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Geopolitical Implications of Asia's Rising Energy Demand

NBR; Asia and Energy Security

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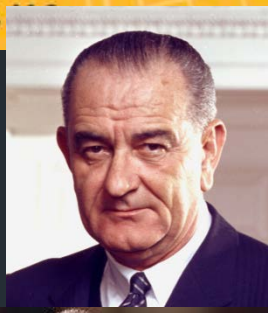
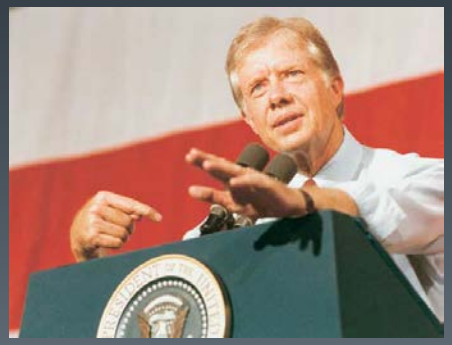
A Dose of Humility

When US was leading source of incremental demand we….

- Controlled natural gas prices
- Imposed production quotas (Texas Railroad Commission)
- Sought access overseas
- Tolerated destructive E&P practices
- Banned exports
- Built cross border pipelines
- Subsidized drilling costs (Deepwater, unconventional)
- Invested in R&D
- Imposed demand side measures





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After Exhausting the Alternatives

US Energy Policy:

- Low taxes
- Open investment
- Liberalized prices
- Open access (pipeline)
- Incentivize drilling (IDC)
- Strategic reserves/storage
- Massive R&D
- Invest in efficiency and alternatives
- Voluntary/mandatory standards

But:

- Still ban oil exports
- Worry about natural gas exports
- Protect US shipping (Jones Act)
- Won't price carbon

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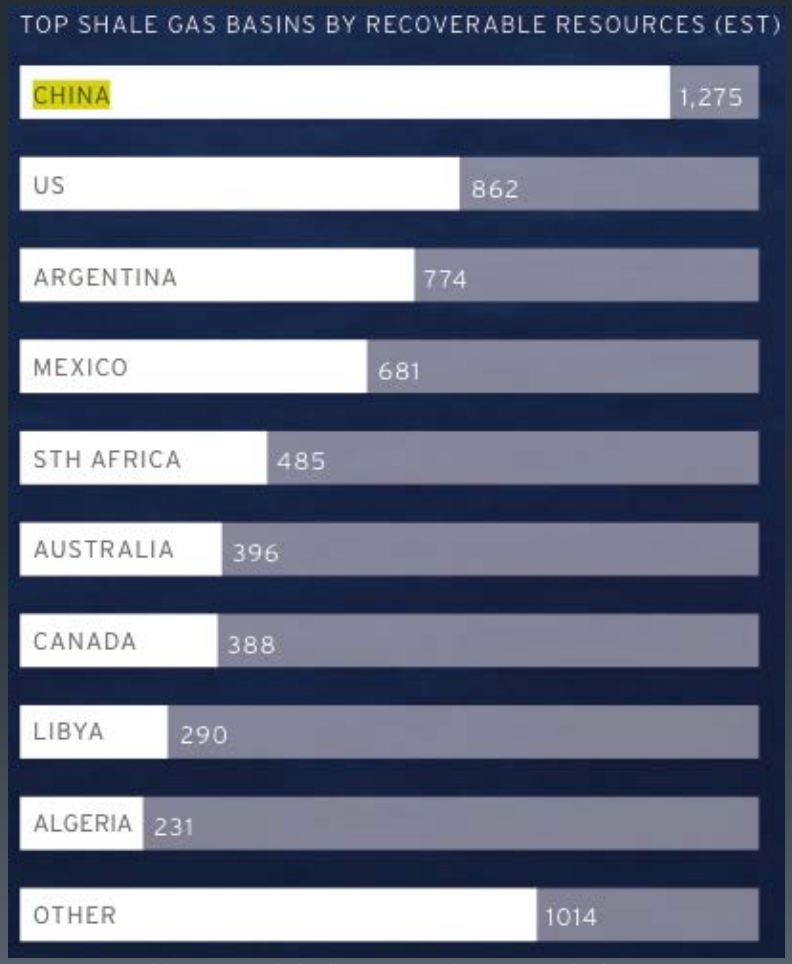
Key Points

- Asia's rising energy demand can be a strategic opportunity
- Greater Asian gas utilization good for climate, international cooperation
- China's oil demand will force it to greater diplomatic cooperation
- Chinese energy model working poorly for China
- U.S uniquely positioned to facilitate Asian move to gas, and deeper integration of China in collective energy security system
- US and China both ambivalent about strategic cooperation
- A modest program for cooperation



Source: Citi GPS: Global Perspectives & Solutions
Energy 2020: North America, the New Middle East?

