

Strategies for Growth in Transmission & Developing Power Market

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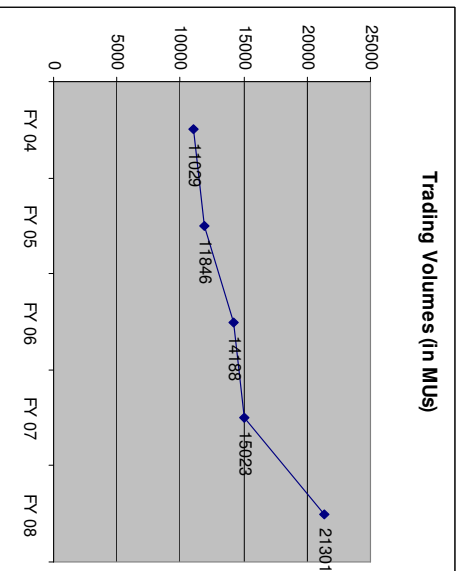


Power Trading Scenario In India



- Still a nascent market
- Volume of short term bilateral trading is still low (about 2.5% of energy generation)
- Low supply, high demand
- Slow growth, intense competition
- About 40 Inter-State Trading Licenses issued by CERC
- Total short term market approximately 21 billion units* in 2007-08
- Day ahead trading on PX operational

* Includes cross- border (about 25%)



Innovative Products, Services



- The viability of power trading as a business concept is well established
- Different products brought in the market
- Comfort to developer of power projects –by addressing **market risks**
- Comfort to lender – by addressing **credit risks**
- Encouraged **commercial orientation**
- A **catalyst for private investment** in the sector



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Traders are Market Makers



- The role of traders in competitive markets is a critical and sensitive one
- Traders do enrich markets exponentially by
 - Adding liquidity
 - Skillful arbitrage
 - Providing new ways to mitigate risks
 - Facilitating the attraction of capital to the generation sector
 - Adding transparency and
 - Enhancing the efficiency of the overall market

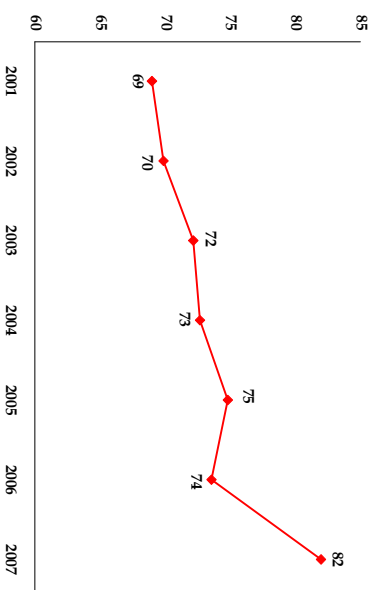


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Benefits of Trading (1)



- ⇒ Created 'value' for power
- ⇒ Increasing realization among utilities of power as a source for revenue earning
- ⇒ **Example: West Bengal could bring power sector transformation**
- ⇒ Improved PLF
- ⇒ No backing down
- ⇒ Reduction in load shedding
- ⇒ Even Transmission interconnections
- ⇒ usage improved considerably



Trading results in optimization of resource utilization

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Benefits of Trading (2)



- The **market determined prices** in the short term market encouraged IPPs to invest in generating assets including merchant capacity-
 - No sovereign/government guarantee
- PTC has entered into long term PPAs 11,000 MW / MoUs for around 30,000 MW
- > 75,000 MW under development by IPPs without any Government support
- States Governments of Chhattisgarh, Jharkhand, Orissa, Himachal Pradesh, J&K, Uttaranchal, etc. have recognized “**Power as Resource**”
- Planned rapid capacity additions – **have devised policies to become Power Hubs**
- Power market has in fact become a catalyst for private investment in power sector

A paradigm shift from Cost plus return regime to “market determined returns”

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EA 2003 and enabling provisions on Power Market



- **Electricity Act 2003**
 - The intent and object of the EA 2003 is to develop power market through increased competition, more players and protect consumer interests
 - Development of Power Market – EA 2003, Section 66, “The Appropriate Commission shall endeavor to promote the development of power market...”, **guided by the National Electricity Policy**
 - Suitable **safeguards to prevent adverse effect on competition**
 - Recognized Trading as a distinct activity
 - Definition under section(2) (47): **“Purchase of electricity for resale thereof”**
 - Adequate and progressive provisions governing open access both :
 - to transmission networks (inter-state and intra-state) and
 - to **distribution networks**

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National Electricity Policy on Power Market



- **National Electricity Policy 2005 – Para 5.7**
 - “ To promote market development, **15%** of the new generating capacities, be sold outside long term PPAs’ .
 - As the power markets develop, it would be feasible to *finance projects with competitive generation costs* outside the long term PPAs...this will increase the depth of power markets...and in long run would lead to *reduction in tariff*”
- **Ministry of Power**
 - A progressive ‘ **Merchant Power Policy** ’ with a view to add 15,000 MW capacity by 2011-12

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Indian Power Market: Salient Features



- The wholesale market for electricity in India is completely **voluntary** by design - that none of the market participants are obliged to operate through a restricted and compulsory market.
- This is because the **buyer is free to choose from any of the following options:**
 - Long term PPA based mechanisms
 - Medium Term
 - Short term bilateral trades
 - Day ahead market (through the power exchange)
 - Real time mechanisms (UI)
- **Even the real time arrangements are completely voluntary**, since the UI mechanism permits frequency to float within a range, providing tremendous flexibility to market participants.
- Further, the rules regarding **standards of supply are more liberal**, permitting greater flexibility to utilities on demand side response.

