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# Master Limited Partnership Primer

## Understanding an Emerging Asset Class

Alerian is a registered investment advisor that manages portfolios focused on midstream energy Master Limited Partnerships (MLPs) for a variety of institutional and individual clients.

The company focuses on fundamental analysis in this emerging asset class, combining a detailed, bottoms-up private equity philosophy with risk management programs designed to preserve capital and mitigate portfolio volatility. Alerian believes that this sector of the energy infrastructure space will continue to grow dramatically over the next decade and offers one of the most attractive risk-reward investment profiles available to investors.

Alerian positions its portfolios with a long-term investment horizon by focusing on those companies with the strongest management teams and most attractive investment opportunity sets in the midstream energy sector to provide downside protection with predictable distribution growth.

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## Table of Contents

|  |    |
|--|----|
| Executive Summary .....  | 3  |
| Why own Master Limited Partnerships?.....  | 5  |
| Thematic Investment in US Energy Infrastructure Growth.....                            | 6  |
| Hard Asset Play Provides Tangible Value in a Potentially Inflationary Environment..... | 8  |
| Better Business Models.....  | 8  |
| MLPs Exhibit Insignificant Correlation with the Broader Equities Market .....          | 9  |
| An Emerging Asset Class.....   | 10 |
| Substantial Investment Required to Meet US Infrastructure Demands .....                | 11 |
| The Future of MLPs is Here Today .....   | 12 |
| Structural Valuation Issues Create Substantial Long-Term Upside.....                   | 13 |
| Flying Under the Radar – Limited Institutional Ownership of MLPs.....                  | 13 |
| The Emergence of Pure-Play Publicly Traded GPs .....                                   | 15 |
| The Alerian MLP Index Series .....   | 17 |
| What is a Midstream Asset?.....  | 18 |
| Crude Oil/Refined Products Transportation .....  | 18 |
| Marine Transportation.....   | 20 |
| Crude Oil/Refined Products Terminals.....  | 20 |
| Midstream Natural Gas Industry.....  | 21 |
| Transportation.....  | 21 |
| Gathering .....  | 22 |
| Dehydration.....   | 22 |
| Treating .....   | 23 |
| Processing .....   | 23 |
| Fractionation .....  | 23 |
| Storage.....   | 24 |
| LNG Transportation .....   | 25 |
| Valuing Midstream Energy Businesses.....   | 27 |
| Popular Misconception: Relative Yield .....  | 27 |
| Stable, Growing Distributions – The Defining Characteristic of the MLP Model.....      | 27 |
| Distribution Discount Model.....   | 28 |
| Investment/Acquisition Optionality.....  | 28 |
| Other Relative Price Metrics.....  | 29 |
| The Re-Birth and Collapse of the E&P MLP .....   | 30 |
| Fundamental Risks.....   | 32 |
| Regulatory Risk .....  | 32 |
| Demand-Side Throughput Risks .....   | 32 |
| Supply Asset-Specific Risks .....  | 33 |
| Macro Supply Disruptions.....  | 33 |
| Environmental Accidents .....  | 34 |
| Terrorism.....   | 34 |
| Tax Law Changes.....   | 34 |
| Financial Risks .....  | 35 |
| Interest Rates .....   | 35 |
| Equity Volatility and Correlation.....   | 36 |
| Equity Crises.....   | 36 |
| Appendix.....  | 37 |
| A History of the Creation of MLPs .....  | 38 |
| General/Limited Partner Structure.....   | 39 |
| Income Tax Treatment.....  | 41 |
| Disclaimers.....   | 42 |

## Executive Summary

Master Limited Partnerships, or MLPs, are engaged in the transportation, storage, processing, refining, marketing, exploration, production, and mining of minerals or natural resources. By confining their operations to these specific activities, their interests, or units, are able to trade on public securities exchanges exactly like the shares of a corporation, *without entity level taxation*. Of the 75 partnerships that Alerian follows closely, two-thirds trade on the New York Stock Exchange with nearly all of those remaining on the NASDAQ. These companies are regulated by the Securities Exchange Commission and must file 10-Ks, 10-Qs, and notices of material changes like any publicly traded corporation. MLPs must also comply with the recordkeeping and disclosure requirements of the Sarbanes-Oxley Act.

Since 1995, the Alerian MLP Index (NYSE: AMZ) has generated compound annual total returns of 14.5%, under the radar of the professional investment community. These strong returns were generated through a combination of current yield and consistent distribution growth driven by the uniquely attractive business models afforded by these companies' regional franchise monopolies.

These partnerships generate predictable and growing cash flows (and therefore distributions) predicated on the following:

- Long-lived, high-value physical assets
- Producer Price Index (PPI) revenue indexing, which provides predictable growth and a built-in inflation hedge for portfolios
- Substantial barriers to entry, which generate attractive organic investment opportunities
- Strong operating leverage through hard assets that magnify inelastic demand

The energy infrastructure MLP sector, which includes companies that own and operate long-lived, high-value physical assets that engage in the transportation and storage of natural resources such as refined petroleum products and natural gas, today represents \$75 billion of public market capitalization out of a total \$100 billion in MLP market capitalization. MLPs have traditionally been owned by United States retail investors (institutional MLP ownership is less than 10%). The market capitalization of the MLP sector has grown exponentially over the last decade, driven by asset rationalization into MLPs, which have the operating expertise and the organizational structure to optimize their use, and by demand for new energy infrastructure. In 2000, the sector market capitalization was a mere \$20 billion; this figure doubled by 2003 to \$40 billion and doubled yet again by 2006 to \$80 billion. Alerian expects MLP market capitalization to continue to grow from the current \$100 billion level as the demand for new energy infrastructure continues to drive investment.

Thematically, an investment in an energy infrastructure MLP is an investment in the build-out of US energy infrastructure over the next decade. Unlike US or Canadian royalty trusts, which own depleting resource pools, these are toll-road business models on long-life assets. Modern pipelines benefit from rust coatings and cathodic protection that will allow these pipelines to operate without major maintenance for 100 years or more. In fact, there are pipelines that were put in the ground prior to World War II which had no rust coating of any kind that are still in use today. There is much speculation today about the future trajectory of oil prices, the appropriate levels of storage, and the sufficiency of refining capacity. However, one thing that most "experts" agree on, regardless of whether they are calling for \$25, \$50, or \$100 per barrel of oil, is predictable 1% annualized energy demand growth in the US over the next two decades, in spite of the current economic situation. Demographic shifts and population growth trends increase the demand for energy goods. As a result, long-haul pipeline MLPs are agnostic to these commodity price forecasts, and benefit from simple throughput gains in a fixed-cost pipeline system.