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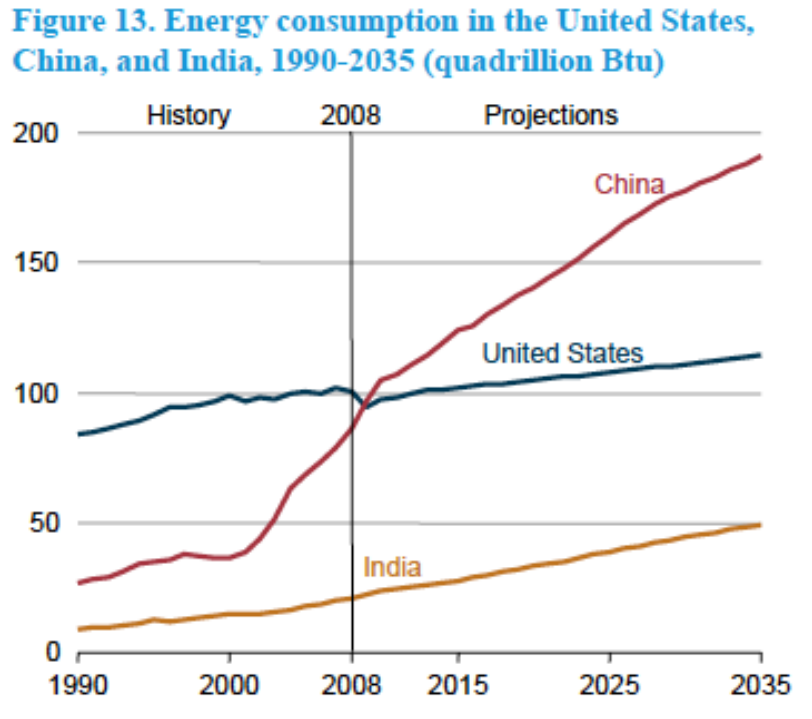
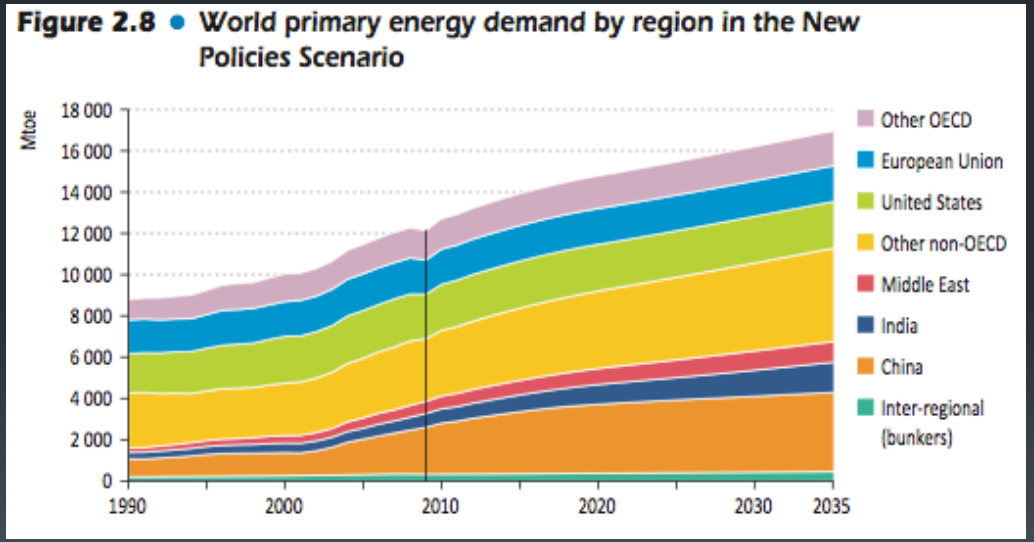
Projections for Chinese Energy Demand



Source: EIA; 2011 IEO



Source: IEA; 2011 WEO

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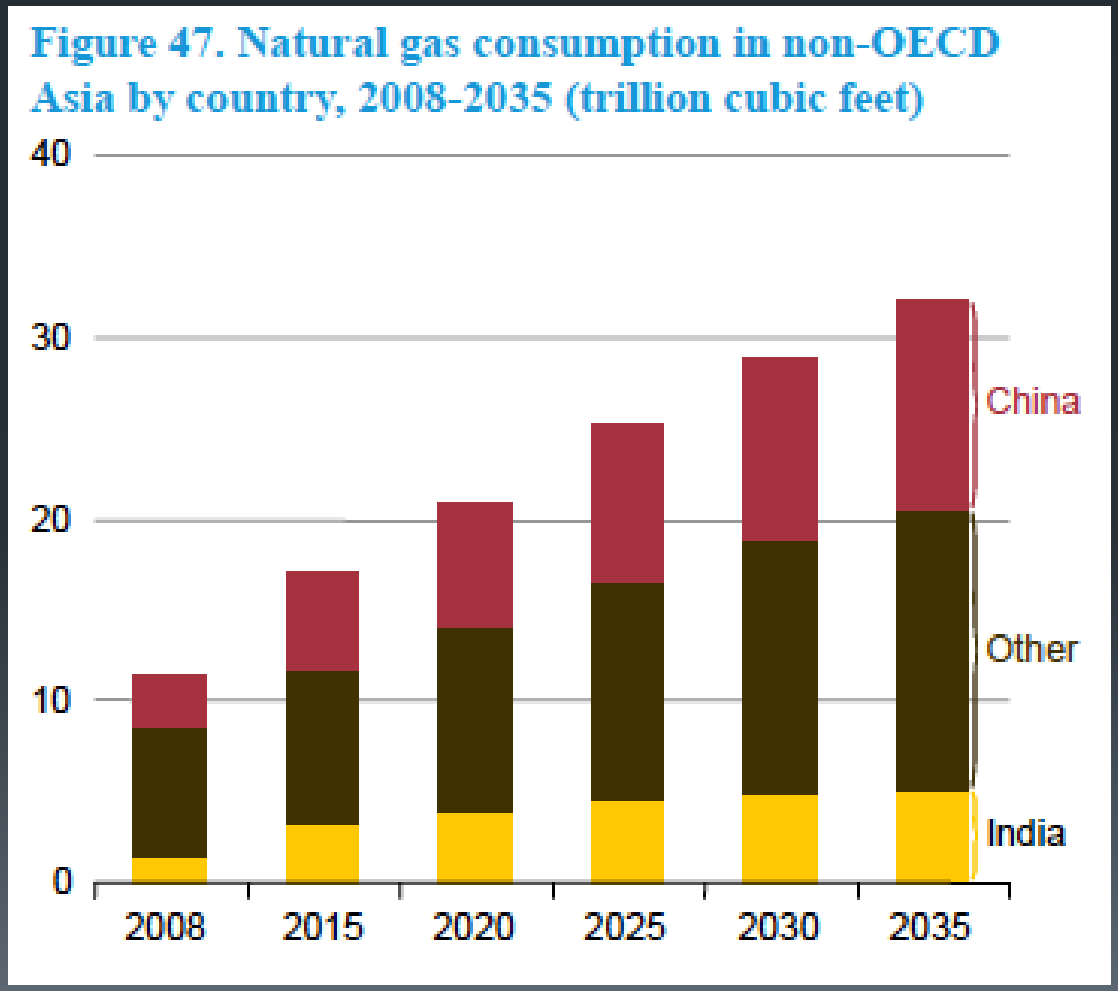
Chinese Gas Demand



