



ASSESSMENT OF COMPETITION IN INDIA'S ENERGY SECTOR (Electricity, Oil & Gas and Coal) Phase II

The Energy and Resources Institute

November 7, 2006



Competition in India's Energy Sector

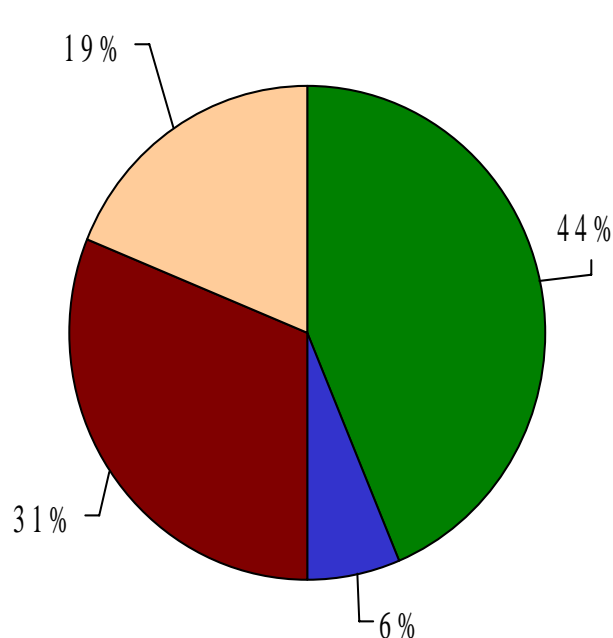
Why needed

- Increasing Demand-Supply Gap
- Massive Investment Requirements
 - Gap between required and envisaged investment
 - Shortfall in utilization of plan outlay

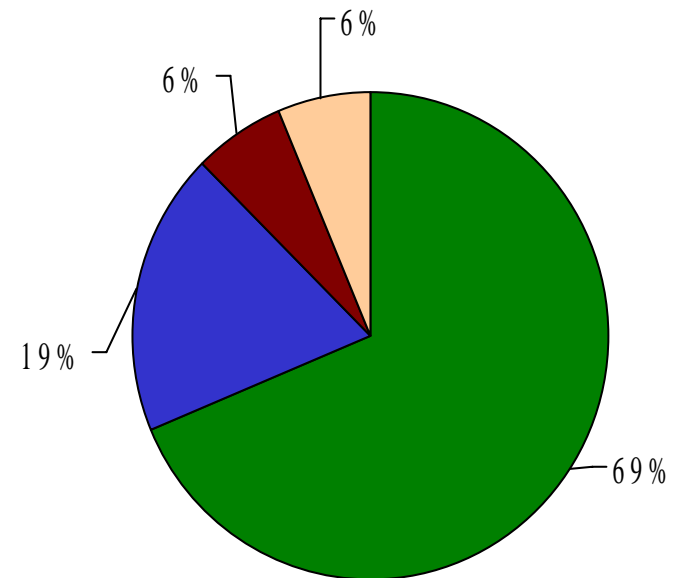
Actual < Planned < Envisaged < Desired Investment
- Potential benefits from competition

Competition in India's Energy Sector Perception Survey [1]