Industry estimates indicate that the US needs \$100 billion of new natural gas infrastructure over the next decade and a nearly equivalent amount in crude oil and refined petroleum products processing, storage, and transportation infrastructure. Additionally, there are more than \$200 billion of US midstream assets currently owned in both private and public corporate structures that are being rationalized into the asset class at a rate of \$5 billion per year through acquisition and the creation of new MLPs. The MLP structure is also ripe for billions more in new technology infrastructure once these assets are built and generating cash, including liquefied natural gas (LNG) terminals, gas-to-liquids technology, and coal gasification. Alerian believes that this emerging asset class represents an attractive value proposition given the low-risk business profiles of most MLPs.

MLPs are attractive, not because of their tax treatment or structure, but because of the type of assets that have migrated into the asset class over the last decade. Energy infrastructure is an attractive business model – regional monopolies with transparent federal regulation that transport commodities with inelastic demand. An investment manager cannot take this type of pure-play exposure into his or her portfolio through any other form of public equities. If office buildings are to be considered a stable investment in real value, the pipelines that transport the natural gas to run the air-conditioning in the summer and heat the property in the winter ought to have that same permanent value.

Many will note, however, that the asset class is not what it used to be, and is moving away from the type of assets we have described above. This is partly true. With a surge in initial public offerings (more than 30 in 2006 and 2007 combined), many new types of assets have entered the structure, and many of them do not have the same monopoly footprints or supply diversity as their predecessors. There has been a very strong trend closer to the wellhead as commodity-price-sensitive businesses dominated the IPO space over the 2006 and 2007 period. Earnings volatility is not synonymous with lower quality but financial leverage, distribution levels, and hedging strategies must be appropriately conservative given such volatility. Investors must also be cognizant of such risks in deciding the appropriate equity price. That being said, Alerian has always been and will remain focused, as a firm, on traditional long-haul energy infrastructure assets.

The core thesis that Alerian was founded on in 2004 and maintains today is that MLPs are on a trajectory very similar to that experienced by the Real Estate Investment Trusts (REITs) in the late 1980s. On average, in a normalized market environment, the firm expects 5-10 initial public offerings each year for the foreseeable future. High-returning organic investment projects and acquisitions will continue to create tremendous value and demand for additional capital inflows. The 2004 Jobs Creation Act contained a codicil that largely failed in its attempt to broaden mutual fund investment in MLPs. Although private “hedge” fund participation has increased, reaching a short-term peak in 2007, we do not expect to see a wholesale increase in institutional (mutual fund, tax-exempt) participation in the asset class as structural barriers to entry that effectively preclude widespread mutual fund ownership are unlikely to be removed without a legislative rewrite. Until this event occurs, the space will likely remain inefficient with a high dispersion of returns. However, liquidity and market capitalizations have reached the point where MLPs could comprise a meaningful portion of a large institutions portfolio. As the sector continues to provide superior distribution yield and growth versus other yielding equities, moderate growth in institutional participation will likely continue. Legislative progress and meaningful mutual fund and institutional adaptation will likely take some time. When such a radical shift in institutional participation occurs we expect the sector to experience a substantial revaluation. However, in the meantime, we believe the sector simply offers a very attractive risk/return profile.

In this uncertain environment, the fundamentals are genuinely in place for MLPs to generate attractive risk-adjusted returns, without a broader market recovery. Combining a near 8% group-average yield with consistent distribution growth, we continue to expect low-to-mid-teens annualized total returns for the sector over the next five years.

## Why own Master Limited Partnerships?

Over the past 15 years, midstream MLPs have outperformed the S&P 500 with a cumulative gain of over 550% versus a 120% for the broader market, and a compound annual return of 14.5% versus a 5.6% gain. Many investors look at the historical returns wistfully believing they have missed out and that it must be too late. Or, they look at the 2008 decline in MLP prices, and wonder if the story really remains the same. *The fundamental and structural underpinnings that led to decades of outperformance remain solidly in place. Valuation remains structurally inexpensive relative to other yield-oriented equity classes. Demand for investment in new energy infrastructure has never been greater. The structural encumbrances that restrict wholesale institutional investment and create exploitable inefficiencies in the market are still in place.* This asset class is still in its infancy and the opportunity for superior returns over the next decade still exists.

### Midstream energy businesses have generated superior historical returns:

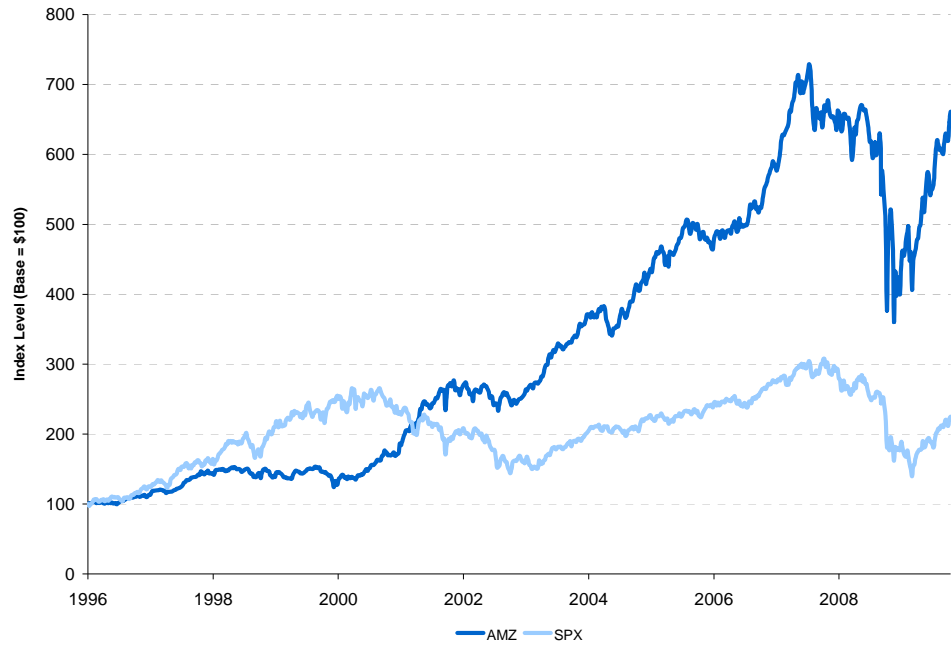
(Total Returns First Quarter 1996- Third Quarter 2009)