Source: EIA; 2011 IEO

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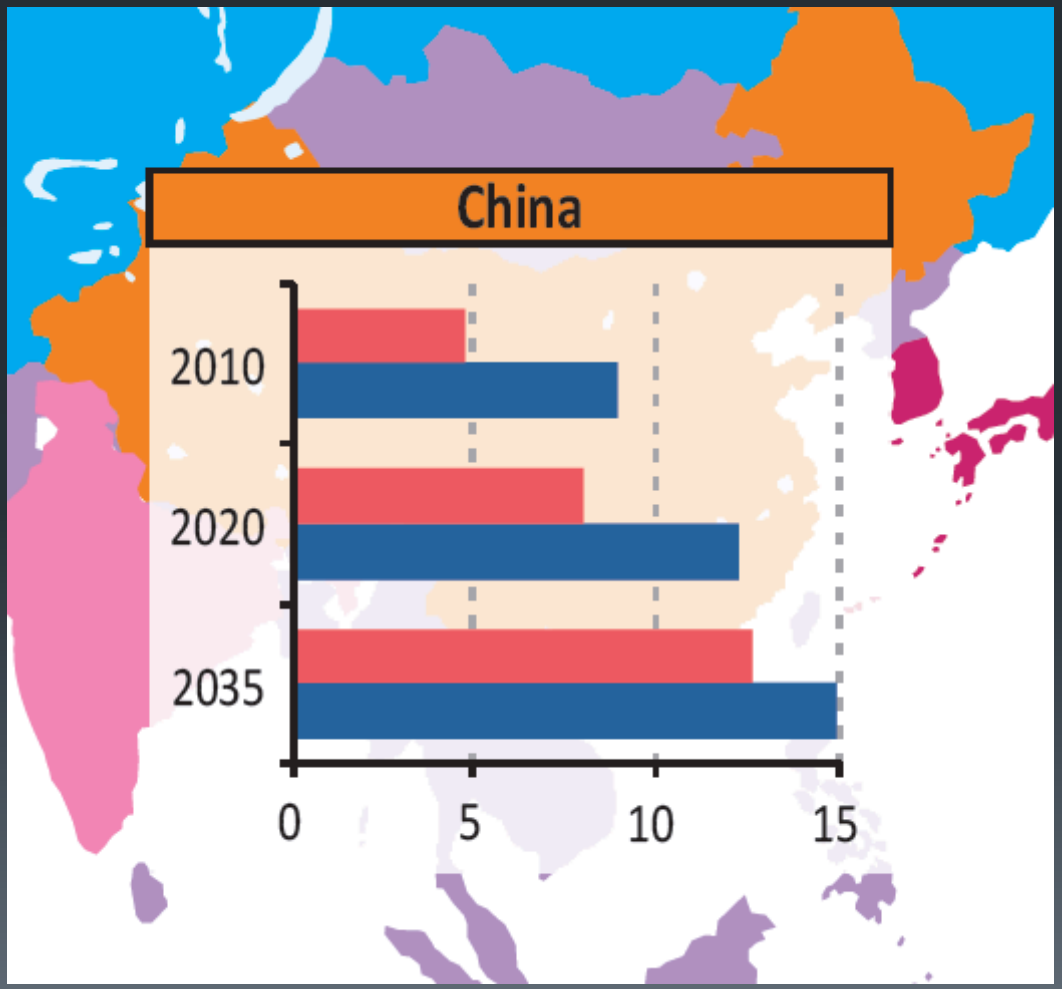
Chinese Oil Demand



