AKIN GUMP
ENERGY MEDIA BRIEFING

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2012 U.S. Elections

Implications for U.S. Energy Policy

2012 U.S. Elections
Initial Considerations

- "Status quo" election
  - Reelection of incumbent President and Democratic gains at the margins in both chambers of Congress
  - Closely divided government
- Implications for federal energy policy
  - No dramatic shifts initially – this is not 2009
  - Administration likely to continue to pursue regulatory and policy agenda largely independent of Congress
  - House Majority to continue to pursue oversight of administration and legislative agenda focused on energy production and regulations
  - Senate more likely to attempt targeted, consensus agenda
- Transitions for key energy policy decision-makers
  - To be determined whether major administration energy decision-makers stay on for second term
  - In Senate – new chair of Energy Committee and ranking Republican on Environment Committee
  - House energy leaders more stable, but some subcommittee changes

2012 U.S. Elections
Evolving Energy Policy Issues

- Very near term – possible in “lame duck” session
  - Action on “tax extenders,” including Production Tax Credit
  - Energy efficiency
- Near-term energy issues that may be propelled forward due to pending administration reviews
  - LNG exports
    - DOE report on economic effect of increased exports
  - Keystone XL Pipeline
    - Permit decision expected by end of first quarter of 2013
- Some longer-lead issues that might evolve with bipartisan focus at Senate Energy Committee
  - Energy efficiency
  - Streamlined licensing for hydroelectric facilities
  - State revenue sharing for offshore oil and gas development

2012 U.S. Elections
Big Picture Issues

- U.S. energy self-sufficiency
  - International Energy Agency report released in November finds U.S. will overtake Saudi Arabia as the world's largest oil producer by 2020
  - What are the implications for
    - Infrastructure?
    - Technology?
    - Resources and the environment?
- Climate change/carbon tax
  - President Obama at post-election press conference –

    "…we're still trying to debate whether we can just make sure that middle-class families don't get a tax hike. Let's see if we can resolve that. That should be easy. *This one's hard.* [responding to question about carbon tax, emphasis added]"
  - Sen. John McCain (R-AZ) comments to press in mid November –

    "I've always believed that GHG emissions are impacting our planet and our climate, but I have to tell you, when we have the economic condition that we have in our country, people's attention moves to jobs and the economy, and they are not ready to see an increase in taxes or make significantly more sacrifices on climate change."

2012 U.S. Elections
States as Incubators

- Regardless of the timing and extent of federal policymaking on energy issues, the states will continue to move forward
  - Permitting and regulation of unconventional oil and gas production
  - Renewable energy standards
  - Greenhouse gas regulation – CA just held first carbon auction

Renewable Energy

Prospects for Renewable Energy Incentives in President Obama's Second Term and the U.S. Solar Boom

Renewable Energy
Incentives in President Obama's Second Term

- Federal policy support for renewable energy in the U.S. is primarily through our tax code
  - Wind's production tax credit currently expires December 31, 2012
  - Solar's investment tax credit currently available through December 31, 2016
- What are the prospects for extension of key tax benefits, when might extension occur and what changes might we expect?
  - How will "fiscal cliff" and prospects for grand bargain impact renewable energy incentives?
  - What are the prospects for other forms of policy support, including a clean energy standard, a carbon tax, increased transmission investment or other policies?

Renewable Energy
The U.S. Solar Boom

- Market segmented based on technology (photovoltaic vs. thermal solar) and customer/project type (utility scale, commercial and residential)
- PV growth has been significant

	2010	2011	2012 E
New Capacity Installed	845 MWs	1.9 GWs	3.2 GWs

- Growth Drivers
  - Substantial decline in cost of energy due to decline in system costs
  - Continued state incentives
  - New residential leasing models
- Challenges
  - Availability of utility off-take in Southwest U.S.
  - Grid integration
  - Availability of tax-motivated investment