|                | Annualized Return | Current Yield | Value of \$1,000 | Correlation | Sharpe Ratio | % Positive Months | Standard Deviation |
|----------------|-------------------|---------------|------------------|-------------|--------------|-------------------|--------------------|
| Infrastructure | 14.5%             | 8.2%          | \$6,476          |             | 0.56         | 64%               | 16.1%              |
| REITS          | 8.8%              | 4.3%          | \$3,204          | 0.31        | 0.15         | 62%               | 21.9%              |
| Utilities      | 8.0%              | 4.2%          | \$2,968          | 0.38        | 0.22         | 61%               | 13.8%              |
| Fixed Income   | 6.1%              | 3.9%          | \$2,266          | 0.05        | 0.34         | 70%               | 3.5%               |
| S&P 500        | 5.6%              | 2.4%          | \$2,188          | 0.32        | 0.04         | 62%               | 16.3%              |
| Russell 2000   | 5.8%              | 1.6%          | \$2,291          | 0.33        | 0.04         | 60%               | 20.9%              |
| NASDAQ         | 4.8%              | 0.9%          | \$2,017          | 0.25        | 0.00         | 55%               | 27.0%              |
| Dow Jones      | 6.8%              | 3.0%          | \$2,482          | 0.30        | 0.12         | 60%               | 16.0%              |

Source: ACM, Bloomberg, Hennessee. Past performance is not a guarantee of future returns.

There has only been one period in which MLP performance significantly lagged the S&P 500, and this occurred during the tech boom of 1998-99, when investors became excited about growth and were willing to pay extraordinary multiples for high-growth companies. The same phenomena dragged down the performance of other higher-yielding equities such as REITs and utilities.

**The AMZ vs the S&P 500:**  
(Total Returns December 1995- April 2009)



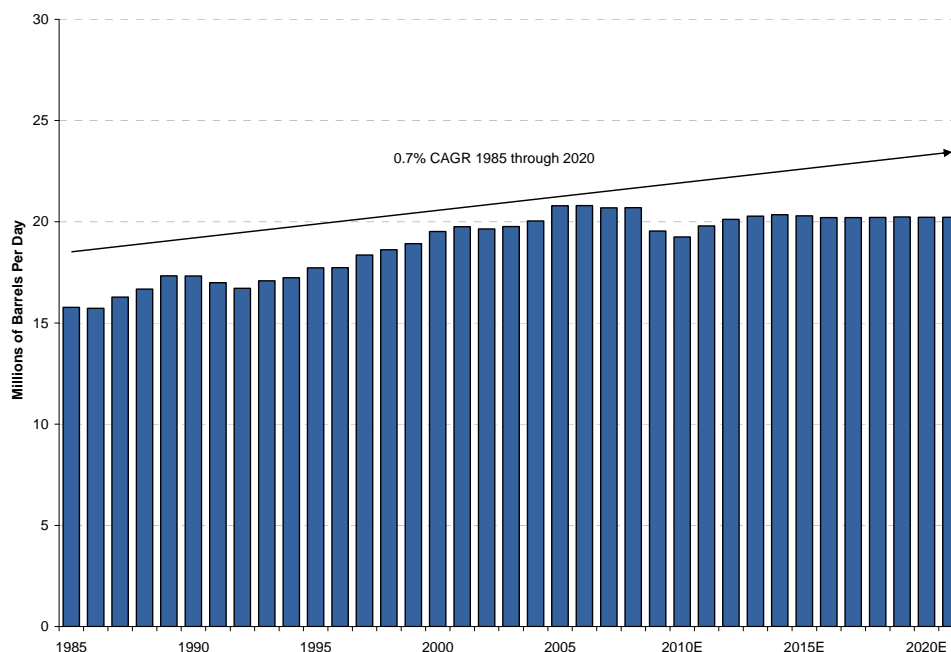
Source: ACM, Bloomberg, ACM. Past performance is not a guarantee of future returns.

We expect the internal and acquisition growth of the past decade to continue, albeit at a more conservative and thoughtful pace. We believe that these opportunities will significantly add to annual returns and boost future valuation, as investors will likely begin to more appropriately discount the strong and predictable growth rates. Over the long run, Alerian feels comfortable these energy infrastructure MLPs can provide market-beating total returns.

### Thematic Investment in US Energy Infrastructure Growth

There are many perspectives on the future direction of commodity prices. Every CEO, commodities analyst, and portfolio manager has his or her two cents on where he or she thinks oil and natural gas prices will trend over the next decade. Some believe that we have entered a repricing of the planet, a new paradigm, and that as India and China continue to consume greater amounts of fuel, commodity prices will continue to rise. There are others that are more sanguine on supply and point toward record storage levels and new technologies that will unlock the vast undiscovered oil fields around the globe that were previously uneconomic. Regardless of which side of the debate they lean toward, there's something that just about every opinionated oil executive, analyst, and portfolio manager can agree on – petroleum products and natural gas domestic energy demand will continue to increase over the next decade, just as it has for the previous two.