- Survey conducted in October 2006
- Total Number of Respondents (till date): 16



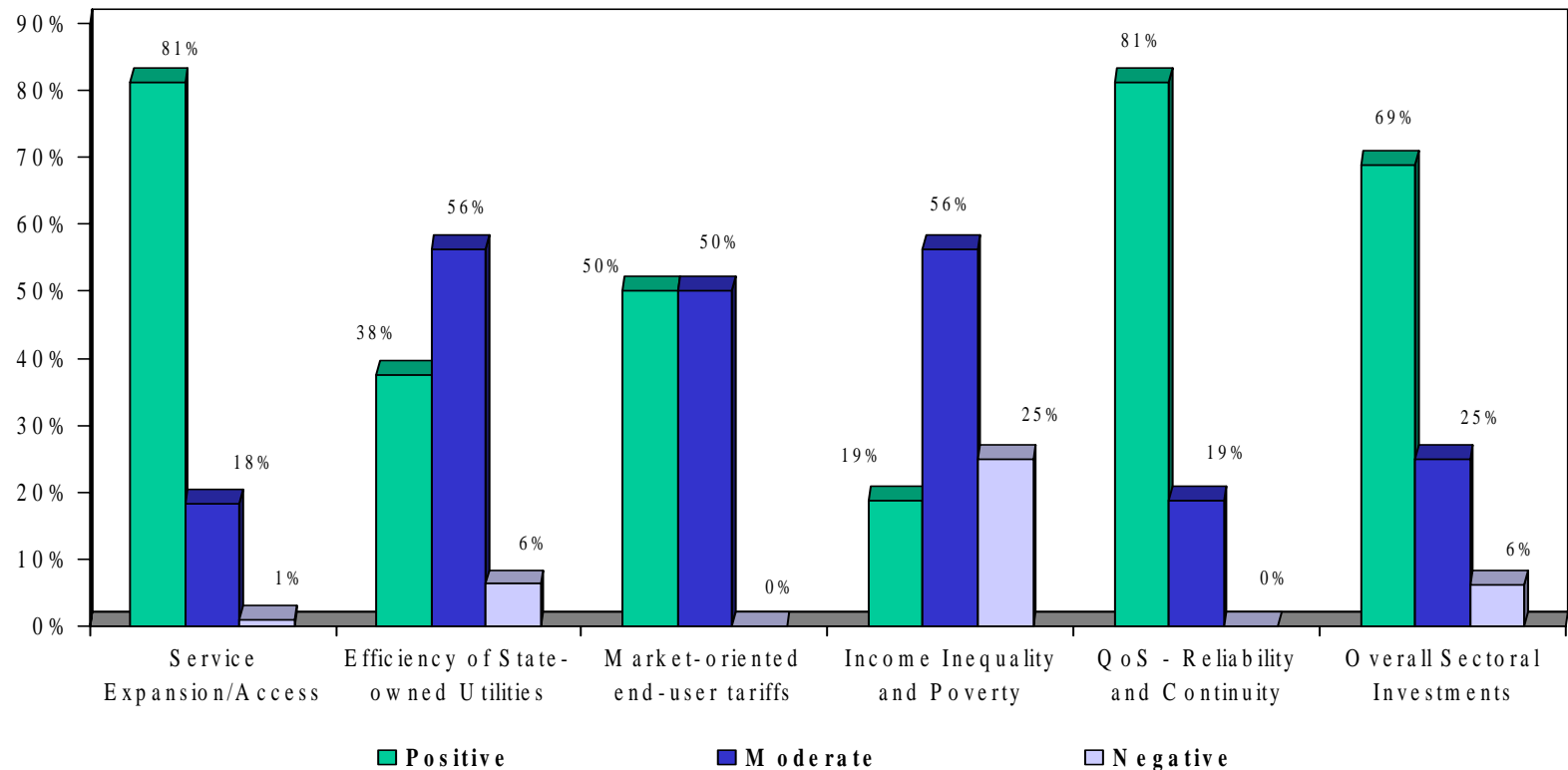
■ Electricity Sector ■ Oil & Gas
■ Energy Conglomerate ■ Miscellaneous



■ Private Utility/Service Provider
■ Consultants/Think-tanks/Research Institutions
■ Bank/Financial Institutions
■ PSU s

Competition in India's Energy Sector Perception Survey [2]

