural aspects of state-owned utilities and their operating relationship with government, with fair overlap in oversight with KERC. The Government's proposed privatization structure and the lack of proactive efforts to orient the incumbent government agencies and utilities to the KERC sent mixed signals on the importance government placed in KERC. Taken together, a combination of symbolic and actual infringements on KERC's powers at the outset weakened KERC's legitimacy and alienated them from the rest of the sector. The first Chairperson's perception of his tenure sums up this impact: "the regulatory system is an unwanted child".



Special Issues

- n Franchisees/Rural energy schemes

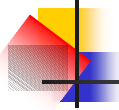
As part of EA, 2003 guidelines have been drafted for decentralised distribution schemes

- 2002: Participatory Rural Energy Services in Karnataka (PRESK)
- 2005-06: Rajeev Gandhi Grameen Vidyutikaran Yojana RGGVY- Scheme of Rural Electricity Infrastructure and Household Electrification; 397 villages
- Four-Five kinds of franchisees to overlook rural electricity supply for revenue sustainability
 - One such franchisee is the Micro feeder franchisee or Grama Vidyuth Prathinidhis: Meter Reading, Billing Distribution and Revenue Collection; 3425 Prathinidhis in 5605 GPs. Revenue collection up 30%
- 90% capital subsidy is provided for overall cost of the projects under the scheme.



Final Thoughts....

- n Agriculture: calculation of power subsidies, Metering of agricultural supply and separating agricultural supply from other rural supply
- n Regulation: E-Act, 2003 does not sufficiently address the restructuring of power subsidies and cross-subsidies (Model: Philippines power restructuring), Appellate Tribunals (AT) (Success/Failure)
- n Economics: Tariff setting (Model: Andhra Pradesh – ‘cost to serve’ methodology)
- n Energy Mix: An Integrated Resources Planning exercise in the present regulatory framework
- n Demand for Power: Power Purchase Agreements (PPA) need to be subject to public scrutiny (Enron fiasco- related studies)
- n Environmental Concern: apart from energy efficiency (saved) and DSM, dependence on fossil fuels needs to be limited (Renewable Portfolio Standard / Public Benefit Charge)
Implementation/ Accountability/ Transparency/ Good Governance



References

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- n Hindu; Deccan Herald

Update on Maharashtra Power Sector

Nikit Abhyankar
Prayas Energy Group
23rd March 2007

Overview of Maharashtra Power Sector

- Mumbai License Area
 - Serviced primarily by TPC, BEST, REL
 - Total no of consumers = 3.5 Million
 - TPC = Bulk Supplier of BEST and REL
 - Generation Capacity
 - TPC = 1774 MW
 - REL = 500 MW
- Rest of Maharashtra
 - Serviced by erstwhile MSEB
 - Total no of consumers = 13 Million
 - Generation Capacity
 - MSEB = 9771 MW
 - Central Sector = 2500 MW

Institutional Status

- ρ MERC established in August 1999
- ρ Erstwhile MSEB vertically unbundled into 3 companies in June 2005
 - η MSEB Holding Company
 - η MahaGenco (MSPGCL)
 - η MahaTransco (MSETCL)
 - η MahaDiscom (MSEDCL)
- è Key Issues
 - η Between 2000 and 2005, MSEB had 5 chairmen
 - η Pay revision offered to unions on the eve of unbundling
 - η Political "Intervention"
 - ρ Energy Minister as Chairman of the Holding Company

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Demand – Supply Scenario

	2001-02	2002-03	2003-04	2004-05	2005-06
Peak Demand (MW)	10119	11425	11357	12749	13602
Availability (MW)	9103	9004	9315	9704	9390
Shortfall (MW)	1016	2421	2042	3045	4212

- Key Issues
 - Large Power Cuts (up to 16 hours per day in rural areas)
 - Highly questionable power shortage claims
 - Increased purchase of high cost short-term power
 - Significant impact on consumer tariff
- è Result of historical planning mistakes

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Generation Capacity Addition

⌘ MoUs with private developers (Mar 2005)

- ⌘ 12,500 MW capacity with an investment of 50,000 Cr
- ⌘ MoUs signed without MERC approval
- ⌘ No legal sanctity to these MoUs
- ⌘ No realization till date