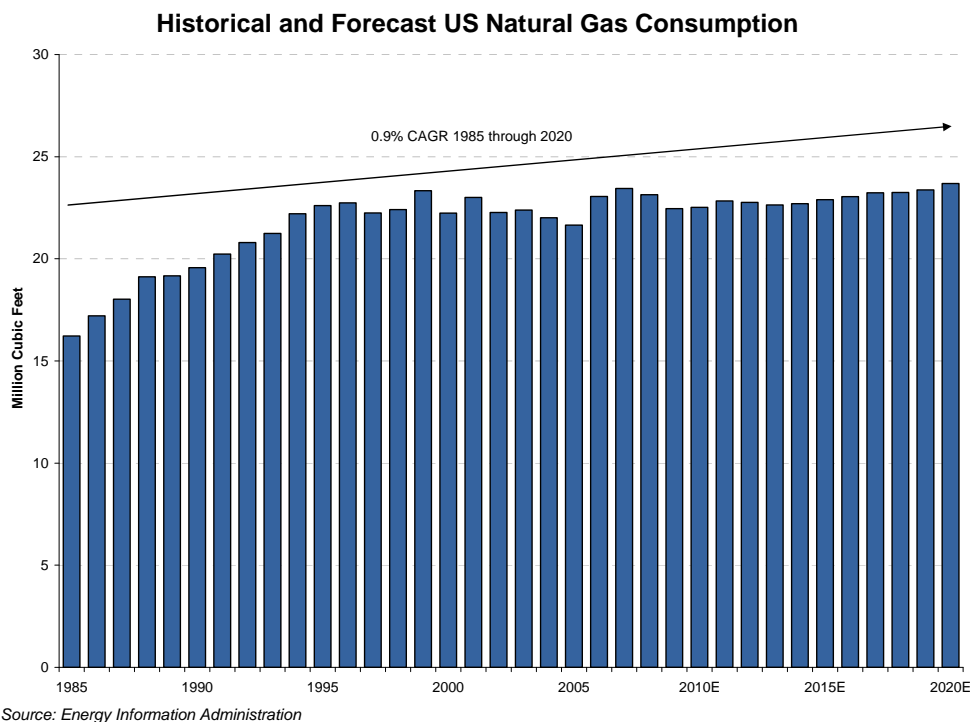
### Historical and Forecast US Petroleum Products Consumption



Source: Energy Information Administration

It is this predictable trend that has driven the outsized returns of the last two decades in MLPs. In today's volatile commodity world, what gives Alerian the confidence that this trend will continue? What of conservation and demand destruction? There are several key points to make. One is regarding our certainty level and the potential magnitude of error in our estimate. How likely is our 1.00% energy demand growth estimate to be correct? Could it be 2%? Could it be negative? We believe that given current demographic population growth trends, even with significant advances in the fuel efficiency of a vehicle fleet with a 14-year turnover, it is highly unlikely that petroleum products demand would not remain at least flat with today, five years, ten years, or twenty years hence. Negative growth is certainly possible for a period, perhaps for a few quarters or years, but over the longer term, as the US population continues to grow, spreads south and west, and the suburban sprawl continues to increase the number of drivers traveling longer distances to reach their places of work, the firm believes there is a very strong floor under today's demand levels. We believe that as population growth and immigration continue, overall demand will continue to grow, even if per capita growth is more muted. It is this creeping growth and the shifting of North America's traditional supply sources that necessitates new investment in energy infrastructure. Investors have not missed the boat on MLP performance because the fundamental macro factors that have driven the asset class remain unchanged.

The sources of North America's energy commodities is on the move. Natural gas is no longer primarily developed by wildcatters in Texas. The Rockies, new shale plays across the country, and LNG hold our natural gas future. Approximately 75% of our petroleum products are foreign sourced; international gasoline arbitrage, Canadian oil sands and coal-liquefaction technology now hold our petroleum products' future. As transportation dynamics change and these trends continue to play out over the next decade, hundreds of billions of dollars of greenfield investment will be required. MLPs have been and will continue to be at the forefront of this value creation, and the need for investment in US energy infrastructure has never been greater.



MLPs are typically toll-road business models. They (1) receive a specified tariff for hauling a product over a certain distance; (2) do not take title to the commodity; (3) do not have balance sheet exposure; (4) are largely agnostic to the level of commodity prices because these prices do not enter the revenue equation; and (5) do not have significant credit risk as commodity prices balloon. As the energy and investment communities continue to argue over whether oil will trade at \$25 per barrel or \$100 per barrel in 2010, the more certain bet is on the growth trajectory of US energy demand and the high-return capital spending projects that will have to take place to support it.

#### Hard Asset Play Provides Tangible Value in a Potentially Inflationary Environment

Modern pipelines benefit from rust coatings and cathodic protection that will allow these pipelines to operate without major maintenance for 100 years or more. In fact, there are pipelines that were put in the ground prior to World War II which had no rust coating of any kind that are still in use today. Potentially, after we have exhausted this planet's supply of gaseous and liquid hydrocarbon energy resources, these conduits could be converted to alternative fuels such as hydrogen and ethanol. For the intervening generations, however, we believe these pipeline and other midstream assets will provide real, long-term, and growing cash flows.

#### Better Business Models

MLPs generated 14.5% annualized returns over the past fifteen years, not because of any one-time event or change in relative valuation, but by consistently growing their cash distributions over that period by 8-9% per annum. Their ability to continue to do this rests with their unique and superior business models. Midstream assets are typically entrenched regional franchises that in turn support consistent growth. These dominant, and in some instances, monopoly franchises possess innate competitive advantages aided by regulation. Most MLP pipeline assets are governed by a federal agency that protects their rights of way and provides for attractive rates of return to investors. Initial tariffs are generally predicated on a cost basis and then indexed to a measure of inflation,

providing a built-in inflation hedge. Volumes have historically been and should continue to be highly predictable over the long run, as they are a function of population growth and demographic trends.

MLPs offer far more secure and predictable earnings than the broader market and, in fact, the S&P 500 earnings volatility is more than three times that of our MLPs under coverage. MLPs own assets with useful lives of 30-40 years or longer that provide consistent cash flows without the need for substantial maintenance capital expenditures. Consistency is aided by fairly inelastic demand, as residential and commercial consumers heat and cool their homes and businesses and commuters drive to work even in the worst of times. Industrial customers can only take advantage of fuel-switching alternatives and capabilities to a certain extent, and product throughput has risen over the past decade despite the fallout from September 11<sup>th</sup> and the ensuing 2002, and indeed, the current recession. High barriers to entry exist because initial capital costs are prohibitive and the ability to create new rights of way is very limited.

In summary, we expect midstream MLPs to generate superior risk-adjusted returns of 10 to 12% for years to come, driven by the following factors embedded in their business model that have generated their returns in the past:

- Top-line growth driven by energy demand growth and PPI indexed transportation tariffs
- Mid-single digit cash flow growth as these fixed-cost business models allow much of this predictable revenue growth to reach the bottom line
- Attractive organic investment opportunities resulting from their franchise-protected footprint, generating additional and often near-term accretion to the distribution
- Opportunities for additional asset acquisitions driven by the macro trends described in detail below, creating additional immediate accretion to the distribution.

Importantly, these are the same factors that have allowed these businesses to perform well in the past and nothing has changed in the macro environment that would suggest that these same factors will not drive returns in the future.