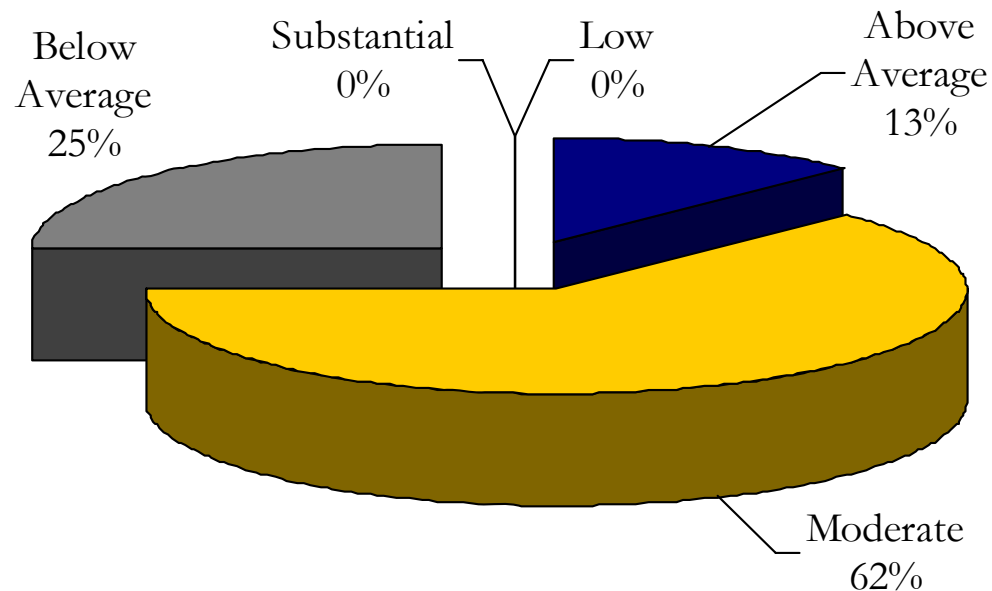
Benefits from Competition



Service Expansion/Access and QoS, Overall Investments viewed as major benefits from Competition

Competition in India's Energy Sector Perception Survey [3]

Progress towards deregulation and greater PSP



Majority of the respondents term the progress 'Moderate'

Competition in India's Energy Sector Perception Survey [4]

Existing level/Likelihood of Competition

Electricity Sector	
Generation	Moderate (56.3%)
Transmission	Limited (75%)
Distribution and End-user supply	Limited (68.8%)
Oil & Gas Sector	
Exploration and Production	Moderate (42.9%)
Oil Refining and Marketing	Moderate (64.3%)
Crude and Product Pipelines	Limited (42.9%)
Gas Transportation and Marketing	Limited (87.5%)
Coal Sector	
Exploration and Production	Limited (80%)
Transportation	Limited (60%)

