Asia's National Oil Companies
International Expansion and Competitive Implications

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Agenda

- What's driving Asia NOCs international expansion?
- Government energy security policy
- Commercial drivers
- International investments and activities
  - China
  - India
  - Japan, Korea, Malaysia Petronas
- Strategy assessment and issues
- Competitive implications

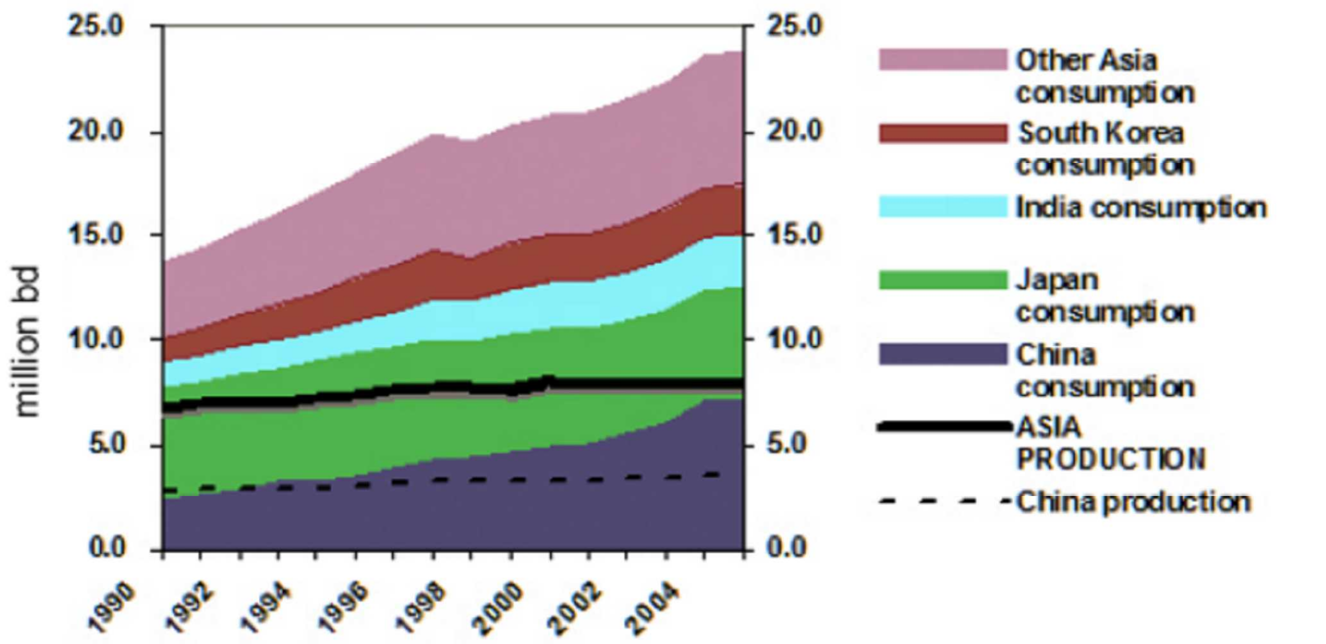
Asia NOC International Drivers

- Government Energy Security Strategy
- Limited domestic E&P opportunities
- Increasingly commercial drive and strategies

Government Energy Security Strategy Drivers

- Booming oil demand and import dependence
  - China, India new arrivals; Japan, Korea no domestic resources
- Growth in gas imports, LNG post-2010
- Sourcing to be dominated by Persian Gulf, Eurasia/Russia, Africa, LatAm, Canada
- Deep sense of vulnerability to supply disruptions
  - Government legitimacy rooted in economic prosperity, nationalism
  - Economic nationalism – old-fashioned “mercantilism”
  - Growing fears of long-term oil and gas “scarcity”
  - Geopolitical risks, long distance transport
  - Regional rivalries fueling competitive supply acquisitions

