Contracting & Financing Issues in Energy Infrastructure

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Oil and Gas Infrastructure

- Extraction
- Transportation
- Transformation (Refining, LNG etc)
- Storage
- Export Facilitation

Economic & Financial Incentives: Basic Questions

- What factors most impact the economic and financial incentives to invest in infrastructure?
- Specifically, what are the economic impediments to infrastructure development and performance?
  - Suboptimal contract design
  - Difficulty in attracting investment from banks and capital markets
  - Business structures not conducive to investment in infrastructure growth and efficiency
  - Suboptimal regulatory frameworks

Contractual Issues

- New natural gas pipeline, terminal, and storage infrastructure investment is typically based on contract design geared for low risk of cash flows:
  - Long-term firm commitments (10 years or more) from gas suppliers
  - Low volume risk (no accommodation for "interruptible service" preferences of certain buyers
  - Fee-based
- Contracts between producers, suppliers (aggregators), and buyers are typically short term
- Major buyers (such as power generators) want "interruptible service" contracts to accommodate generation geared to serve very short term demand peaks.

Financing Issues

- Ultimately, investment in energy infrastructure requires financial resources allocated by capital suppliers (banks, institutional investors, etc.)
- Investment in infrastructure therefore needs to be competitive in the sense of expected after-tax returns exceeding the required risk-based cost of capital
- Investment in energy infrastructure will depend on
  - Whether asset ownership structures allow high after-tax returns with relatively low risk?
  - Overall portfolio environment: What is the opportunity cost of capital in energy infrastructure investment?
  - Strategic imperatives: Is investing in infrastructure part of a broader strategy in the unconventional hydrocarbon space?

Asset Ownership Issues

- The Master Limited Partnership (MLP) asset ownership structure has been dominant in midstream infrastructure because of special tax protection and cash flow pass through (low risk) features
  - Will the MLP continue to be the optimal ownership structure to attract investors in a changing market and economic environment?
  - What are the pros and cons of alternative ownership structures such as Yieldcos?
  - What are the incentives of other infrastructure-focused entities, such as private-equity backed midstream companies, infrastructure funds, foreign investors, commodity-based hedge funds?
  - Does ownership of midstream infrastructure firms form a part of broader M&A strategy to enter/enhance existing position in the shale play?

Regulatory Issues

- Is there a regulatory “fix” that can address the contractual issues?
  - Example: Bring power generation and natural gas industries under the same regulatory regime?
- Caution: Contract design is endogenous --- driven by the commercial interests of parties --- and cannot be realistically mandated through regulatory fiat (the curse of unintended consequences !)
  - Example: The desired contract attributes of infrastructure providers will be largely be determined by the market environment (commodity price risk, expected returns) and their debt structure (matching debt contract horizons)