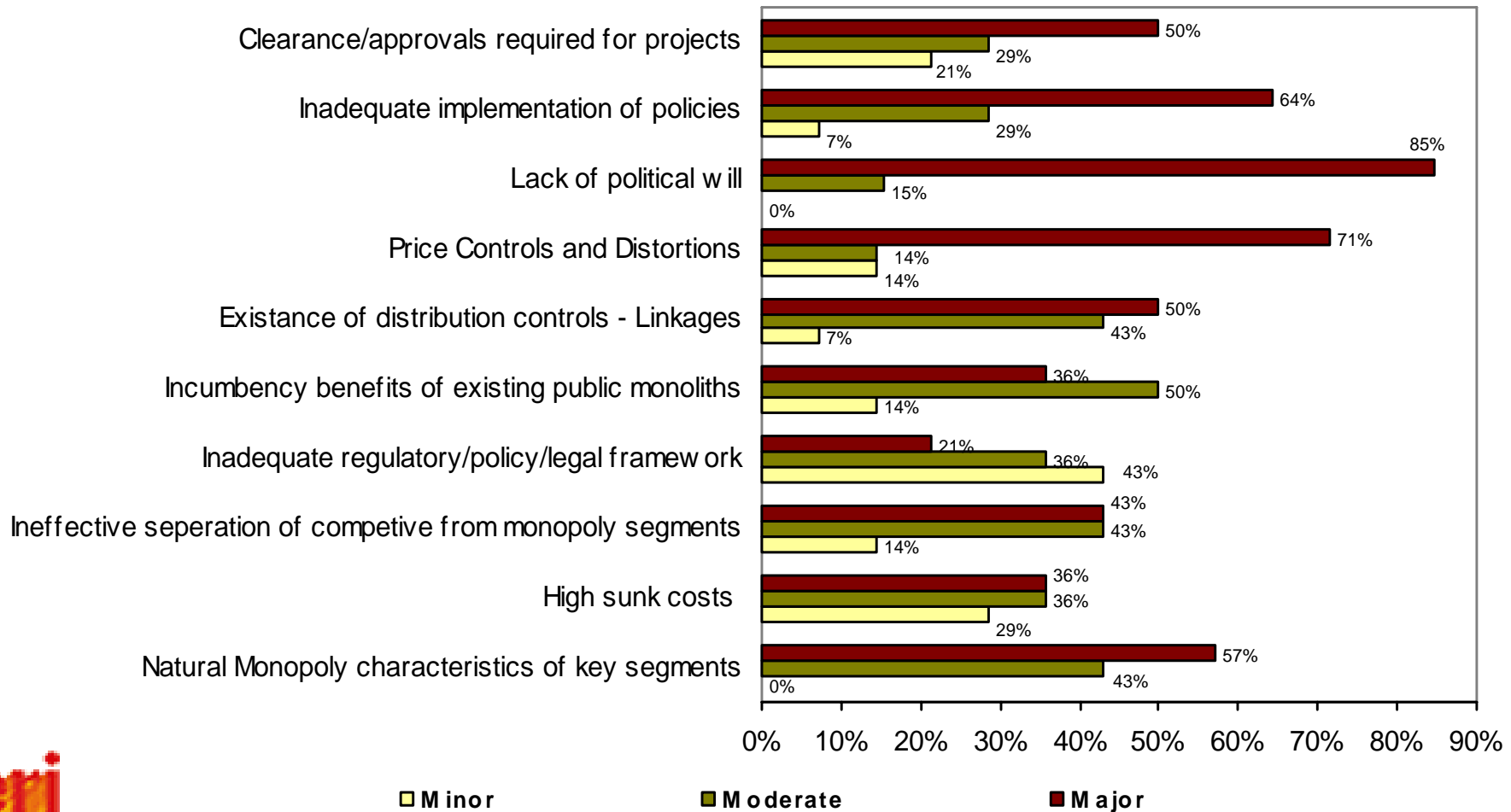
High


Moderate

Limited

Competition in India's Energy Sector Perception Survey [5]

Barriers to Competition





Competition issues in India's Electricity Sector



Market construct of Electricity Act 2003

Preamble of Act

- aims to promote competition, protect interest of consumers while supplying electricity to all areas, rationalize electricity tariff, ensure transparent policies regarding subsidies and provide an enabling regulatory environment

Competition enabling provisions

- Delicensed generation
- Freedom for captive generation
- Recognition of trading as an independent activity
- Open access in transmission at the outset and in distribution in phases
- Multiple distribution licensee in a supply area
- Unbundling of SEBs by a stipulated date



National Electricity Policy

Competition enabling provisions

- Facilitating grid interconnection for captive generation on priority basis
- A part of new generation facilities (say 15%) may be sold outside long-term power purchase agreements (PPAs)
- Amount of surcharge and additional surcharge should not be onerous that it eliminates competition
- Efforts to move from a cost plus tariff regime to tariffs being determined by competition



Tariff Policy

Competition enabling provisions

- All future requirement of power should be procured competitively by distribution licensees
- Tariff for all new generation and transmission projects should be decided on the basis of competitive bidding
- Multiple players will enhance the quality of service through competition and all efforts will need to be made to bring power industry to this situation as early as possible in the overall interests of consumers

Role of regulators in bringing about competition

S.No.	States	SERCs	Unbundling of SEBs	Open Access	Cross-subsidy surcharge	Trading	Multi-year Tariff
1	Andhra Pradesh	APERC	√	√	√	√	√
2	Assam	AERC	√	√	√	√	
3	Chhattisgarh	CSERC		√	√		
4	Delhi	DERC	√	√			√
5	Gujarat	GERC	√	√	√	√	√*
6	Haryana	HERC	√	√	√	√	
7	Himachal Pradesh	HPERC		√		√	
8	Jharkhand	JSERC		√	√	√	√ (draft)
9	Karnataka	KERC	√	√	√	√	√ (draft)
10	Kerala	KSERC		√	√		√ (draft)
11	Maharashtra	MERC	√	√	√	√	√
12	Madhya Pradesh	MPERC	√	√	√	√	√
13	Orissa	OERC	√	√	√		√*
14	Punjab	PSERC		√	√	√ (draft)	
15	Rajasthan	RERC	√	√	√	√ (draft)	
16	Tamil Nadu	TNERC		√	√		√*
17	Uttaranchal	UERC	√	√	√		
18	Uttar Pradesh	UPERC	√	√			
19	West Bengal	WBERC		√			