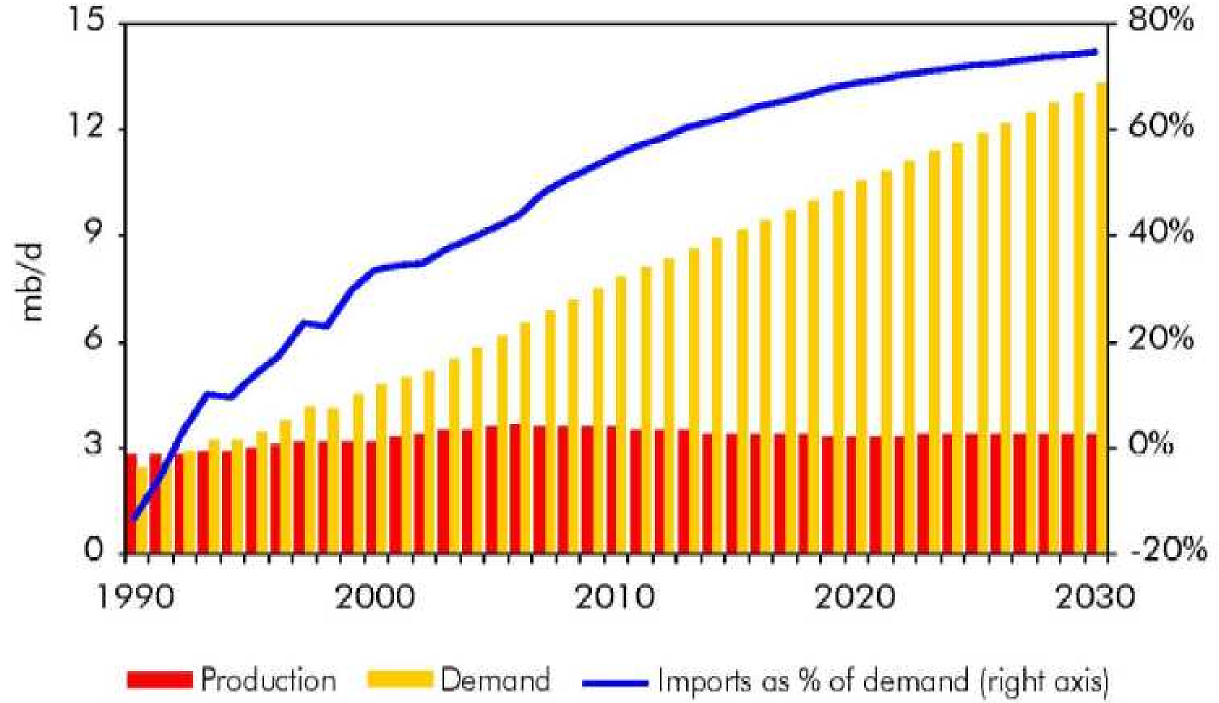
FIGURE 1: ASIAN OIL



Source: BP Statistical Review 2006.

Source: Chatham House, *Oil for Asia*, 2007

China's Growing Import Dependence



China's oil imports will soar from 2 mb/d today to almost 10 mb/d in 2030, about 75% of demand