Source: IEA; 2011 WEO

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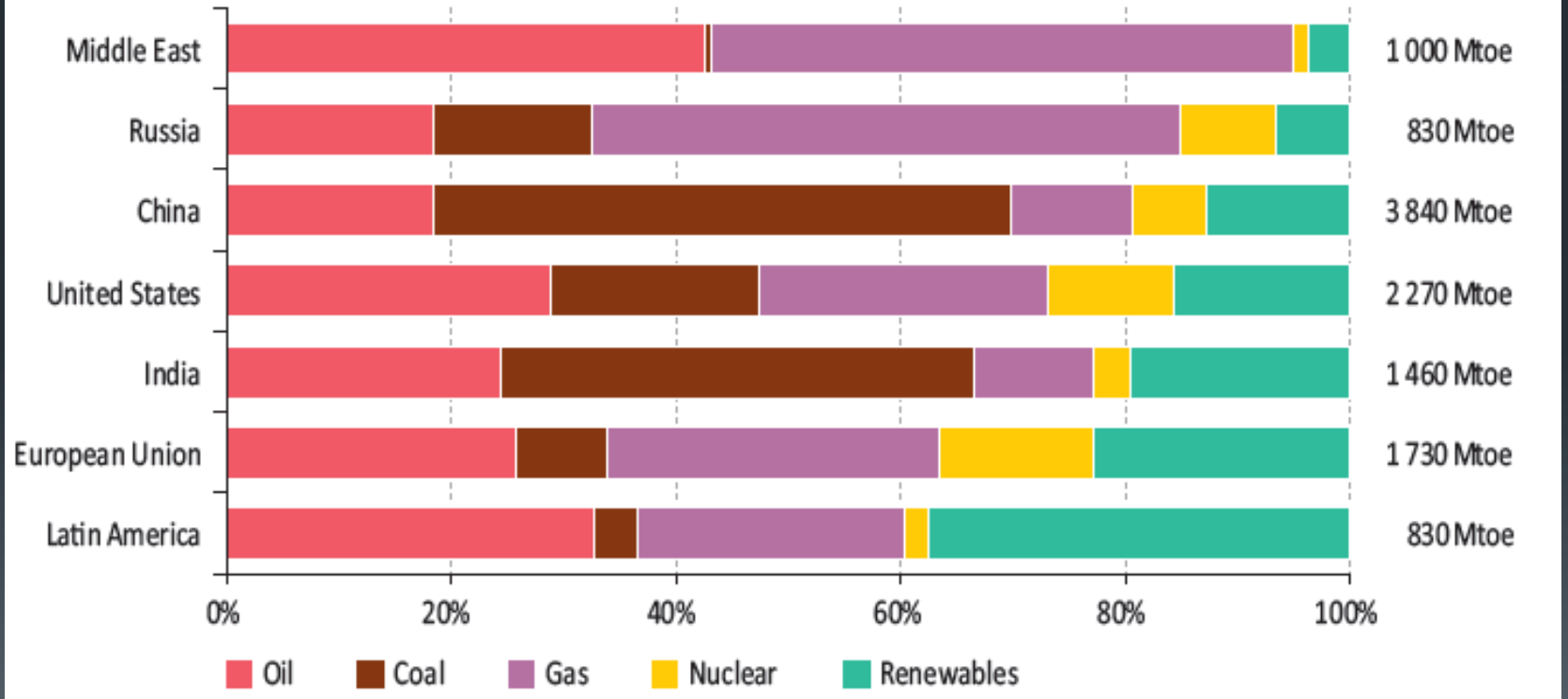
Change in Energy Mix

Figure 2.10 • Energy mix in selected countries and regions in the New Policies Scenario, 2035