Competition issues in India's electricity sector [1]

Unbundling/ corporatization

- Presently the electricity sector in India is a combination of vertically integrated utilities and unbundled SEBs
- Process of unbundling SEBs is highly political in nature; depends on the political acceptability and level of regulatory effectiveness in the state

Trading


- Presently quantum of electricity traded is minimal; approximately 3% of total power
- Overcoming problems of transmission congestion can substantially boost electricity trading volumes



Competition issues in India's electricity sector [2]

Open access and cross subsidy surcharge

- Importance of regulatory effectiveness
- Importance of pricing/ mechanism for computation of surcharge for gradual elimination of cross subsidies
- Hindrances to effective Open Access
 - Transmission congestion
 - High levels of cross subsidy surcharge



Competition issues in India's electricity sector [3]

Multi-year Tariff (MYT) framework

- Data-uncertainty and lack of credible baseline data
- Necessity of clear demarcation in utility's generation, transmission, distribution activities
- Appropriate design of incentives/ penalties
- Need to outline an appropriate mechanism of sharing gains/ losses
- Need for benchmarking studies by the Commission to evaluate Utility performance in order to establish normative benchmarks



Competition and rural electricity coverage [1]

Facilitating measures

- **Electricity Act 2003**
 - Provides flexibility for offering distribution function by a distribution licensee to another person without a separate license
 - Permits generation and distribution of electricity in rural areas without a license
 - Emphasis on national policy for stand alone systems for rural areas and national policy on electrification and local distribution in rural areas
- **Rural Electrification Policy**
 - Notified by GOI on August 23, 2006
 - Emphasis on competitive market forces to ensure reasonable prices and selection of franchisees on the basis of competitive bidding, among other provisions

Competition and rural electricity coverage [2]

Issues/Observations

- Six Indian states are yet to electrify more than 75% of rural households (Bihar, Jharkhand, Assam, Orissa, Uttar Pradesh and West Bengal)
- Possible correlation between states having greater poverty and HDI deficiencies to low rural electricity coverage; e.g. Uttar Pradesh, Jharkhand and Bihar
- Increasing emphasis on public-private-partnership in rural electrification projects in states through Government initiatives such as the Rajiv Gandhi Grameen Vidyyutikaran Yojana (RGGVY)



Competition issues in India's Electricity Sector - Perception Survey [1]

Impact of Competition enabling provisions of EA 2003

Major – Delicensed Generation, Freedom for Captive Generation and Electricity Trading

Moderate – Open Access and Rationalization of Tariffs

Progress on competition-enabling parameters	Major	Moderate	Minor
Transmission capacity – Availability & Pricing			√
Financial viability of distribution licensees			√
Availability & pricing of fuels			√
Rationalization of end user tariffs			√
Ensuring level playing field in the market		√	
Developing a strong regulatory oversight		√	
Institutional capacity of ERCs		√	



Competition issues in India's Electricity Sector - Perception Survey [2]

Clearance/Approval Mechanism impacting cost of operation: Need for Reforms

- ✓ Pollution/Forest/Water Availability Clearances
- ✓ Land Availability Clearance from State Government
- ✓ Fuel Linkage Clearance from GoI Departments

Barriers to Competition

- Absence of political will and political interference
- Lack of macro-management approach of the regulators
- Pricing for fuel inputs to the electricity sector
- Lack of adequate supporting infrastructure

Competition issues in India's Oil & Gas Sector



Competition in Oil & Gas Sector

Major Competition Issues

Structural

- Dominance of PSUs in the Petroleum Sector
- GAIL - Monopoly in gas transmission

Policy

- Investment of Rs. 2000 crores to enter marketing of transport fuel
- Government control on prices
- Retail pricing of petrol, diesel and LPG below IPP pricing
- Subsidies