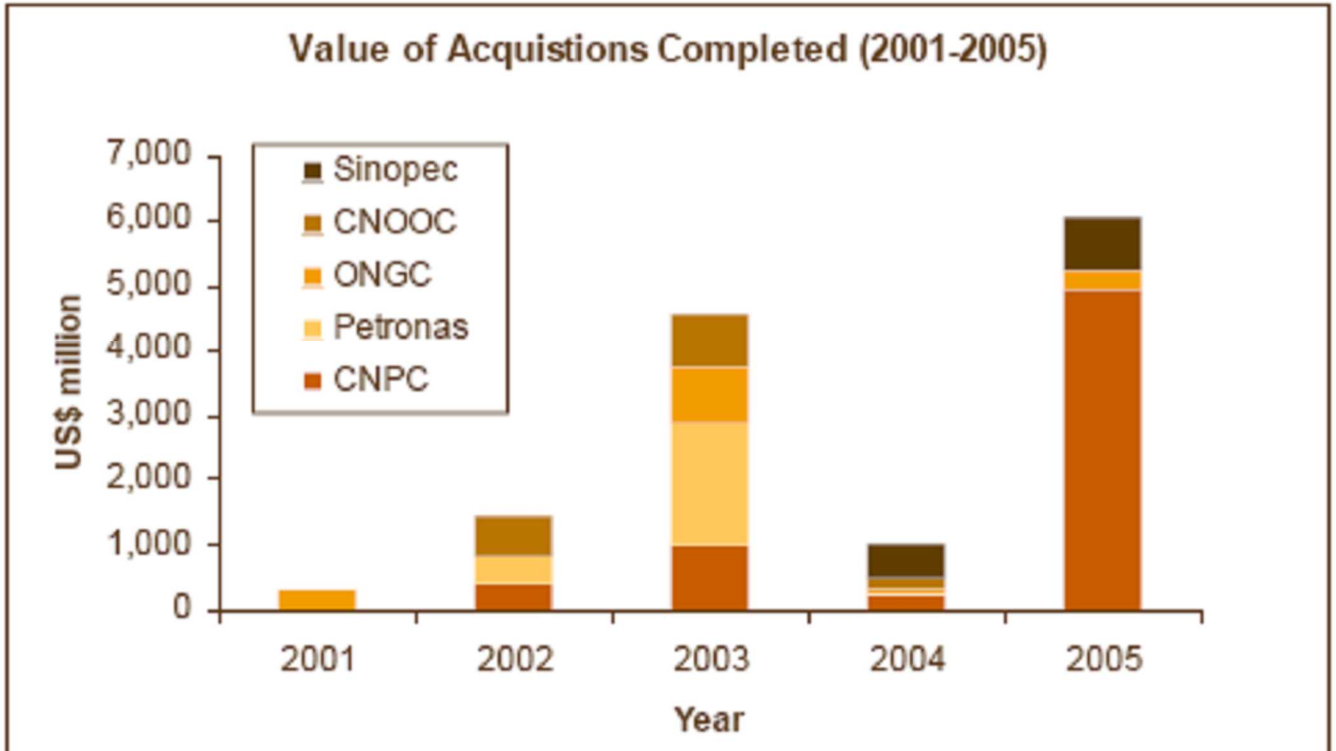
Source: IEA WEO 2004

Response: Energy Nationalism

- National security agenda – top leadership concern
- Zero sum competition: Geopolitics of Asia
- Response: Creating stronger "National Champions"
  - Encouraged to go abroad and secure supplies
  - Diversified equity stakes in global E&P
  - Long-term crude and gas supply contracts
  - Sponsor new pipelines to diversify transit risk
  - "Oil Diplomacy" to secure alliances: esp. Beijing
  - Vertical integration: upstream-downstream links, cross-investment
  - Sea Lanes – gradual naval, submarine build-up (China, India, Japan)
  - New SPR's China, India – Japan, Korea IEA reserves
- All converging on Mid-East, Central Asia, Russia, Africa, LatAm, Canada