Source: IEA; 2011 WEO

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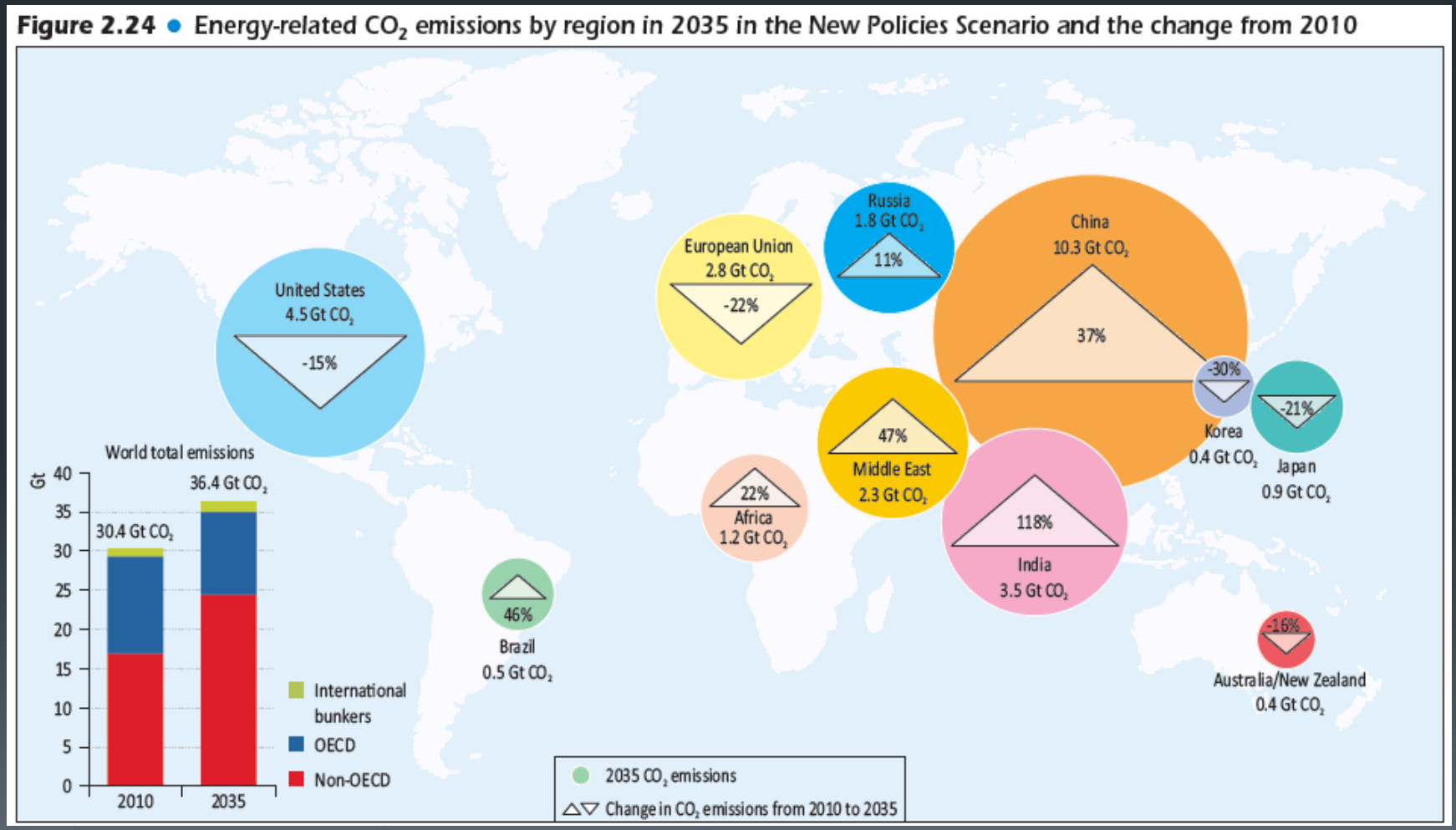
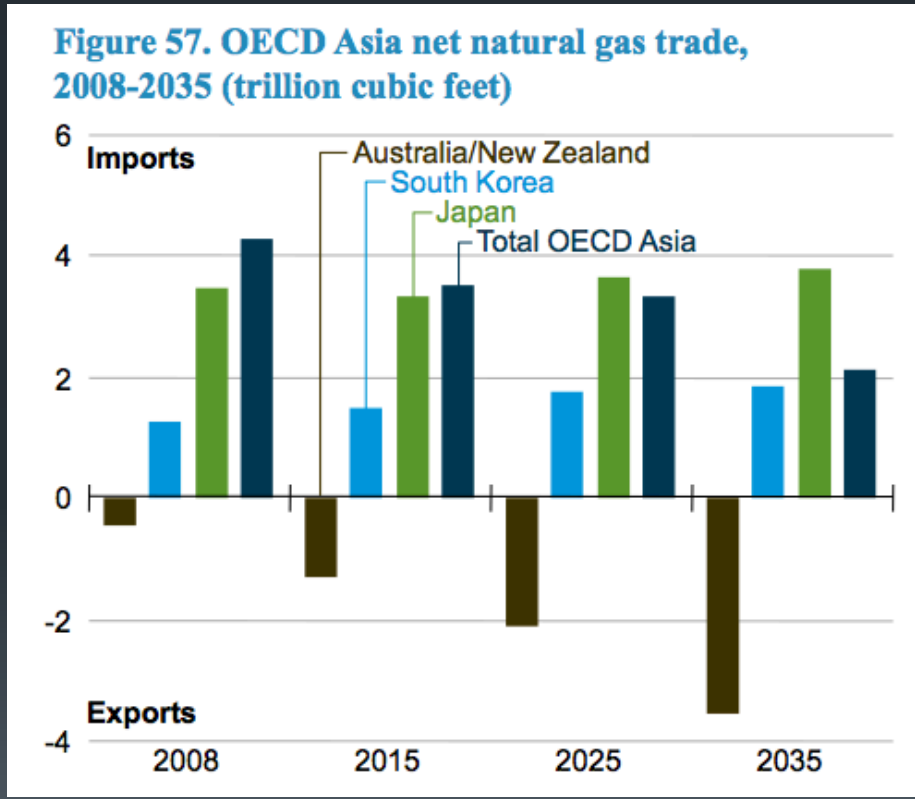
Impact on Climate