### **MLPs Exhibit Insignificant Correlation with the Broader Equities Market**

The majority of equity asset classes and sectors tend to be strongly positively correlated with the broader market. MLP returns have exhibited statistically insignificant correlation with the market over nearly two decades. This makes fundamental sense given that the demand for petroleum products and natural gas is highly inelastic in the near term and is largely unaffected by the vicissitudes of the economy.

For example, during 2002, one of the sharpest recessions in US history, petroleum products consumption remained flat. In the current recession, as petroleum products prices have stabilized, we have seen a similar inelasticity of demand. Swings in economic indicators and interest rates, which can roil the broader markets because they can both significantly and rapidly affect corporate America's cash flows, do not materially impact the demographic trends underpinning the long-term cash flow trajectory of MLPs.

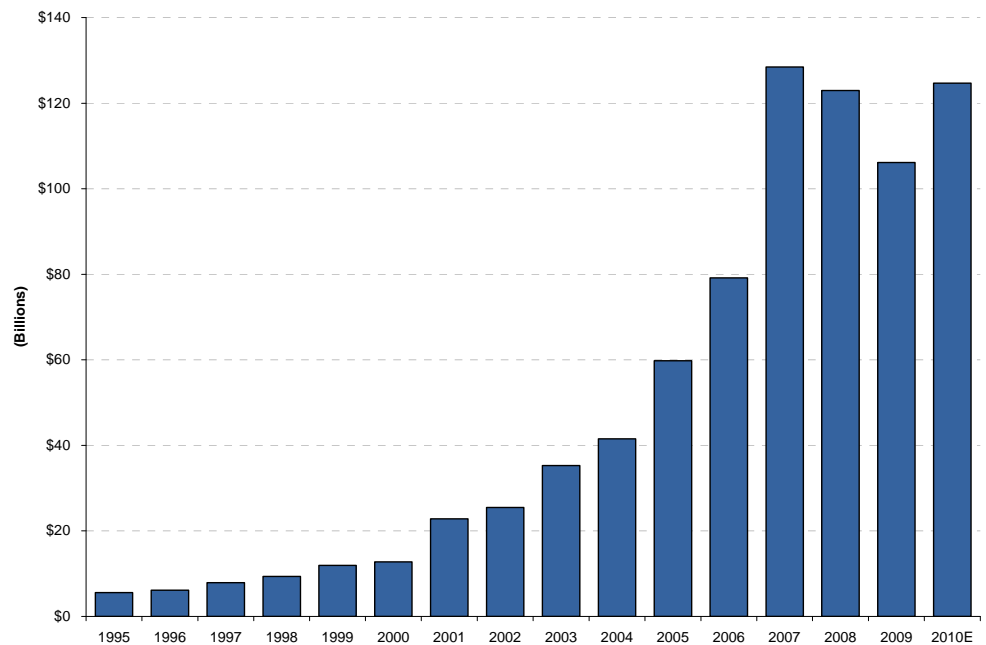
Without *physical* product shortages such as those experienced in the 1970s, there will be very little consumption impact even over a period of years during times of highly elevated prices. Therefore, regardless of the direction of performance of the broader equity markets and the cyclical state of the economy, MLP cash flows should remain consistent ultimately providing for strong equity performance that is relatively independent of these broader indicators. By adding an MLP allocation to a portfolio, risk is significantly reduced even as MLPs increase portfolio returns.

## An Emerging Asset Class

MLPs in their current form were created by Congress in 1986. Structured as partnerships, all income, losses, gains, and deductions are passed on to limited partners and are only taxed at that level (i.e. no entity-level taxation), meaning that investors in MLPs avoid the double taxation of investing in corporations. Congress created this structure to encourage investment in US natural resources and energy infrastructure. Since then, as the MLP structure has gained more widespread adoption, there has been a gradual yet quickly accelerating transition of MLP-qualifying assets from corporations to MLPs given the effective tax arbitrage of holding these assets in the partnership structure and the value that highly specialized management teams can provide.

Energy infrastructure assets held by oil majors, refiners, and utilities are often underutilized because they are not run for profit. In some cases, direct competitors would prefer not to risk divulging competitive information. Exxon's investors measure the company's performance on exploratory success, production growth, reserve replacement, and other ratios that do not reward the company's stock price for maintaining pipeline assets. The potential pipeline earnings of such companies are dwarfed by their exploration and production (E&P) cash flows. Consequently, larger energy companies continue to ignore their midstream assets and many remain undermanaged and underutilized. MLPs that hold these assets have the incentive, expertise and freedom to maximize use and profitability.

### Total Energy MLP Market Capitalization



Source: SEC, ACM estimates

Corporations with MLP-qualifying assets will often create MLPs in which they retain general partner (GP) ownership interests thus allowing these assets to be dropped down into a more tax-efficient structure where stable cash flows will be far more highly valued outside of the volatility of the parent company's earnings stream. It makes little sense for highly cyclical, low-P/E energy corporations to hold these high-multiple assets on their balance sheets. E&P companies in particular are motivated to sell these businesses given the premium that is placed by their investors on making commodity price-sensitive investments that involve both greater risk and greater potential reward.

We estimate that there are \$200 billion of such assets currently held in structures subject to entity-level taxation, much of which should ultimately be rationalized into the MLP structure. Additionally, there are many groups of assets – including refineries, oil/gas wells, coal gasification, and LNG degasification facilities – that have begun to be included in this structure, potentially adding tens of billions of dollars to sector growth.

In 2005, \$7.0 billion of equity and \$5 billion of debt was issued as companies aggressively financed growth projects and investments. This was on the heels of the previous year's \$5 billion record equity issuance. In 2006, more than \$10 billion of equity issuance was spurred by 18 initial public offerings. In 2007, equity issuance reached \$18 billion. Though the rate of equity issuance abated somewhat in 2008 and 2009 due to the disruptions in the broader economy and capital markets, MLPs were still able to raise nearly \$13 billion in equity and an impressive \$21 billion in debt and we expect more capital to be raised before the end of 2009. The ability of the MLPs to access capital over this period is a testament to the stability of their underlying businesses and the value that investors place on their stable and growing distributions. We believe as markets continue to normalize that MLP capital markets activity will only accelerate. The sector is in the midst of executing large scale pipeline and storage greenfield projects and larger corporations will be increasingly incentivized to divest their midstream portfolios.