⌘ Future Capacity Addition

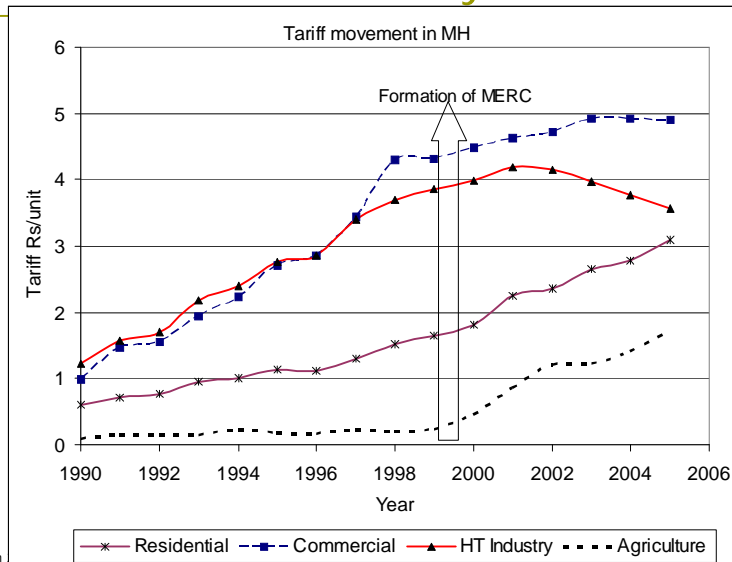
- ⌘ More than 10,000 MW planned in next 5 years
- ⌘ No Demand Forecast !!

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Tariff movement over years



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Tariff Structure

- p Different tariff structure by MERC in every order
 - n T & D Loss Charge (2002)
 - n Regulatory Liability Charge (2004)
 - n Additional Supply Charge (2006)

- è Increasingly complicated bills
 - n For Example, Additional Supply Charge
 - n Need for a straight forward tariff structure especially for small consumers

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Capital Investments ...1

- p Huge Capital Investments planned
 - n MahaDiscom = 20,000 Cr in next 3 yrs
 - n MahaTransco = 13,000 Cr in 3 yrs
 - n MahaGenco = 32,000 Cr in 5 yrs
 - è Total tariff increase of about 12,000 Cr per yr !

- n REL planning for 3218 Cr in 3 years
 - p Addition of 8000 km of 11 kV line in current 2444 km
 - p Addition of 19,000 new DTs in current 4002

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Capital Investments ...2

- è What is Needed ?
 - è Rational, careful and critical scrutiny of the CapEx data
 - è Third party audit of such voluminous information
 - è Extremely crucial in the context of upcoming MYT

Regulatory Proceedings ...1

- p Appointment of 4 Consumers Representatives (CRs)
 - n According to Section 26 of the E-Act 2003
 - n CRs are invited to participate in every case heard by MERC
 - è A good practice to encourage consumer participation in the regulatory process

Regulatory Proceedings ...2

- ⌘ Tariff Proceedings at MERC
 - ⌘ Utility files ARR with MERC
 - ⌘ Same ARR is also sent to CRs
 - ⌘ CRs submit data inconsistencies, additional data requirements
 - ⌘ Technical Validation session in presence of CRs
 - ⌘ Cross questioning with utility top management
 - ⌘ Utility submits final ARR with additional data to MERC
 - ⌘ The ARR is made public
 - ⌘ Public Hearing at 6 locations in the state
 - è Need for more informed public participation

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Important Orders by MERC

- ⌘ Amendment / Supplementary Bills
 - ⌘ Consumers received supplementary bills based on readings of the new meter (all licensees)
 - ⌘ Licensees were directed to refund about 200 Cr back to consumers
- ⌘ Average Bills
 - ⌘ Consumers were receiving Average bills on a continuous basis (MSEB)
 - ⌘ MSEB was directed to refund about 275 Cr back to consumers
- è Both orders set aside by ATE
- è Appeals pending in the Supreme Court

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Quality of Supply and Service

- ⌘ Supply Code and Standards of Performance regulations enacted
 - ⌘ Very weak data collection and performance monitoring systems
 - ⌘ Need substantial improvement
- ⌘ CGRFs / Ombudsman started operations
 - ⌘ Some CGRFs have proactively taken up consumer issues

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Renewable Energy in Maharashtra

