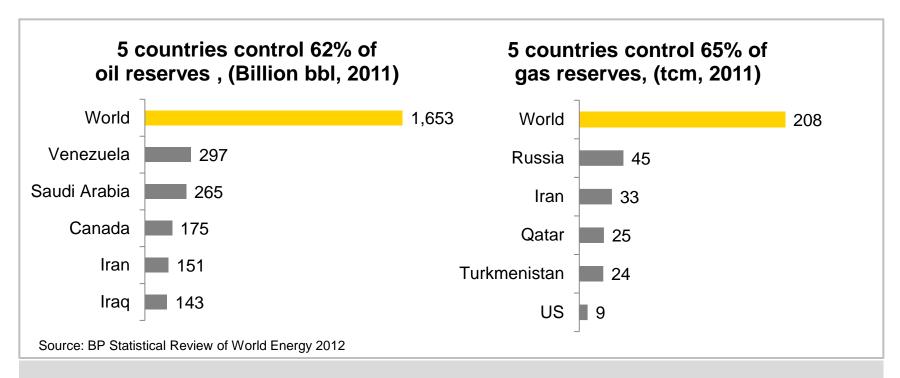


Evolution of global upstream industry

Dominance of IOCs (1900-1960s) ▶ Top-seven IOCs held 85% of world reserves Concessions were prevalent **Changing partnership** Increasing dynamics between IOC importance of NOCs and NOC (2001-present) (1990-2000)Volatility in commodity NOCs hold majority prices **Government controlling** of the reserves End of "easy oil era" reserves (1970-1980s) NOCs improved Access to new Government took reserves through major operational control of reserves efficiency through advancement in and production technology restructuring PSCs replacing NOCs gain ► IOC-NOC partnership concessions; ensuring driven by technology, autonomy as participation for NOCs access to resources & governments' diluted their stakes capital imperatives

Distribution of O&G reserves

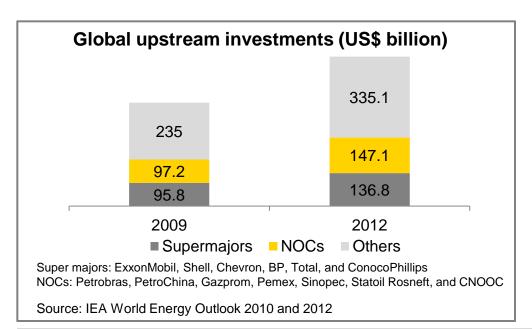


- Top 5 O&G resource holders other than US & Canada are NOC dominated
- ▶ Increasing instances of resource nationalization E.g., Argentina, Venezuela
- Mandatory NOC participation in domestic projects E.g., Brazil, Algeria

Access to resources driving IOC-NOC partnerships



Trends in global E&P investments





- Global upstream investment has grown by 44.6% from 2009-2012
- PetroChina and Petrobras have the highest upstream investment, accounting for approximately 8% of total global upstream capex in 2012
- ▶ Highly complex and capital intensive projects becoming a norm
- Access to capital and technology driving NOC-IOC interdependence

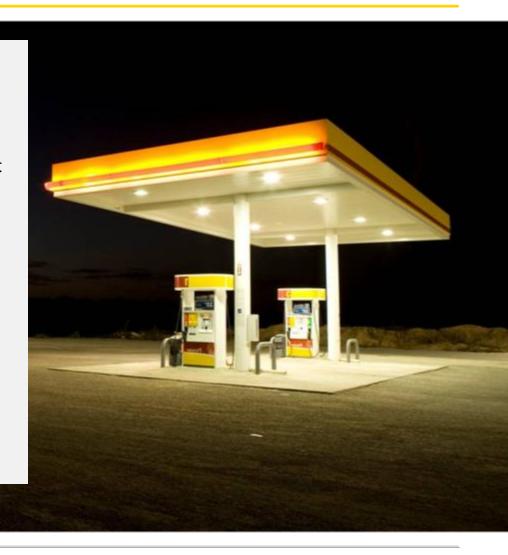
IEA estimates an investment of US\$14.7 trillion in the global E&P segment between 2012-2035

*The 2012 figures are based on mid-year budgeted spending plans.



Resource-seeking NOCs expanding global presence

- Driven by energy security needs, NOCs from China and India are aggressively pursuing global O&G resources
- Chinese NOCs have invested approximately US\$150 billion in overseas acquisitions in last 10 years
- Leading to increase in NOC-NOC and NOC-IOC partnerships
- Changing trends in global transaction
 - Extended partnership
 - Investment in social infrastructure for equity oil
 - Leveraging diplomatic ties
 - Deals backed by sovereign funding



Key drivers behind deepening NOC-IOC cooperation: India perspective

NOC perspective

- Energy security access to O&G resources
- Development of domestic resource
- Access to technology (deepwater and unconventional)
- Upgrade technical and R&D capabilities
- Access global project management expertise

Benefits for IOCs

- Access to reserves/markets
- Long-term strategic partnership
- Risks diversification
- Access to capital
- Managing local government and regulatory environment
- Opportunities across the value chain



IOC -NOC

cooperation