Natural Gas

Review of U.S. Natural Gas Opportunities

Natural Gas
U.S. Natural Gas Potential

- U.S. natural gas production is up because of shale gas production, despite a 10-year low in drilling rigs looking for natural gas. In addition to being a boon for manufacturing, the presence of so much gas leads to:
  - New ethylene crackers and polyethylene facilities, many intended for export to growing economies in Asia. Asian ethylene crackers using naphtha, rather than ethane as feedstock, are feedstock disadvantaged.
  - LNG export projects, but the U.S. DOE has suspended issuance of additional export licenses to non-FTA countries pending receipt of an additional study and related analysis. Canadian LNG export projects, primarily in British Columbia, continue to be pursued.
  - NGL (natural gas liquids) export projects, i.e., propane, butane and C5s+
  - Fertilizer projects
  - GTL (gas-to-liquids) projects

Oil and Gas

Funding for the Oil and Gas Industry

Oil and Gas
Funding for the Oil and Gas Industry

- The oil and gas industry has always tapped a large number of sources of financing. What are some of the more active types of financing today?
  - Master Limited Partnerships (MLPs) for assets that generate qualifying income, primarily midstream assets but also E&P assets. Recent attention to refining assets (e.g., logistics assets) and ethylene crackers.
  - Initial Public Offerings (IPOs) (in addition to MLPs)
  - Asset-backed lending—the keys are good-quality assets and cash flow that can reasonably be expected. First-lien deals, second-lien deals.
  - More structured transactions, e.g., Volumetric Production Payments (VPPs), Net Profits Interests (NPIs), Overriding Royalty Interests (ORRIs), secured hedging, etc.
  - Mezzanine financing, debt with equity kickers, etc.
  - Traditional private equity, particularly backing management teams or buying significant operations, growing them, etc.

The End of the Little Guy?

M&A Trends in the Oil and Gas Industry
in 2011–2012 and Beyond

M&A Trends
Increased Consolidation in 2011

- 1,322 deals announced in 2011 compared to 1,258 in 2010 (Source: E&Y)
  - 2011 deal value was about 7 percent less than in 2010, primarily due to fewer megadeals
  - In 2010, 76 transactions valued in excess of $1 billion; 71 in 2011
- Abundance of targets
  - Reserve-rich companies with reduced access to external funding due to weak economic climate and uncertainty of future prices

M&A Trends
Increased Consolidation in 2011 (cont'd)

- Cash-rich buyers due to prolonged period of high oil prices
  - NOCs (especially Asian) expanding into North America/emerging markets
    - For example, Chinese acquisitions in 2011:
      - China Petrochemicals $3.75 billion offer to Galp Energia SGPA SA to buy its offshore Brazilian assets
      - SinopecCorp.'s offer to Daylight Energy Ltd. for $3.03 billion to buy its gas assets, and the 15 percent stake in Australia Pacific LNG of ConocoPhillips for $1.75 billion
      - China National Offshore Oil Corp.'s (CNOOC) $2.07 billion deal to acquire a 35 percent stake in Long Lake oil sands SAGD project of OPTI Canada Inc.
    - 65 African transactions reported in 2011 compared to 59 in 2010 (Source: E&Y)
  - IOCs increasing in size and restructuring their portfolios

M&A Trends
Recent Events – Reduced Consolidation in 2012

- Fewer M&A transactions than in 2011
  - 626 deals with values of at least $1 million in the year ended September 30, 2012
  - 799 deals in the previous 12-month period (Source: S&P Capital IQ)
- But larger in size
  - Total value of deals with values of at least $1 million in the year ended September 30, 2012: $249 billion
  - Total value of deals in the previous 12-month period: $235 billion

M&A Trends
Recent Events – Reduced Consolidation in 2012 (cont'd)

- Reduction in number of deals reflects:
  - Continued economic weakness
  - Volatility (which makes it difficult to price deals)
  - Lower prices due to overcapacity in the oil market and, especially in North America, the natural gas market (in large part because of increased production from unconventional plays)

M&A Trends
Future – Trends and Issues to Consider

- Potential targets continue to find difficulty accessing capital, and potential purchasers continue to have cash to spend on acquisitions
- Growth of investment in offshore projects
- Continued interest in emerging markets
- Price outlook remains uncertain
  - Economic and geopolitical situation is unclear
  - Risk of overcapacity due to growth of unconventional resources
    - Will Europe and other regions develop unconventional resources?
    - Will U.S. government provide legal approvals for development of gas export terminals?
    - How will increased North American production of oil and gas affect global markets?