Source: IEA; 2011 WEO

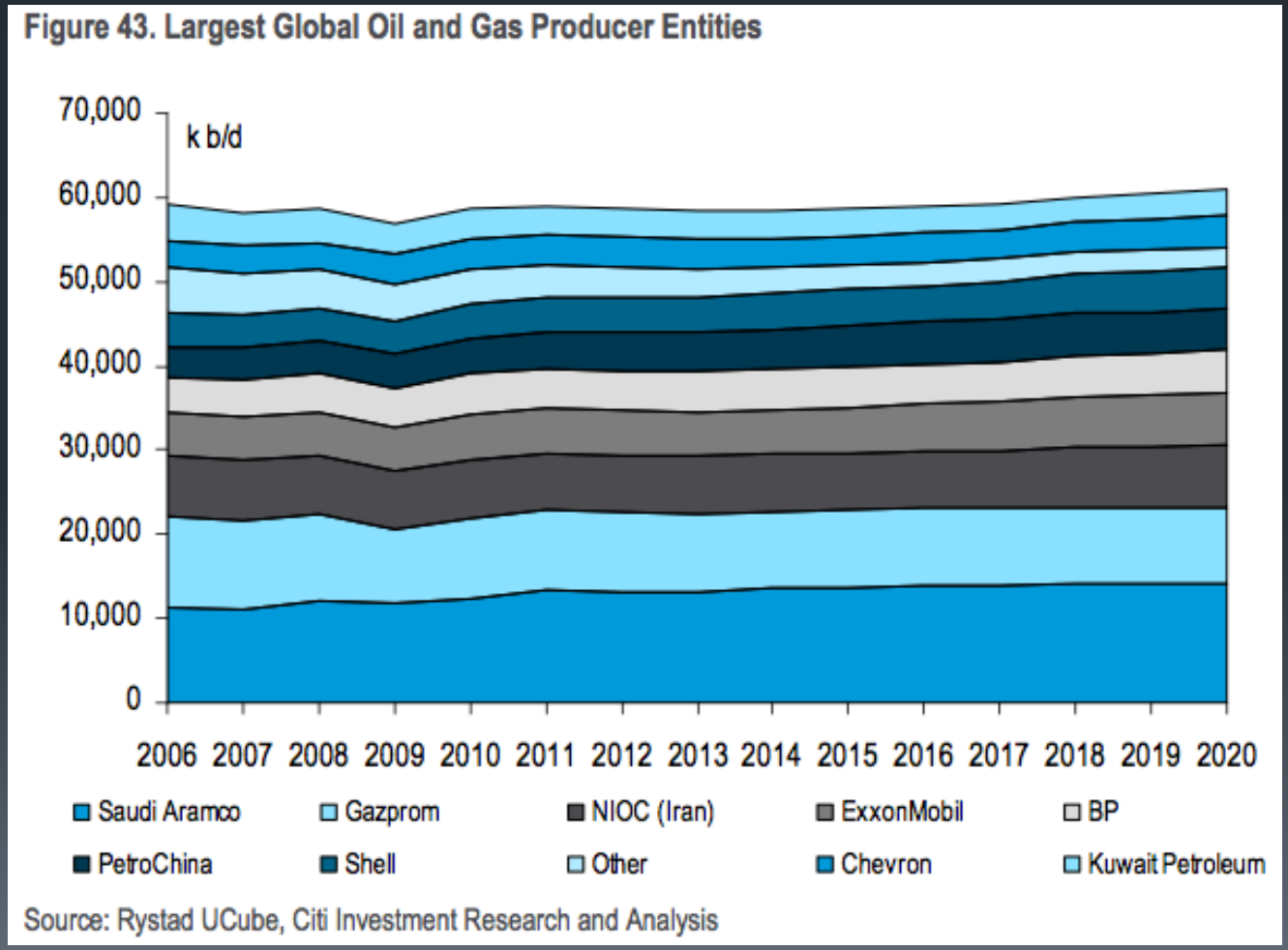
Regional Trends

- OECD Asian energy consumption increases only 0.6% each year compared to 3% for non-OECD Asia
- Regional economies continue to grow with South Korea and Australia/New Zealand driving OECD Asia
- Natural gas in the form of LNG will increase its share of consumption in both Japan and Korea
- Malaysia and Indonesia face declining natural gas production