Commercial and Competitive Issues

Chart 1: M&A Considerations Involving Asia's Five Expansionist NOCs

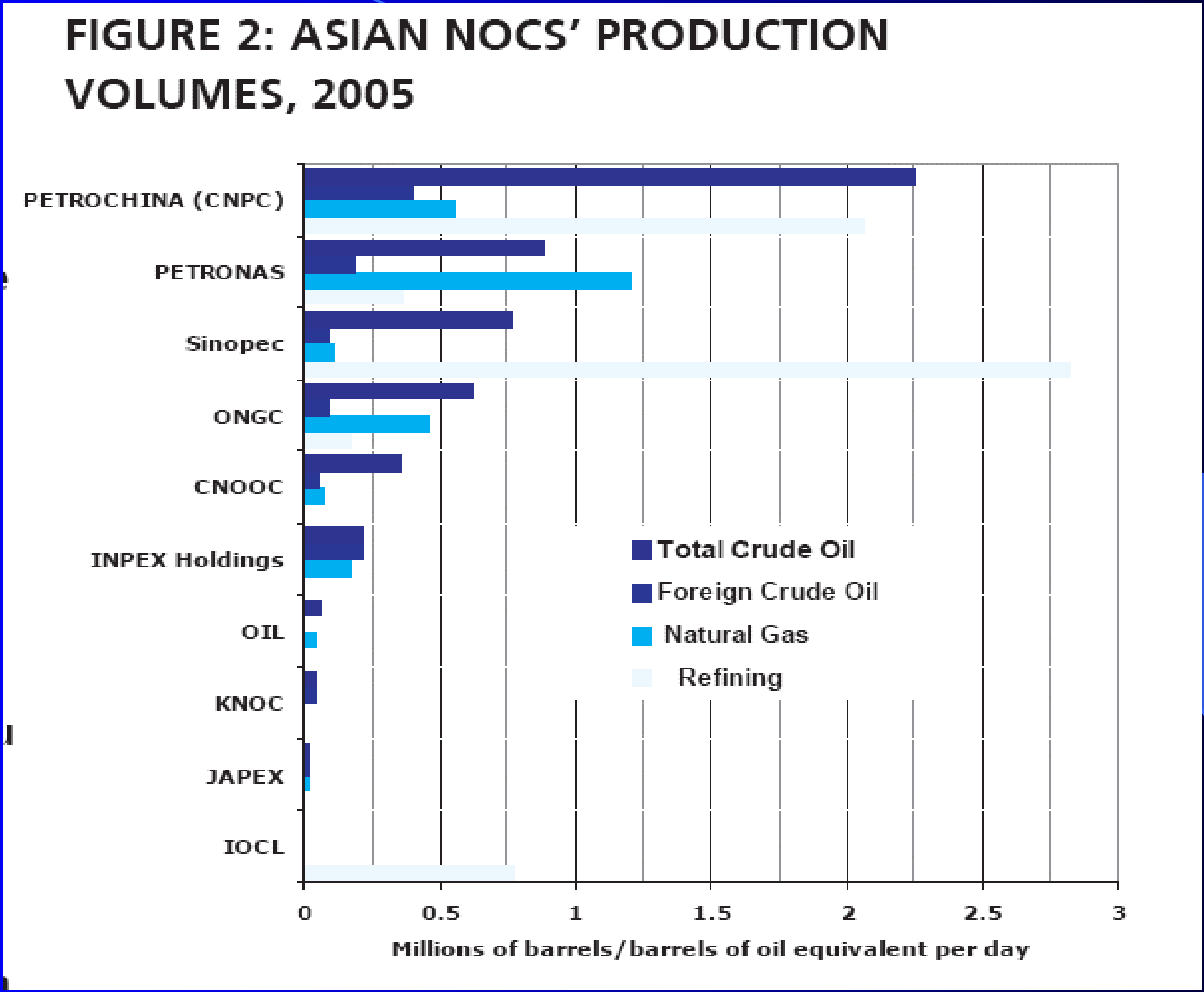


Source Wood Mackenzie

Recent Major M&A Deals

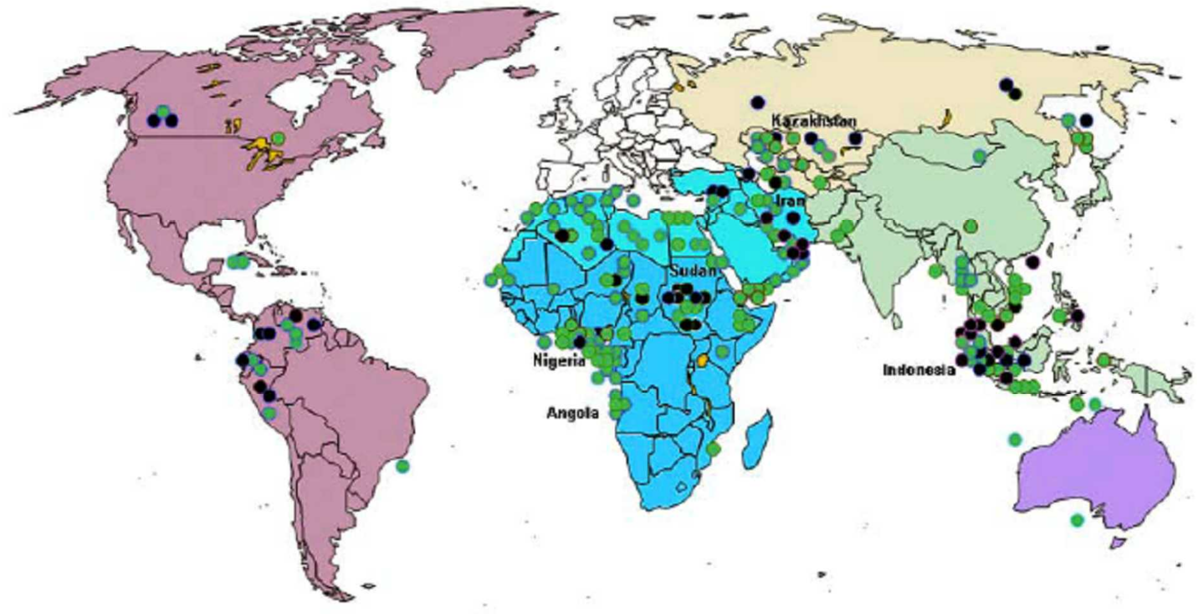
Company	Year	Country	Asset	Price (US$ million)
CNOOC	2006	Nigeria	OML 130	2,268
CNOOC	2004	Indonesia	Tangguh (BG)	105
CNOOC	2003	Australia	N.W. Shelf LNG	348
CNOOC	2003	Indonesia	Tangguh (BP)	275
CNOOC	2002	Indonesia	Repsol-YPF	585
CNPC/ONGC	2005	Syria	AFPC	574
CNPC	2005	Kazakhstan	PetroKazakhstan	3,950
CNPC//Sinopec	2005	Ecuador	Encana Ecuador	1,420
PetroChina	2002	Indonesia	Devon portfolio	250
ONGC	2004	Sudan	Block 5A & 5B	115
ONGC	2003	Sudan	Greater Nile Oil	771
Petronas	2003	Egypt	W. Delta Deep	1,740
Petronas	2003	Sudan	Block 5A	143
Petronas	2002	Indo/Myanmar	NSBA/Yetagun	270
Petronas	2002	Indonesia	Jabung	170
Sinopec	2005	Canada	Northern Lights	84
Sinopec	2004	Kazakhstan	Sazankuruk	153
Sinopec	2004	Angola	Block 18	300