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PX and Direct Bilateral : Some Interesting Facts



- IEX commenced operation with effect from 28th June, 2008
- A simple review of the operational figures up to November 2008 would show
 - Total Purchase Bids received: 5307 MUs
 - Total Sale Bids received: 2182 MUs
 - Market Clearing Volumes 1412 MUs
- Purchase bids are almost 2.5 times the supply (Shows more demand than supply)
- 65% of the sale bid only got cleared by the market
- This establishes without doubt that the **buyers are exercising their choice**
- Direct Bilateral trades are also entered into mostly through competitive biddings - for example - in FY 2007-08 more than 80% of PTC domestic traded volumes was through **competitive bidding**
- Prices are reflective of what market can absorb and **higher prices than market expectations result in non-scheduling of power**

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Strategy for developing power market (1)



- **Main thrust of the Electricity Act 2003 is competition, power market development and consumer protection** -it has many enabling provisions
- National Electricity Policy and Integrated Energy Policy supports development of power market
- Key issues are:
 - Implementation
 - Governance
 - Timeframe
 - Certainty
- Strategy should be to speedily implement key provisions within given time frame and maintain policy and regulatory certainties

Competitive Power Market is in the **long term interest** of the consumers!

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Strategy for developing power market (2)



- Margin Cap since the year 2006 needs to be removed
 - Not yielded the desired benefits ! In view of CERC itself
 - Market stagnation -Low risk appetite
 - SC hearing the matter related to margin cap
- Uncertainty in Long term contracts regarding trading margin need to be addressed
 - LT → ST/ LT → MT / LT → LT
- Ban on 'Trader to Trader' transactions - to be lifted (Sub-judice)

EA 2003 has enabling provisions and **not restrictive!**

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Strategy for developing power market (3)



- There are moves by CERC to further regulate the power market through **'Price Cap'** - a staff paper has been put up and public hearings made
- CERC had earlier termed such move as **retrograde step** when the country is moving towards **"market"** and commercial approach, and would introduce avoidable distortions
- There is also a separate move to regulate traded power by amending section 62 provisions of EA 2003

Clear sign of commitment required- no such retrograde steps !

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Strategy for developing power market (4)



- **'More Volumes on the power market':**
 - Bring unallocated quota on PX or bilateral trading mechanism
 - Allow captives / small generators/REs/industry /SEZs other segments 100% open access
 - Third party open access by TNEB is a welcome move! – Can open up embedded generation, RE, Bio-mass, etc.
- **Open Access to be mandatory**
 - To be denied only on grounds of forced outage/planned outage/congestion
 - Surcharge / cross-subsidy charge to be minimal and not against competition or open access

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Strategy for developing transmission (5)



- **Sufficient transmission capacities required for a vibrant power market**
 - To cater adequately to market requirements
 - Redundancy
- A need for paradigm shift in transmission planning/asset creation
- As market will deepen and expand, there will be need for robust transmission system to move power in any direction
- Utilities/ market players would be getting less inclined to sign > 25 years life long contracts
- Merchant generation capacity is growing
 - Short term to medium term TSA
 - Trend in developed countries
- Services to be paid -
 - Can transmission companies also start taking some market risks?
 - Government to initially support network expansion through 'viability gap funding'
 - **Mechanism to be developed to recover investment over a long term**



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Learning from developed power markets (1)



- Learning from successful power markets and adopting what is *good* for us
- IEA Report : **Lessons from Liberalized Electricity Markets 2005**
 - Electricity Market Liberalization has *delivered considerable economic benefits, is in the long term interests of the consumers*
 - It is *not an event* but a long process
 - Requires strong and sustained **political commitment**, extensive and detailed **preparation** and **continuous development**
 - Government has a **critical but fundamentally changed role**
 - At difficult junctures –often expressed by **not intervening** can lead to necessary market responses
 - Provides clear trend of falling/stable wholesale prices for industrial consumers
 - Existing power plants are used more efficiently
 - Increase in labour productivity
 - More dynamic and enhanced usage of transmission assets –often resulting from increased trade across jurisdictions

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Learning from developed power market (2)



- IEA Continued....
 - **Transparency is prerequisite** for developing competitive market- by improving the decision-making framework for all actors- policy makers, industry and consumers alike
 - A formal framework and level playing field is not enough – competition will flourish only if **multiple players** compete in the market
 - Establishing **truly** independent and committed regulators and system operators precedes a competitive framework
 - Price signals direct decisions in the marketplace:
 - **Efficient decisions depend on correct signals** i.e. price signals that reflect the real costs, benefits and value of producing, transporting and consuming electricity
 - **Blurring price signals with price caps slows market responses in short-term operation and longer term investment.**
 - Removing barriers to retail-switching and active demand participation empowers consumers
 - **Efficient incentives for investment are critical** – transparent and smooth approval procedures- permission to build
 - **Minimizing regulatory uncertainty** is key to creating a framework for timely and adequate investment

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Power Market –Ripple Effect



Power trading share is 2.5% of India's total energy generated – but its indirect impact on the power sector is several times bigger

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