Source: EIA; 2011 IEO

Oil and Gas Suppliers of the Future



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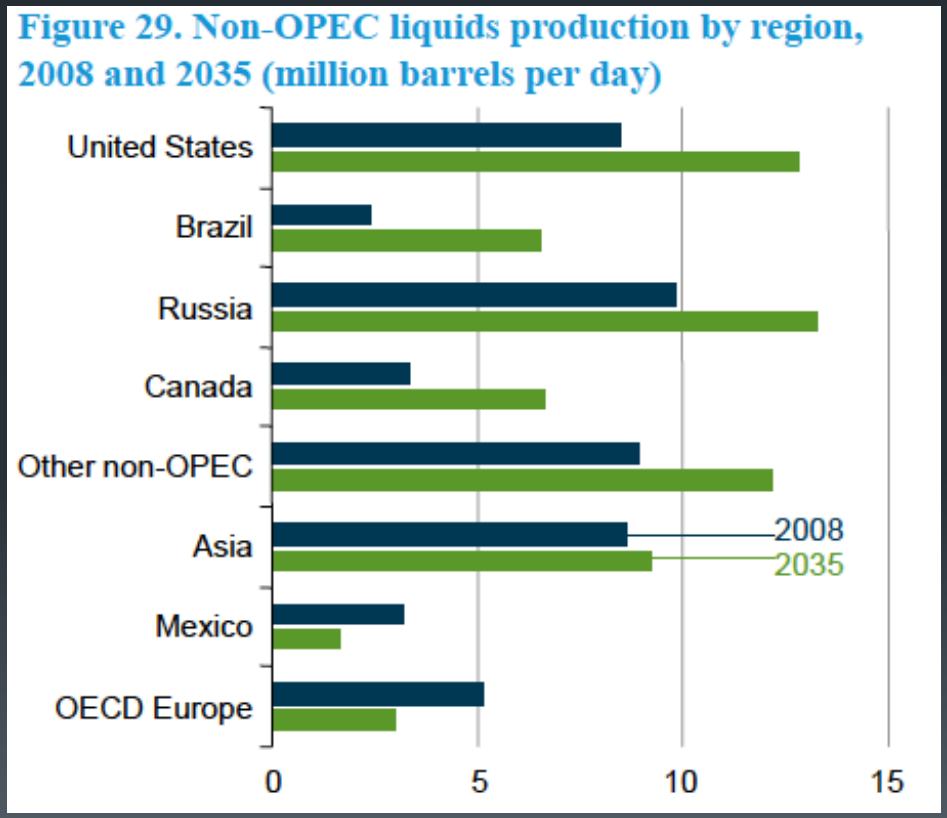
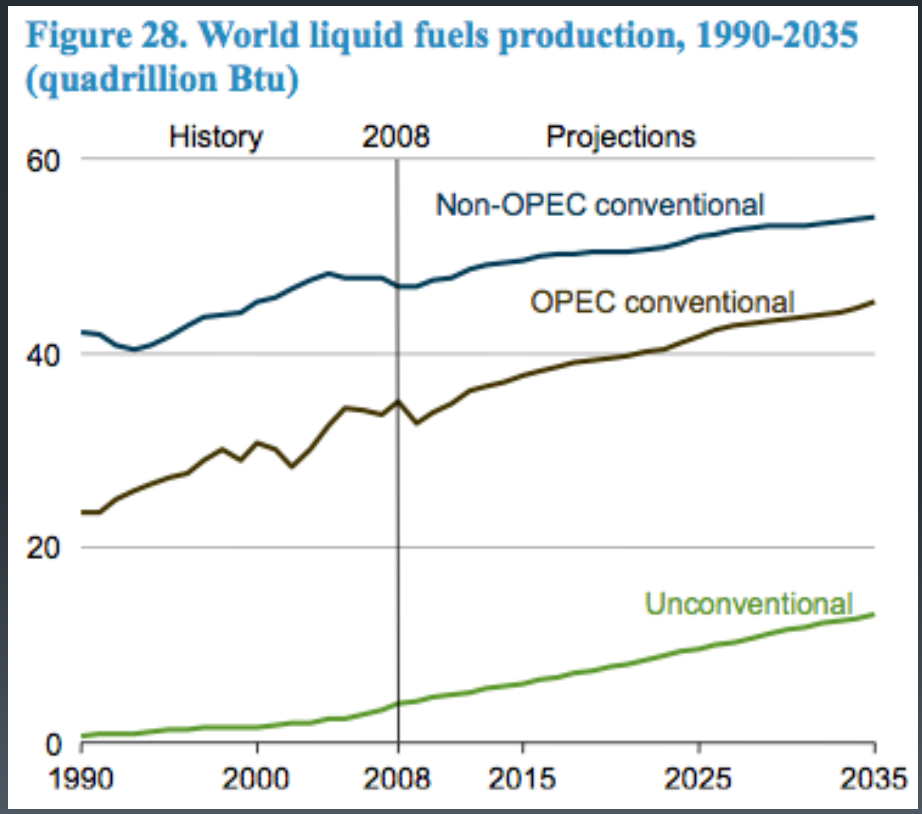
Major Incremental Suppliers of Oil





