KKR

Oil & Gas Market Opportunity in North America

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Overview

KKR believes that the oil and gas industry in North America represents a compelling area for investment when approached with the right set of capabilities. We believe that (i) the combination of recent structural change, enormous capital intensity, recent weakness in certain commodity prices, industry complexity, and producer fragmentation creates a fertile environment for capital providers and (ii) the supply-demand balance for capital in oil and gas favors capital providers, like KKR, with deep industry and technical expertise.

North American Oil & Gas Market Opportunity

We believe that a variety of factors combine to make the oil and gas industry investment opportunity compelling:

- **Long-term demand outlook is strong:** Increased standards of living in emerging economies will drive strong demand for energy in its many forms – oil, natural gas, natural gas liquids, coal, electricity, renewables, and other minerals – while developed economies continue to demand many forms of energy to maintain and improve upon their standards of living. In September 2011, the U.S. Energy Information Administration (EIA) forecasted that global energy consumption would increase by 53%, from 505 quadrillion Btu in 2008 to 770 quadrillion Btu in 2035. We believe that this projected demand growth and favorable outlook will be supportive of commodity pricing across key markets over the intermediate-to-longer-term horizons and, therefore, supportive of energy investments.

- **Innovation is re-inventing the energy industry:** Globally, high natural gas and oil prices from 2005 until the first half of 2008 created the incentive for the development of new technologies – horizontal drilling and hydraulic fracturing of reservoirs – to access known unconventional resources. Prior to these technological developments, these reserves had been "uneconomic" (unprofitable) to extract due to their high finding and development costs; however, today these reserves are being extracted economically. This has caused structural changes throughout the industry; in North America, drilling opportunities have shifted away from high-risk exploration and towards lower-risk development of known resources based on proven technologies. These technologies require enormous capital investment given higher upfront well drilling and completion costs. This innovation in the upstream segment of the oil and gas value chain – in which resources are drilled and then produced – has multiple resultant impacts on the oil and gas industry. First, many companies now find themselves with attractive, lower-risk (i.e., not explorative) and enormously capital intensive development opportunities, but in need of external capital to develop them. Second, many of these companies are looking to sell their mature, producing assets in order to redeploy their capital into such opportunities.

- **Asset intensity is driving enormous capital needs:** The oil and gas industry is enormously capital intensive because of both the declining production profiles of oil and gas assets and the high costs of development. By their nature, oil and gas assets decline in production over time as the resources in place are depleted. Nevertheless, oil and gas producers seek to maintain or grow production volumes year over year. As a result, they are constantly required to develop new resources to replace declining volumes. Directly highlighting this fact, global investment in energy supply infrastructure is projected to be $38 trillion over the period of 2011 to 2035 according to the International Energy Agency (World Energy Outlook 2011).

- **The industry is highly fragmented:** Given the geographic diffusion of oil and gas assets and the relatively low entry barriers for leasing acreage, the oil and gas industry is enormously fragmented. There are over 9,400 companies focused on exploration and production of oil and gas assets in North America, and the quality of producers' assets is not necessarily correlated with their size. As such, many are under-capitalized and private with attractive assets and limited access to capital.

- **Change is driving complexity / inefficiency:** The structural change driving the industry has amplified complexity at a time when capital needs are enormous. As no two unconventional assets are necessarily alike, capital providers require technical expertise to adequately evaluate investment opportunities. Such expertise requires significant investment of time and resources; this higher "price of admission" limits the capital available to the industry and confers significant advantages to those who have developed differentiated technical capabilities, as KKR has.

- **Oil and gas is recognized as an important component of investors' portfolios:** Real asset investing in energy has the potential to provide many attractive portfolio construction benefits, including: substantial current yield given the cash generative nature of the assets, inflation protection, and limited correlation with other key asset classes (equities and debt).

Unprecedented Need for Capital

There is an unprecedented need for capital in the North American oil and gas industry due to:

- **The Capital Intensity of Unconventional Development:** The nature of unconventional development is extremely capital intensive given the upfront cost of drilling increasingly expensive wells, which in most instances requires significantly outspending internally generated free cash flow;

- **Divesting of Non-Core Assets:** Due to the capital intensity of unconventional development and its prospects for attractive returns, many mature producing assets are being divested to free up capital to pursue unconventional development programs, creating opportunity for capital providers with differentiated capabilities in acquiring and optimizing mature assets; and

- **Depressed Commodity Pricing Environment:** Today's low natural gas price environment – a result of the influx of new production from unconventional development – has augmented the industry's capital need by depressing industry cash flows, causing many producers to find themselves constrained by over-levered balance sheets.

Conclusion

In short, given the discontinuities impacting the North American oil and gas industry today, as well as the fragmentation and capital intensity of the industry, the demand for capital greatly outweighs its supply. In this context, KKR believes there are compelling opportunities to invest in a variety of conventional and unconventional North American upstream and midstream opportunities when approached with the right skills and capabilities through a flexible, relationship-driven approach.