Pre and Post NELP

Pre-NELP

- Private participation introduced by providing licenses in 1979
- Second half of 1980s: Nine contracts signed for offshore exploration
- Licensing rounds held between 1979-1995:
 - Investment of just 2 billion dollars

Post-NELP

- Foreign participation upto 100%.
- No minimum expenditure commitment during exploration period
- No carried interest by National Oil Companies (NOCs)
- Income Tax Holiday for 7 years from start of commercial production
- No customs duty on imports for petroleum operations.
- Biddable cost recovery limit upto 100%
- Freedom to contractor for marketing of oil & gas in domestic mkt.
- Companies are free to bid for any number of blocks



Impact of NELP

Increase in private participation

- Under 5 rounds, 108 blocks awarded
 - 52 blocks to private companies & Joint ventures
- Significant discoveries by private players
 - Reliance discovery in KG Basin: 14 TCF (2002)
 - Cairn discovery in Rajasthan 3.6 billion barrels of oil and oil equivalent
- Private exploratory investment 3 times larger than the PSU investment
- Under the first four rounds of NELP, till March 2005, the total investment received was around 1679.57 Million USD



Possible policy concerns in NELP

- **Stress on work programme criteria**
 - Bidders may overstate investment to win blocks
 - May lead delayed exploration
- **Duration of tax holiday**
- **Anomaly in treatment of profit gas/ petroleum under a joint venture**
 - Complete profit share accrues to the Centre



Petroleum and Natural Gas Regulatory Board (PNGRB) - Scope [1]

“ Applies to Refining, Processing, storage, transportation, distribution, marketing and sale of petroleum and petroleum products and natural gas excluding production of crude oil and natural gas”

- ✓ Protect the interests of consumers and entities
- ✓ Ensure uninterrupted and adequate supply
- ✓ Promote competitive markets



PNGRB - Functions and Powers [2]

- Authorise/declare pipelines as common carrier or contract carrier
- Regulate, by regulations
 - Access to common carrier or contract carrier and to city/local natural gas distribution network through pipeline access code
 - Transportation rates for common carrier or contract carrier

Marketing of Petroleum & Natural Gas

- Ensure adequate availability
- Ensure display of maximum retail prices at retail outlets
- Monitor prices and take corrective measures to prevent profiteering by entities
- Secure equitable distribution
 - Enforce retail service obligations for retail outlets and marketing service obligations for entities



PNGRB - Concerns [3]

- **Limited role in pricing of petroleum products & natural gas**
 - Restricted to monitoring of present prices
 - Role only in determining transportation tariff for natural gas pipelines
- **Effective competition will depend upon the effective working of the regulator**, especially on issues like Retail Service Obligation, Market Service Obligation, Common carrier/Contract carrier and Affiliate Code of Conduct

Competition issues in India's Oil & Gas Sector - Perception Survey [1]

Impact on Competition	Substantial	Moderate	Below Average
Absence of freedom to set prices	√		
Lack of independent regulator			√
Non-level playing field for private players	√		
Minimum guarantee requirement to permit marketing of transport fuels		√	
Monopoly of NOCs in Aviation Fuel			√
Marketing of subsidized LPG & Kerosene by NOCs	√		