M&A Trends
Future – Trends and Issues to Consider (cont'd)

- If oil prices decline significantly, M&A activity could be reduced
  - NOCs would likely be affected more because they are often required to make certain investments /subsidies in their home market and would have less cash to spend on acquisitions
  - This is less of a concern for NOCs investing for strategic reasons (e.g., Chinese companies)

The Great Sponge of China

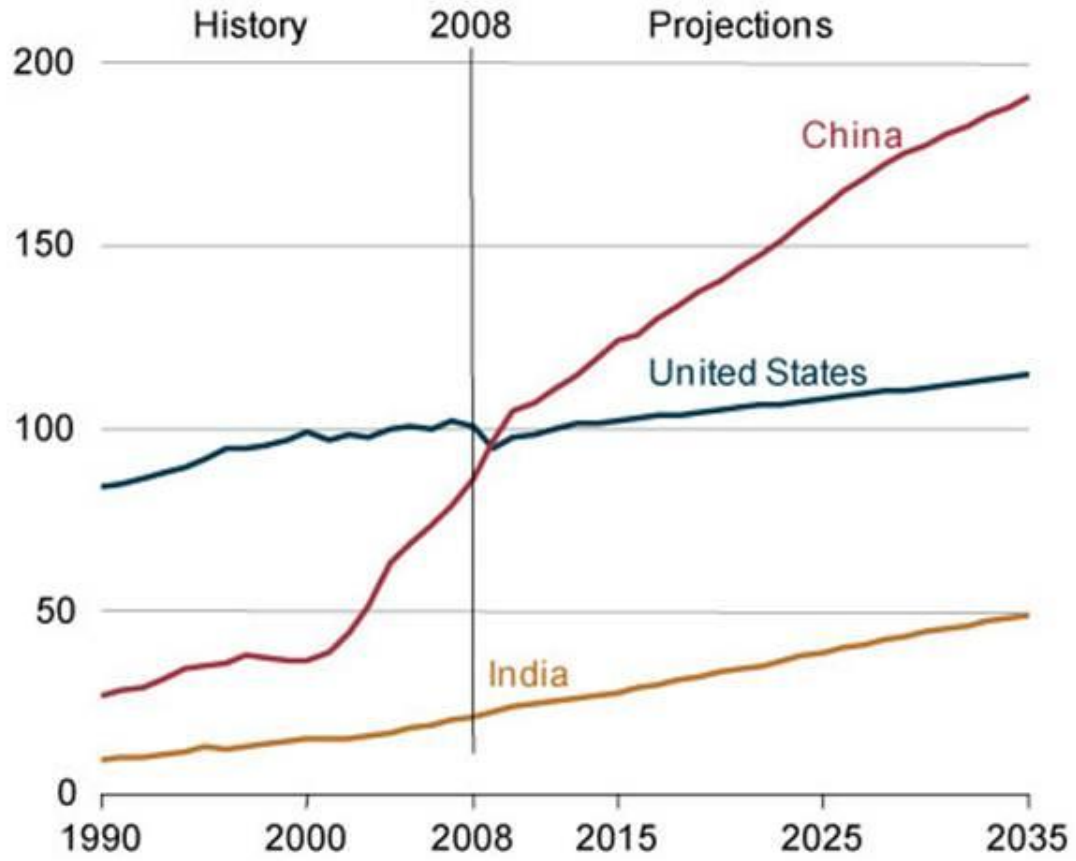
China's Thirst for Oil: Implications for Global Security

China
Energy Demand

- Population: 1.35 billion
- Average real GDP growth per year since 2000 of 9.2 percent
- 600 million people lifted out of poverty since 1979
- Massive infrastructure build-out
- China world's largest energy user
- More cars purchased in China than U.S.
- China to overtake U.S. as top oil consumer by 2030

China
Energy Supply

Figure 13. Energy consumption in the United States, China, and India, 1990-2035
(quadrillion Btu)