Source: WoodMac



Source: Chatham House, *Oil for Asia*, 2007

ASIAN NOC INVESTMENTS IN FOREIGN UPSTREAM OIL ASSETS



- Asian NOC investment in a producing asset (includes Petronas and CNPC shares in Rosneft)
- Asian NOC investment in exploration and development asset (no production or production unknown)

Note: Each spot represents an investment in a project by an Asian NOC (or NOCs from the same country). More than one NOC from different countries may be investing in the same project so this will show up as multiple spots

Source: Chatham House Report *Trends in Asian National Oil Companies Abroad.*

Chinese Companies

- CNPC – PetroChina
  - Upstream, onshore oil, mainly northeast, western region
  - Some refining, gas
  - Trying to integrate downstream domestically
  - Led early international growth
- Sinopec
  - Downstream dominant, coast and southeast
  - Trying to integrate upstream
  - Recent international expansion
- CNOOC
  - Established for offshore development 1980s
  - Mainly gas
  - Lead role in China's LNG development
  - Recently joining international expansion
- Sinochem: refining investments, crude supply
- Zhuhai Zhenrong: Iran crude supply, LNG talks

NOC Investment Patterns: China

- NOC expansion increasingly commercially-driven
- Most deals driven by NOC assessment of opportunities
- But significant state-NOC investment coordination, support, diplomacy: most active of Asian cases
  - Govt. where geopolitical ties or sensitivity overlap energy: Kazakhstan, Iran, Sudan, Myanmar, Russia
  - Supply security weighed against returns, economics
- Focusing on all major petroleum basins globally: 30+ countries
  - PetroChina largest: leads Sudan, Kazakhstan, Venezuela/LatAm, Russia, upstream oil
  - Sinopec seems to lead in Iran, PG, Saudi, refining JVs
  - CNOOC leads in LNG, gas, SE Asia
  - CITIC (Kazakh), Sinochem (refining) recent arrivals
  - Beginning to see partnerships (CNOOC-Sinopec)
  - CNPC, Sinopec most active in Africa, Canada

TABLE 2: AGGREGATED CHINESE NOC INVESTMENTS WORLDWIDE 1995–2006 (US$M)

NOC	Total	Africa	MENA	RCA	Asia	S & N America
CNPC	15,440	2,599	795	9,159	810	2,077
SINOPEC	8,356	3,101	464	4,220	21	550
CNOOC	3,281	2,289	0	0	972	122
TOTAL	27,178	7,989	1,259	13,379	1,803	2,749

Note: No capital expenditure details could be found for some projects.

Source: Chatham House Report *Trends in Asian National Oil Company Investment Abroad*, March 2007.

NOC Investment Patterns: India

- Substantial state-NOC coordination, state MOUs signed many countries
- But more commercially-driven than China: trust in markets
  - Policy-makers stress bottom line and set profit requirement
  - Recommended target of 66% of overseas projects financed with private capital
- Later arrival, often outbid by Chinese but trying to partner
- ONGC Videsh main player
  - Production and development: Sudan, Syria, Sakhalin 1, Venezuela
  - Exploration: Iran, Myanmar, Qatar, Cuba, Vietnam, Libya, Iraq, Ivory Coast
  - GAIL, OIL, OICL beginning to expand
  - Reliance also a major new player