Impact of key policies

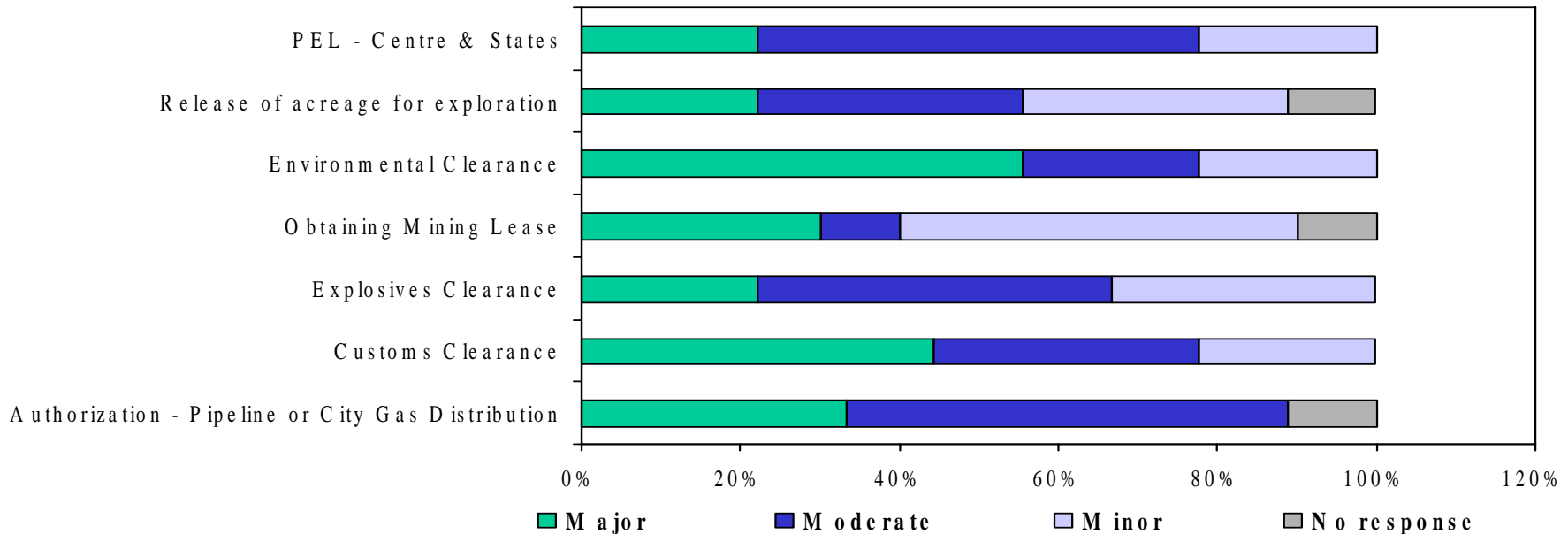
Dismantling of APM – Positive: 66%, Negative: 34%

New Exploration Licensing Policy: Positive: 80%, No response: 20%

PNGRB Act – Positive: 78%, No response: 18%

Competition issues in India's Oil & Gas Sector - Perception Survey [2]

Clearances/Licenses - Need for reforms



Barriers to Competition

- Continued government control on product pricing
- Inadequacy of pipeline infrastructure
- Existence of NOCs as dominant players across all segments
- New downstream regulator lacks price-fixing powers

Competition issues in India's Coal Sector

Competition in the Coal Sector

Structural Issues

- Monopoly structure of the coal industry
- High sunk cost involved in investment
- Incumbency benefits to the existing players

Recent Initiatives: Illustrative list

- Import of coking and non-coking coal
- Allocation of coal blocks proposed to be released from CIL's kitty
- 100% FDI in Captive Mining
- Allowing state PSUs to form JVs with private players

Coal Sector - Public Policy Issues [1]

- **Archaic policy/legal framework**
 - Prospecting and mining license
 - No ML, PL required for Government owned/controlled entities.
 - Exemption not extended to private players.
 - Exploration
 - Private participation not permitted.
 - High upfront cost for geological information to potential investors.





Coal Sector - Public Policy Issues [2]

- Land Acquisition
 - Only PSEs allowed to acquire land under Coal Bearing Areas (Acquisition and Development) Act, 1957
- Land acquisition for public purposes
 - No restriction for PSEs
 - Restrictions on private companies: can be used only for dwelling houses for workmen employed etc.
- Ineffective separation of potentially competitive segments e.g. health, housing and education.

Coal Sector - Public Policy Issues [3]

- Price deregulation
 - PSEs can fix coal price; decision still guided by Ministry of Coal
- Distribution deregulation
 - Deregulated only on policy level but in practice, linkage committees still operative
- Coal Mines (Nationalization) Amendment Bill
 - Introduced in 2000; still pending before Rajya Sabha.
 - Frequent change in government, lack of political will and strong unions
- Coal Vision 2025
 - Completely silent on the issue of competition
 - Suggests a independent body to regulate coal mining and coal pricing



Coal Sector - Recommendations

- Pass the Coal Mines (Nationalization) Amendment Bill, 2000 to allow commercial coal mining by private sector at the earliest
- Provide level playing field for private sector participation by amending various discriminatory provisions against the private players within the current legal and policy framework.
- Establish a regulatory body to regulate the sector