Since MLPs pay out a substantial portion of their cash flows, they have to return to the equity capital markets to finance growth projects and acquisitions. This has instilled a tremendous capital discipline in the sector. Unlike other sectors of the economy where a CEO can plough hundreds of millions of dollars into a pet project or self-serving initiative, MLP management teams must have the vote of confidence from the public markets before they proceed. Further, due to the sectors focus on distributions and cash flows per unit, projects or acquisitions that are cash flow dilutive or only minimally accretive are quickly exposed. There is no incentive for management teams to pursue questionable transactions to simply boost GAAP earnings.

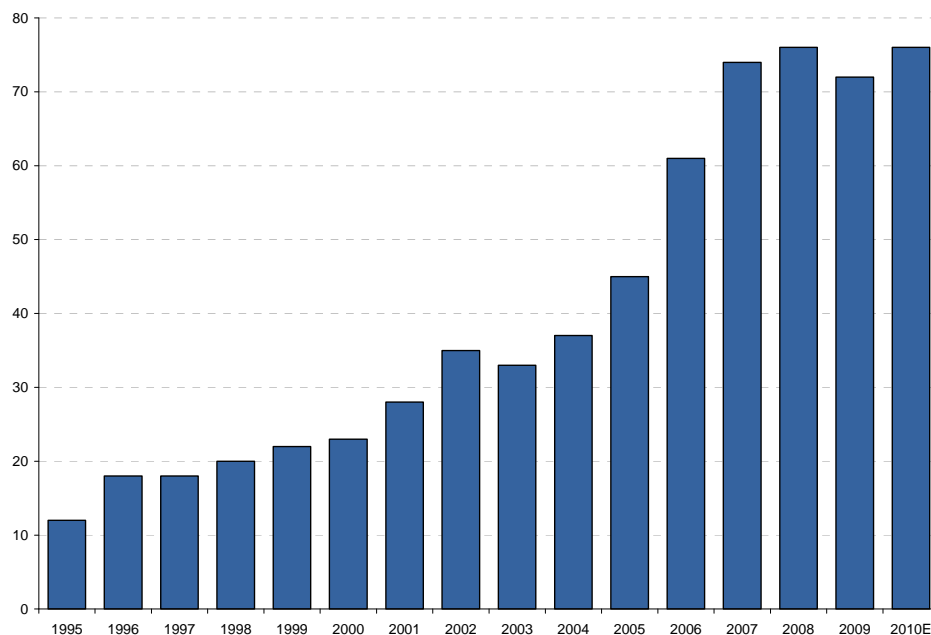
We believe that this is the reason that cash returns on cash invested in the MLP sector have dwarfed those of its energy peers including E&P, refining, gas utilities, and electric utilities over the past two decades. The typical investment pursued by a midstream MLP will provide a 12-15% IRR, carry relatively low risk and will provide substantial cash flow accretion to unitholders.

### **Substantial Investment Required to Meet US Infrastructure Demands**

We expect more than \$100 billion in natural gas infrastructure investment over the next decade as production from newer unconventional plays outpaces traditional sources of US supply. We expect substantial investment in crude and petroleum products infrastructure as demand continues its relentless and steady pace and to accommodate oil sands production. Further infrastructure will be required as coal-liquefaction and gas-to-liquids technologies come to widespread commercial fruition. The opportunity set for high-returning, stable cash flow-generating energy infrastructure investments continues to grow.

In an October 2005 letter to the Federal Energy Regulatory Commission (FERC), the Department of Transportation (DOT), which oversees not only the traditional network of highways and waterways, but also pipelines, expressed concern about the capacity of underlying petroleum products pipelines to meet the growing demands placed on it. The letter urged the FERC to seriously consider the necessary financial commitments for operators to maintain and expand pipeline system capacity. It also suggested that the FERC convene a workshop or technical conference in order to explore regulatory mechanisms that could exhort this critical investment. MLPs have become an increasing portion of such expansion projects and we expect organic growth capital investment to continue to increase over the next decade.

### Number of Publicly Traded Energy MLPs



Source: SEC, ACM estimates

### The Future of MLPs is Here Today

Cheniere Energy (NYSE: LNG) completed an initial public offering of subsidiary Cheniere Energy Partners (NYSE: CQP) on March 20, 2007, forming an MLP that will own the corporate parent's Sabine Pass LNG regasification terminal. All contracts are "take-or-pay" where the customers pay for the capacity whether it is used or not. While take-or-pay contracts are considered to have a lower-risk profile assuming creditworthy counterparties, the risk in this transaction is that Cheniere's own marketing arm is contracting for half of the terminal's capacity -- and Cheniere Marketing is still in its nascent stages. Part of Cheniere's strategy is to become a significant marketer of LNG by obtaining long-term LNG supply through index-based contracts and then selling the regassed product to customers in North America. Alerian believes there is significant risk that an LNG spot market will not develop in the United States given substantially higher natural gas prices in parts of Europe and Asia during the majority of the calendar year [Note: the preceding sentence was originally written in March of 2007- since its writing, Cheniere Energy, as a result of lack of visibility to receiving any LNG cargos, has hired an investment bank to search for strategic alternatives; the stock has traded from \$40 to \$5]. The firm still stands by its prediction regarding the likelihood of near-term LNG cargos and believes that misperceptions regarding the contribution of LNG are a major part of the 50% increase in natural gas prices in 2007, previous to the subsequent collapse. The mispricing of risk in this specific transaction, which Alerian attempted to point out politely in a past edition of this primer, does not mean that these assets will not play an important part in the North American energy supply chain over the long term, or that they will not be a significant part of the MLP asset class.

We have been speaking to this theme since the spring of 2004; the types of midstream logistics assets in the MLP asset class is only going to continue to expand. We believe that in addition to the \$200 billion-plus stable of midstream assets currently housed in public corporate structures and \$150 billion of "traditional" midstream newbuild necessary to expand and maintain the United States' energy infrastructure over the next decade, alternative energy sources such as LNG, coal gasification, and gas-to-liquids technology,

are very real and present hundreds of billions of dollars more in fixed cost, hard asset, long-term contract energy logistics assets.