Table 2a Regional distribution of Indian NOC foreign upstream projects Feb. 2007

Indian NOC	Africa	Americas	Asia & Australasia	MENA	RCA	Operator	Total no of investments
ONGC VL	Nigeria (2) Sudan (3)* Congo (Brazzaville) (1)	Brazil (1) Colombia (1) Cuba (2) Venezuela (1)	*Myanmar (2)* Vietnam (3)	Egypt (1) Iraq (1) *Iran (1)* Libya (2) Qatar (1) Syria (2)	Russia (1)	11*	25
IOCL				*Iran (1)* *Libya (2)* *Yemen (1)*		0	3
OIL**	Gabon (1)			*Iran (1)* *Libya (2)* *Yemen (1)*		3	4
GAIL			*Myanmar (3)*	*Oman (1)*		0	3
GSPC			*Australia (1)* *E. Timor (1)*	*Yemen (1)*		1	3
HPCL			*Australia (1)*	*Oman (1)*		0	2
BPCL			*Australia (1)* *E. Timor (1)*	*Oman (1)*		0	3
Totals						15	43

Italics indicates a project shared with one or more of the other Indian NOCs
**Iincluding 2 joint operatorships*
*** It is worth noting that OIL and OVL have a joint venture pipeline project in Sudan which is not mentioned here*

Source: Chatham House, *Oil for Asia*, 2007

NOC Investment Patterns

- Japan: reinvigorating long-term effort
  - Raised target for Japan oil to 40% from 15%
  - Have consolidated JNOC: Inpex, Japex main players
  - Injection of substantial new "risk capital" into E&P abroad
  - Mainly financial diplomacy, seeking to boost competitiveness in industry
  - Competition with China part of motivation
  - Recent setbacks in Iran, Sakhalin
  - Active in Libya bid round
- South Korea: modest player but government raising targets
  - KNOC, KOGAS beginning to move more aggressively
  - Large trading companies biggest investors
- Malaysia – Petronas
  - Strong global business, very competitive
  - Much more commercially driven
  - The future of Asian NOCs?

Unfocused Strategies of New Rising Asian NOCs

- New NOCs generally ranging widely over oil, gas, LNG
- Regional focus tends to be scattered
- Limited coordination, partnering among companies: often competitive
- Chinese companies often working in same countries separately
- Each company on individual learning curve
- Many acquisitions have little upside, not very attractive to IOCs

Competitive Advantages

- Willing to pay premiums, accept low returns, bidding up producer rents
- Low cost of capital
- Willing to do standard field development, service contract-style
- Often willing to do uneconomic downstream or related investments
- Affinity among producing, consuming country NOCs:
  - Common management mindset, shareholder interests
  - Avoid direct competition with IOCs
- Relatively high tolerance for political, security risk
- Frequent direct diplomatic support: assisted by strategic deals with broader economic, aid benefits to producers
- Home govt. Realpolitik: advantage of non-interference
- Convergent home and host government geopolitical interests
  - Containing US hegemony, hyper-power – “multi-polar world”
  - Cement important regional alliances: China-Kazakhstan, India-Iran

Competitive Disadvantages

- Late arrivers a critical weakness: opportunity constrained
- Limited large project management skills, experience
- Lack global downstream integration, market options, refining flexibility
- Limited technology capabilities: deepwater, unconventional oil, high-tech enhanced recovery, extreme reservoirs
- Geopolitical baggage, sometimes instrument of state diplomacy
  - Vulnerable to swings in political relations
- Sometimes govt. pressure to take on uneconomic deals
- Weak LNG position, skills (China, India)
- Downstream domestic subsidies financial drain (China, India)
- Lack of portfolio diversification

Asia NOC Assessment

- Not yet major competitive threat in industry terms (exception Petronas)
  - Technology, project management, large-scale development
- Accessing quality reserves has been key weakness
- But: sharpening focus on major reserves, basins, major bid rounds
- Rapidly growing but relatively unfocused portfolios
- Key advantages
  - State support and growing economic power
  - Willingness to overpay, do marginal deals, cheap state capital
  - Strategic alternative to IOCs
- LNG competitiveness highly differentiated: Japan/Korea/Malaysia vs. China/India
- Consciously climbing learning, experience curve
- Moving to access new E&P technology, deepwater E&P
- Building from M&A to exploration, grassroots expansion, company deals
- Better access to closed reserves? Remains unclear
- Financial performance likely to become more binding over long term: commercialization pressures, government disillusionment

How Should IOCs Respond?

- Asia NOCs another constraint on opportunity set
- Driving up reserve access costs
- Compete or partner? What combination? Where?
- BP, Shell developing strategic partnerships combining domestic reserve or downstream access with new JVs abroad
  - China, India