Competition issues in India's Coal Sector - Perception Survey [1]

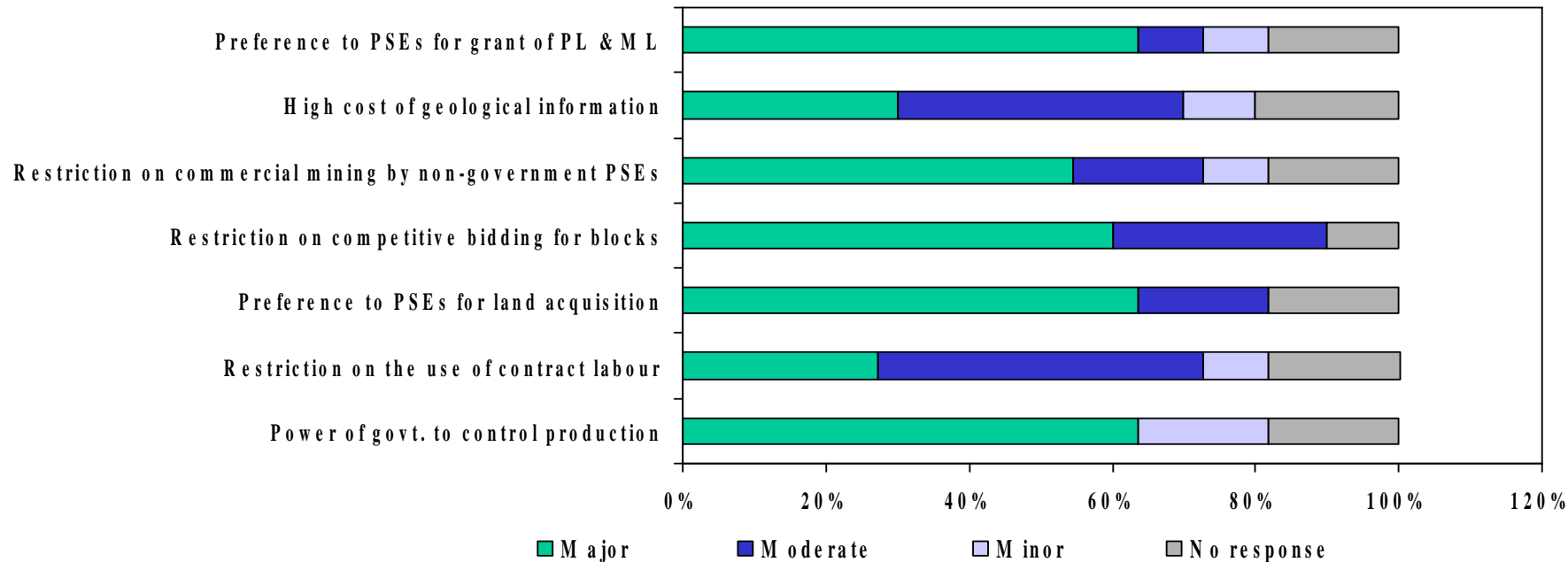
Factors impeding competition	Substantial	Moderate	Below Average
Absence of Independent Regulator	√		
Dominance of Public Sector Monopoly	√		
Presence of stiff legislations concerning land acquisition, rehabilitation and environmental management		√	
Constraints of port capacity & infrastructure			
Acute shortage of coking and non-coking coal supplies and deterioration of quality			

Reasons for limited private participation in Captive Mining

Lack of transparency in block allocation: Major (72.7%); Restrictions on disposal of surpluses: Moderate (54.5%); Release of blocks with low prospects: Major (73%); Cost and Quality of geological information: Major (50%); Lack of developed infrastructure: Moderate (50%)

Competition issues in India's Coal Sector - Perception Survey [2]

Statutory Provisions that need to be reformed



Barriers to competition

- Existence of public sector monopoly
- Absence of transparency in allocation of coal mines
- Lack of independent regulator, having tariff fixing powers, in the sector
- Restrictions on commercial mining



Thank you