Source: EIA; 2011 IEO

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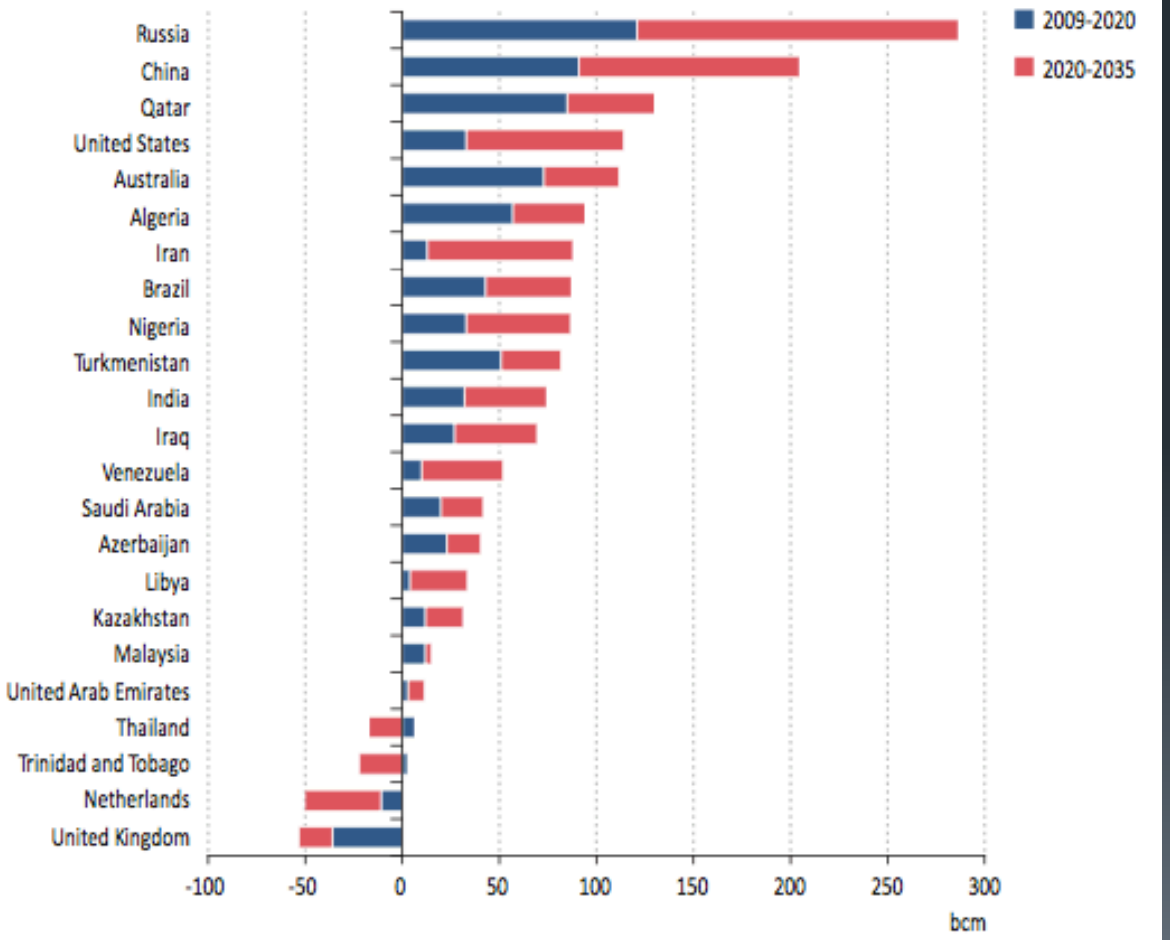
Major Incremental Gas Suppliers

Figure 4.6 • Change in annual natural gas production in selected countries in the New Policies Scenario



Source: IEA; 2011 WEO

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Takeaways

- Chinese demand for oil major market driver
- Opportunities for sizeable growth in gas production for export, particularly to Japan, Korea, Taiwan, China major gas/LNG consumers *(IEA, WEO 2011)*
- U.S. light, tight oil boom is likely to shift African, Middle East supply to Asia
- China has little upstream access to incremental oil suppliers
- Asia competing for incremental gas supply
- The economies in OECD Asia are growing however energy consumption remains relatively stable due to declining population and aging workforces *(EIA, IEO 2011)*

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A Strategic Opportunity?

- Oil access key for Asian diplomacy
- Open access, free markets, price stability key goals
- Free rider days are over – Conflict prevention matters more
  - Chinese role in Sudan/South Sudan
  - Chinese stake in Iraq
  - Asian cooperation in Iran sanctions
- Asian NOCS can't do deep water, Arctic, or unconventional wells – "can't beat 'em, can't join 'em" unless governments cooperate on security

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Chinese Energy Model Not Working Well

- National champions can't grow without deeper IOC cooperation
- Deep-water: little growth in NOC capacity
- Unconventionals: Can't learn it in the board room
- IP protection, upside key to partnership with IOCs, service companies
- Overseas approach increasingly seen as colonial
- Chinese foreign/economic policy chokepoint for market access

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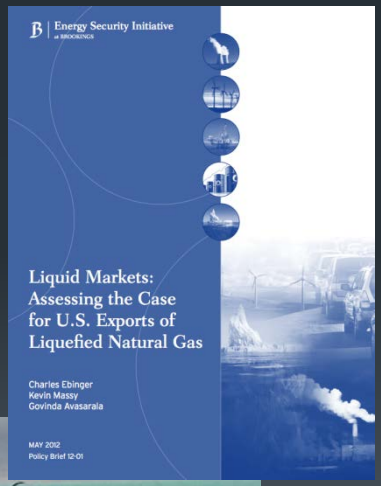
The U.S. Advantage

- U.S. production growth/pipeline policy major factor for global oil
- U.S. LNG export decisions major factor in global LNG pricing
- U.S. technology – and market access – major factor for China's indigenous oil and gas production
- Marker on SCS has changed dynamic



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U.S. – China Cooperation: Mutual Ambivalence

- We don't trust each other
- U.S. nativism/Chinese policy impedes Chinese market access
- We want cheap renewable technology and we want to own it
- We want no restraint on key commodities – except our own
- Global energy security depends on sea lane security, not increased regional oil resources

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A Basis for Cooperation?

The U.S. could:

- Help China develop shale and tight oil
- Use LNG exports for strategic cooperation with Japan, Korea
- Break Asian price premium with LNG exports
- Leverage U.S. market access for diplomatic cooperation
- Ensure security of transport and access for non-Chinese Asian nations
- Continue cooperation of vehicles and efficiency

China Could:

- Exchange U.S. market access for Iran's
- Overtly cooperate on oil disruptions
- Open its market for energy investment/production
- Adjust NOC operating style to improve results