Source: EIA

China
Energy Supply (cont'd)

- China imports half its energy supply
- Large coal and natural gas deposits (alternative fuels)
- Building nuclear and coal power plants (electric vehicles)

China
“The Art of More”

- “Go out” strategy to lock up oil contracts
  - Focus on Africa: investing billions and expending political capital
  - Using state tools to win contracts and influence
- “Go anywhere” approach
  - Chinese companies investing tens of billions of dollars in Iran oil and gas sector
- Expanding military footprint and capability
  - Establishing listening posts, stations and bases around the Indian Ocean
  - Double-digit increases in annual defense spending
  - Rapid naval buildup
  - Vigorous pursuit of military technology

China
Global Implications

- Upward pressure on global oil prices
- Major impact on global environment
  - GHGs and other air emissions
- New global “standard setter”
  - China’s huge market likely to be global standard setter for automobiles, etc.
- Free rider in global security
  - Not bearing sufficient share of security costs and responsibilities

China
Implications for International Security

Potential friction zones

- Africa
  - Race for investment, influence and oil contracts
- Middle East
  - China oil/gas deals with Iran contravening international norms and sanctions
- South China Sea
  - Huge OCS potential; disputed waters; nervous neighbors
- Global commons
  - Maritime
  - Poles

China
Implications for U.S. Policy

- Need for long-term national energy strategy
  - Diversify transportation energy mix
  - Increase energy efficiency
  - Foster energy innovation
- Need for energy cooperation with China
  - R&D
  - Conflict prevention and dispute resolution mechanisms and protocols
- Need for China to share in global responsibilities
  - Bear fair share of security function
  - Contribute to good governance and transparency
  - Participate/cooperate with international energy and security institutions

Natural Gas Renaissance

Implications for U.S. Energy Security in the Transportation Sector

Natural Gas Renaissance
Transportation Energy Insecurity

- U.S. energy insecurity predominantly a transportation sector phenomenon
- Transportation sector 90 percent dependent on petroleum
- U.S. imports 45 percent of oil supply

Natural Gas Renaissance
Consequences of Dependence

- Subjects U.S. economy to oil supply disruption and price volatility
- Increases the stakes of regional instability in oil-rich areas: Middle East and Africa
- Encourages targeting of infrastructure by nonstate actors
- Requires extraordinary U.S. outlays and security assets to protect global supply lines
- Provides extraordinary political leverage to OPEC and nationalized oil companies.
- Perpetuates dependence on high carbon and criteria pollutant-emitting fuels
- Drives trade imbalance
- Encourages “Dutch disease” in emerging economies

Natural Gas Renaissance
Natural Gas Boom

- Fracking and 3-D imaging opening up vast new supplies in U.S.
- 100-year U.S. supply of natural gas
- Opportunity to use natural gas to diversify U.S. transportation energy mix
  - Compressed Natural Gas (CNG)
  - Liquefied Natural Gas (LNG)
  - Hybrid-powered vehicles

Natural Gas Renaissance
Benefits of Natural Gas in the Transport Sector

- Reduces risk
  - Abundant resource
  - Home-based/North American-based
  - Diversifies energy mix
  - Lowers GHG emissions
- Lowers emissions
  - 20-27 percent percent fewer GHG emissions than gasoline or diesel
  - 70 percent less carbon monoxide; 87 percent less non-methane organic gas; 87 percent less NOx
- Enhances economic strength and competitiveness
  - Creator of jobs, higher payrolls and increased revenues to the Treasury
  - Potential for exports
  - Global demand for innovations

Natural Gas Renaissance
Challenges

- Higher upfront costs for vehicles
- Limited range and trunk space
- Lack of refueling infrastructure
  - 1,500 natural gas refueling stations in the U.S., over half of which are open to the public
- High cost of new distribution systems
- Difficulty in scaling to reduce cost

Natural Gas Renaissance
Policy Challenges

- Market dynamics versus government intervention in fuel/power choice
- Appropriate role of federal subsidies and incentives
- Appropriate role of federal purchasing power/scaling
- Costs and risks of dedicated infrastructure build-out
- Economic and political implications of exporting natural gas