### **Structural Valuation Issues Create Substantial Long-Term Upside**

We believe the lack of institutional participation in the asset class has resulted in a structural under pricing of MLPs relative to other asset classes. Institutional participation is limited due to some significant barriers to entry, including restrictions on mutual fund ownership and Unrelated Business Taxable Income (UBTI) generation for tax-exempt institutions. There is a valuation arbitrage that should logically play out as the spread between MLPs (with distribution yields of ~8% and per annum distribution growth of 5-10%) and other yield-oriented asset classes such as utilities (with yields of ~3% and low, single-digit growth) and REITs (~4% yields with mid single-digit growth) unwinds from additional institutional attention to and capital allocation in the asset class. If MLPs traded flat on a yield basis to REITS, that would imply a 75% revaluation of the group.

The current growth trajectory of MLPs appears to strongly resemble that of REITs during the 1990s. Similar to MLPs, REITs were created as a tax-advantaged structure to encourage investment in that particular sector. We strongly believe there is a similar parallel between the emergence of REITs as a distinct asset class and the growth that we have seen – and expect to continue seeing – in MLPs. In 1985, there were approximately 30 equity REITs with a combined market capitalization of \$30 billion. Today, there are approximately 300 equity REITs representing \$400 billion in market capitalization (excluding hybrid and mortgage REITs). MLPs, while still in the early stages of development, have started to emerge.

During the first 20 years of their existence after Congress created the structure in 1960, REITs traded at an average 250 basis-point premium to the 10-year Treasury. Following the REIT IPO boom of the late 1980s and early 1990s and the migration of institutional real estate allocation dollars from the private to public markets, REITs have traded on average at par with the 10-year Treasury as investors have been willing to trade off the business risk for the inflationary growth component of REIT rents.

Since the creation of the modern MLP structure in 1986, MLPs have traded at an average 220 basis point spread to the 10-year Treasury. Given the substantially similar asset risk profiles of REITS and MLPs (we would argue MLPs have a substantially lower business risk profile given their lower cash flow volatility, high degree of financial transparency given real time federal reporting requirements, and a constructive federal regulatory scheme), there is no compelling reason for this spread to exist. We believe the disparity has been a function of the restrictions that have been placed on institutional ownership of MLPs, and that as more sophisticated investors enter the space, this disparity will disappear. In the mean time, we believe this miss pricing creates a very attractive relative risk/reward value proposition.

### **Flying Under the Radar – Limited Institutional Ownership of MLPs**

Given the attractive historical performance track record in the MLP sector, many investors wonder: How is it that there is so little institutional participation? What am I missing? Isn't this too good to be true if it hasn't caught on?

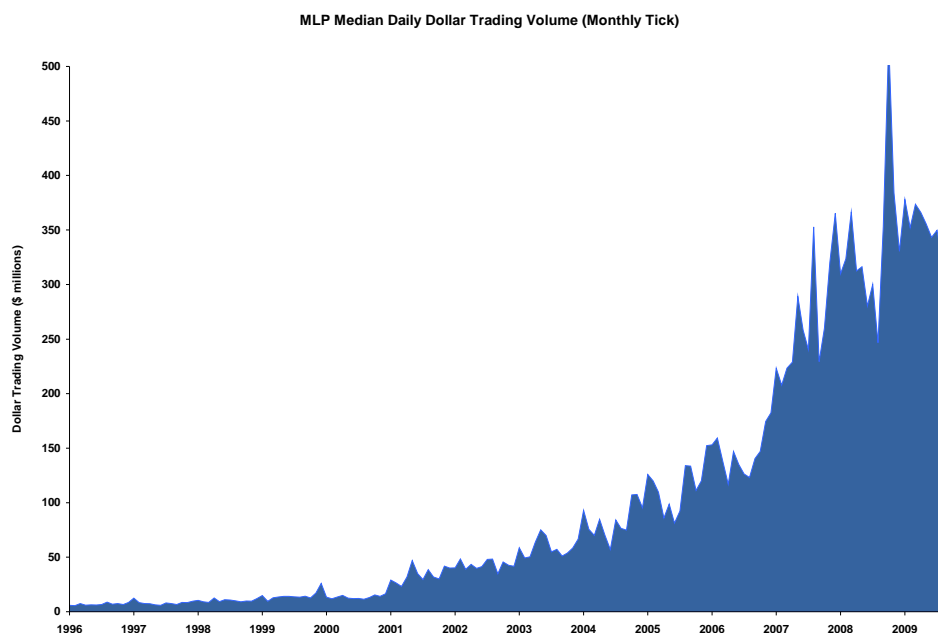
To begin with, hindsight is always 20/20. "Well of course REITs make sense!" (Not a phrase that was said very often in the mid-1980s when there were 30 publicly traded vehicles with an unimpressive \$30 billion of market capitalization.) Now considered a staple of every institutional or individual investor's well-diversified portfolio, REITs were not on the institutional radar screen until the early 1990s. REITs were created in 1960, but it took some time before they were accepted.

In this case, however, there are very particular structural reasons why MLPs have not become more popular with the institutional investor set. MLP distributions and income

allocations have historically been considered non-qualifying sources of income, which impedes regulated investment companies (RICs) such as mutual funds from investing. If Fidelity and Putnam cannot invest, then Goldman Sachs or Morgan Stanley can not earn a commission and, therefore, there is no incentive for one of their salespeople to educate or pitch the investor on the asset class. In other words, Wall Street has never championed MLPs as an attractive investment to their institutional customers because many of these customers were restricted from purchasing. For this same reason, the universe of expert analysts and portfolio managers who understand the many nuances of the MLP space is also limited. This product has always been sold directly to retail through the private wealth management offices of the bulge-bracket investment banking firms.

Pursuant to Section 331 of the American Jobs Creation Act of 2004, MLP distributions and income allocations are now considered qualifying sources as it relates to the special tax status of RICs. However, at least 75% of a RIC's assets must be invested in investment vehicles that are not MLPs, and a RIC may not own more than 10% of any single MLP. Mutual funds, and not their investors, will continue to receive K-1s, and will be required to file tax returns in the states in which the MLP operates.

