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The Value of Natural Gas Storage in Today's Energy Markets

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Abstract:

Demand growth for natural gas has outpaced crude oil in recent years and is expected to do so in the next decade. Though supply will likely keep pace with demand growth, infrastructure necessary to deliver supply to the markets will need to expand. Storage is a vital component of gas transportation infrastructure.

High deliverability gas storage is best able to meet the needs of the incremental markets for gas, notably gas-fired power plants and Local Distribution Companies (LDC's) located in population growth areas. These new gas markets require widely varying gas rates both intra-day and inter-day as weather patterns and load growth rates change. Reservoir storage, geared towards seasonal gas demand, is generally limited to 1-2 cycles per year, whereas domal and bedded salts have characteristics that facilitate high deliverability and multiple cycles. As a result of increased demand for high deliverability storage, most new development is multi cycle.

Gas storage has value along the energy value chain, from gas producers to end-users, with pipelines, marketers and traders each playing a vital role in-between. This paper discusses the value each of these parties assign to natural gas storage.

1. Introduction:

Increasingly over the past few decades, natural gas has evolved from being a low value by-product of oil production to an environmentally friendly fuel source in high demand. Natural gas pricing has reflected this evolution. Fifteen years ago, natural gas sold at a significant discount relative to the energy basis of other fuels, today it is very close to parity, and in certain markets commands a premium. **Figure 1** illustrates the relationship between natural gas and crude oil prices since 1964.