- ⌘ Promotional tariffs offered to renewable sources
 - ⌘ Wind = 3.5 Rs/kwh increasing @ 15p/kWh every yr
- ⌘ Renewable Portfolio Standards
 - ⌘ Aggressive targets set for RE generation
 - ⌘ Increase in total RE generation from 1700 MUs (2006) to 6900 MUs (2010) in 4 years
 - ⌘ Every utility has to purchase at least 6% of energy from renewable sources by 2010

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Other Issues

- Pune – CII Model
 - Important institutional issues such as Urban-Rural divide etc
 - Sets a precedent for very high cost power purchase
 - Diverts the policy focus on long-term planning
 - Other low cost alternatives are not considered

- Akshay Prakash Yojana
 - A community initiative to tackle with power shortages
 - 5000 villages are covered under the scheme
 - Has great potential to be implemented in other states

THANK YOU!



STATUS OF THE TAMIL NADU POWER SECTOR

Dr. R. Hema
Madras School of Economics

Workshop for Civil Society Institutions
Mar 22-23, 2007
Prayas, Pune

Institutional Status

- There has been no unbundling and privatization of the sector; TNEB is the statutory monopoly responsible for the distribution, transmission and a significant part of the generation in the state.
- The Tamil Nadu Electricity Regulatory Commission was set up in 1999 and became fully functional in 2002
- The TNERC has assumed all the responsibilities assigned to SERCs as per the EA 2003

TNEB's Performance

- Tamil Nadu had a total of 13,656 MW of installed capacity available at its disposal as on Oct 2006: TNEB – 41%, Contracted with central government and others – 25%, private sector – 34%. Renewable resources had a share of 26% in this installed capacity (private sector wind accounting for 23% in this)
- There is currently no *major* demand –supply imbalance in Tamil Nadu; there are no scheduled power cuts or load shedding; unscheduled power cuts do occurs but not too disruptive
- During 2005-06, TN was estimated to have a peak demand shortage of 8.6% and an energy shortage of 0.6%
- Technical operational efficiency of TNEB has good ratings; AT&C less than 20%
- Financial status, cause for concern; incurred a loss of around Rs. 1000 crores **after** the government subsidy, during 2003-04 and 2004-05
- TNEB is slated to significantly expand its thermal (coal) generating capacity as also its share in NTPC and NPC projects during the Eleventh Plan

Regulatory Issues

- Regulatory ratings given to TNERC by a CAG study is an overall 70%
- Break-up of this into ratings for the following aspects:
 - Capacity – 77%
 - Transparency and Information – 51%
 - Accountability and Redress – 90%
 - Participation - 53%
- Regulatory process follows the letter of law more than the spirit of law

Renewable Sources

- Tamil Nadu has a long history of wind energy promotion by the state government
- As of October 2006, the installed capacity of renewable sources accounted for 26% of the total
- Energy generation from renewable sources in the state accounted for 10% of TNEB's consumption
- TNERC in its May 2006 Order has required that a distribution licensee must purchase 10% of its energy from renewable sources

Energy Efficiency

- No pro-active measures taken either by the TNEB, or TNERC to promote energy efficiency

Key Challenges and Options

- **Is unbundling mandatory at this stage?**
 - Financial viability, shortage of supply
 - Potential for competition when privatized
 - Transaction costs of new arrangement versus inefficiency costs of monopoly
 - Advantages of vertical integration

- **Can we have an alternative approach?**

- **Devise appropriate incentive compatible mechanisms**
 - Ø Keep the entity vertically integrated, provide complete autonomy, make it fully accountable and subject to strong pro-active **independent** regulation
 - Ø Streamline the subsidies mechanism so that negative externalities of all sorts are minimized
 - Ø Provide 'efficient' incentives to promote renewable resources and energy efficiency
 - Ø Choose appropriate form of tariff regulation that would actively promote efficiency

Role of CSIs

- **Can significantly contribute by regulating the regulatory process in the following aspects**
 - ∅ Institutional arrangements in the power sector
 - ∅ Least cost capacity expansion and operation
 - ∅ Incentive mechanisms for supply-side operational efficiency as well as energy use efficiency
 - ∅ Raising the share of renewable resources to socially optimal levels
 - ∅ 'Efficient' and sustainable subsidies

Thank You