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Electricity Market in India

- November 10, 1897: Sidrapong 600 KW (3x200KW) the first major HEP in Darjeeling commissioned

- Installed capacity reached 1574 MW in 1947, the year of Indian independence

- Power generation and supply remained an individual initiative till 1910
Major legislations

- Indian Electricity Act 1910 - first step to regulate electricity business in the country
- Private power utilities: CESC, AEC, Surat Electricity Company, Tata Power emerged after the introduction of Indian Electricity Act 1910
- Power Departments in the State governments managed the electricity business
- Electricity (Supply) Act 1948 laid the foundation for the aggregation of small electricity utilities in to SEBs
- Electricity business nationalized (but Major private licensees retained distribution of electricity in urban areas)
- Electricity is a concurrent subject under the Constitution (Both Central and State governments legislate on electricity matters)
Electricity Supply Act 1948

- ES Act 1948 encouraged running of electricity business on commercial principles
- SEBs were set up in most of the states barring a few small ones
- Initially all investment requirements were met by governments through budgetary support
- Resource constraints at State level lead to setting up of Central Power utilities (BBMB, DVC, NTPC, NHPC, REC, NEPCO, NPC, etc.,)
- SEBs initially performed well but performance deteriorated in subsequent years hence unable to meet the demand
Need for Reform

- SEBs earned negative returns against statutory requirement of 3% ROR on Net Fixed Assets as per ESA 1948

- Irrational tariff lead to large gap in average cost of supply and average tariff

- Large subsidy requirements resulted in State governments defaulting in subsidy payments

- Unsatisfactory Capital structure with poor financial management worsened the situation

- Poor operational performance lead to high T&D Losses and loss of revenue

- Highly subsidized tariff to domestic consumers and agriculture sector (in some cases free power to agriculture)

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Need for Reform

- Heavily debt oriented capital structure resulted in sharp increase in the cost of interest payments in the total cost of supply.
- Lack of funds resulted in poor maintenance of the power systems.
- As a result PLF and availability declined sharply.
- Non availability of finances delayed project execution and resulted in time and cost overruns.
- Receivables rose to high levels resulting in SEBs defaulting in payments to CPSUs, Coal utilities.
- Frequency of tariff revisions became very low.
- Transmission and distribution losses exceeded 50% in several states.
Key Reform Initiatives Over Past Decades

- Private Power Initiative of GOI opened power generation to private sector in March 1991

- The CERC Act of 1998 laid the basis for creation of an independent regulatory regime in the country

- Central Electricity Regulatory Commission at the national level and SERCs in several states were created

- Unbundling of the SEBs initiated through Sate legislations

- Transmission segment opened to private participation in 1998

..........continued
Key Reform Initiatives Over Past Decade

- Open Access on transmission systems provided for

- Comprehensive Reform Act covering all the major aspect of electricity business passed under the name - Electricity Act 2003

- Hydropower Initiative to exploit 50,000 MW potential initiated

- Ultra Mega Power Projects Policy initiated recently

- GOI encouraged states to reform power sector with liberal incentives under the APDRP and other centrally sponsored schemes

- Fiscal incentives through tax concessions/slashing of duties

- SEB dues securitized through issue of power bonds
Objective of Reform Initiatives

- Downsize utilities to manageable levels to enhance efficiency
- Increase availability through private sector participation
- Bring competition through multiplicity of players
- Independent regulation to ensure fair play
- Remove transmission bottlenecks by facilitating open access
- Encourage power trading in the country
- Privatize utilities where ever feasible
Current Status

- Installed capacity:
  - utilities : 141,080 MW (as on 31.01.08)
  - Captive : + 60,000 MW (31.1. 2008)

- Overall generation touched 662.52 billion units (2006-07)

- Overall PLF reached 77.7% (2007-08)

- Energy shortages have gone up from 8.1% in 1997-98 to 9.6 % in 2007-08

- Peak shortage increased from 11.3% in 1997-98 to 15.2% in 2007-08
## Demand Supply Scenario

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<th>Year</th>
<th>Generation (Bu)</th>
<th>Energy Requirement (MU)</th>
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<th>Energy Shortages (MU)</th>
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* up to January 2008
Power Supply Position – Energy
Thank You !