### MLP Sector Median Daily Dollar Trading Volume



Source: Bloomberg, ACM

As well meaning in spirit as the Jobs Act was, there are still substantial practical hurdles to full-scale mutual fund investment in MLPs. First, the timing discrepancy between the calculation of the RICs distributions and their 1099s (typically November through January) and the issuance of K-1s by MLPs (March) creates an administrative burden for RICs, which are forced to estimate their investors' share of MLP income, losses, credits, and deductions without sufficient information. A mistake could result in substantial excise taxes to the mutual fund as well as a misstatement of the 1099s. When the K-1s are ultimately issued, the fund could then be forced to adjust its 1099s to account for the changes. Because a 1099 restatement is such a rare event for a mutual fund, they are wary of taking on such a risk. Another administrative burden relates to state filing requirements. With some MLPs operating in multiple states, the mutual fund itself may consequently have to file tax returns in each of those states. Furthermore, not all states (e.g. Massachusetts) recognize federal statutes concerning qualifying income, further

complicating the problem. Retirement accounts and other tax-exempt investment vehicles are also restricted in their ability to invest in the sector because MLPs generate UBTI. If UBTI exceeds \$1,000 for a tax-exempt entity, investors may be liable to pay taxes on that income.

Another concern in the institutional investing community is that the sector does not possess sufficient liquidity for investment. However, this continues to improve. The median market capitalization in the space is now greater than \$1.5 billion. Nonetheless, compared to gas utilities, which attract substantial institutional attention, MLPs have virtually zero mutual fund ownership. For example, Washington Gas and Light (NYSE: WGL), a \$1.6 billion gas utility, counts Barclays, American Century, Vanguard, and State Street among others in its top 10 holders list. None of these names are present in the MLP space, which has companies with significantly larger market capitalization and greater economic importance. Because institutional investors are familiar with gas utilities' historical correlations, earnings trends, price behavior, and they are eligible for inclusion in mutual fund and tax-exempt portfolios, these institutions continue to devote substantial resources and capital investment toward the gas utility sector while generally ignoring MLPs. However, as trading liquidity continues to increase and distribution levels and growth continue to outpace other dividend equities, we believe that institutional interest will continue to grow.

### **The Emergence of Pure-Play Publicly Traded GPs**

MLPs are governed by their GPs, which are in turn also subject to Sarbanes-Oxley with respect to director independence. Some GPs are comprised of members of the executive management team, some are nationally recognized private equity groups, and still others are multinational energy companies. For many years, there have been publicly traded GPs, and these have typically been corporations whose cash flows were substantially derived from other energy assets. Recently, there has been a trend toward the pure-play public GP entity and most utilize the MLP structure themselves.

A full explanation of the GP is provided in the "General/Limited Partner Structure" section below but in short these structures provide investors a leveraged play on the MLP's growth. Through the incentive distribution rights (IDRs) held by the GP, the GP receives an increasing share of total cash distributed by the MLP as the distribution rate per unit is increased. For example, if the MLP were to make an accretive acquisition and subsequently increased its distribution, the GP might receive an outsized portion of the total cash distributions associated with that distribution increase. Further, if the MLP issued new units to fund the acquisition then total cash distributed would have increased even without a distribution rate increase due to the additional units outstanding. Therefore, the GP's cash allocation would increase with the increase in total cash distributed even though its share of that total would have remained stagnant.

Although there is tremendous potential for distribution growth at the GP level due to the structure of the IDRs, that mechanism works similarly against GPs in scenarios where the distribution level at the LP must be reduced. Of note, the IDR structure provides that if a certain minimum distribution rate at the MLP is not achieved, then the GP receives no cash through the IDRs. We believe this risk is often underappreciated by the investment community which continues to accord GPs a 9%-10% cost of equity capital. With such a high degree of innate leverage, we believe that GPs inherently demand a higher required rate of return. The impacts of structural and financial leverage and trading liquidity demand adjustments to the CAPM or any other model used to determine the cost of capital. Fundamentally, if the cost of equity capital for the underlying MLP were in the 10% to 12% range, the cost of capital for the GP should be greater – substantially greater. Alerian estimates the appropriate required return somewhere between 14-16%. Under these cost of capital assumptions, a number of the publicly traded GPs are overvalued today in all but the most aggressive growth scenarios.

There is a belief that if an investor likes the LP, they must love the GP. We caution investors that the GP structure carries significant risk and that risk must be appropriately weighed. In fact, investors looking for leveraged exposure to a certain MLP's cash flows might consider doing just that by borrowing with debt and leveraging their position. In some cases this could provide a better risk-adjusted return than purchasing the general partners at today's valuations.

## The Alerian MLP Index Series

The Alerian MLP Index (NYSE: AMZ) measures the composite performance of the 50 most prominent energy master limited partnerships, and is calculated by Standard & Poor's using a float-adjusted, capitalization-weighted methodology. This index is the industry standard benchmark for the energy Master Limited Partnership asset class used by the companies themselves in their internal corporate finance comparisons and outside investor presentations, and by the equity research analyst community to track the performance of the asset class. The corresponding total return index is calculated on an end-of-day basis and will be disseminated daily through its ticker symbol, "AMZX".

The objective of the Alerian MLP Index is to provide investors with an unbiased, comprehensive benchmark for the performance of the energy master limited partnership universe. Using Standard & Poor's proprietary calculation methodology, the Alerian MLP Index was created to fill the need for a reliable, transparent index to track this emerging asset class.

The Alerian MLP Infrastructure Index provides an enhanced liquid subset of the Alerian MLP Index that includes only midstream energy transportation and storage assets, and selects those companies that are infrastructure hard-asset focused. The index provides greater diversification and specific exposure to infrastructure investment.

New index constituents will be subject to the following conditions:

- 1. Market capitalization.** Each constituent security must have a market capitalization of at least \$500 million. This minimum requirement is reviewed from time to time to ensure consistency with market conditions.
- 2. Adequate trading liquidity.** Each constituent security must maintain a ratio of annual dollar value traded to market capitalization of 0.30 or greater. Trading volume of each component security is required to have been in excess of 500,000 units per month for each of the last six months.
- 3. Public float.** Each constituent security must have a public float of at least 50% of the total outstanding units.
- 4. Financial viability.** Each constituent security must maintain trailing 12 months distributable cash flow that exceeds cash distributions paid to unitholders

Constituents of the Alerian MLP Index are float-adjusted to reflect the number of units available to investors according to Standard & Poor's proprietary methodology. The float-adjusted number of units for each stock is determined by assigning each stock an availability factor. That factor represents the percentage of units deemed available (i.e., tradable) on the open market, and is developed by excluding certain types of holdings including: corporate cross-holdings, private control block holdings, or government holdings. Subordinated limited partner units and any other holdings not readily available to the public for investment are also excluded.

For a complete description of the Alerian MLP Indices visit our web site at <http://alerial.com/>.

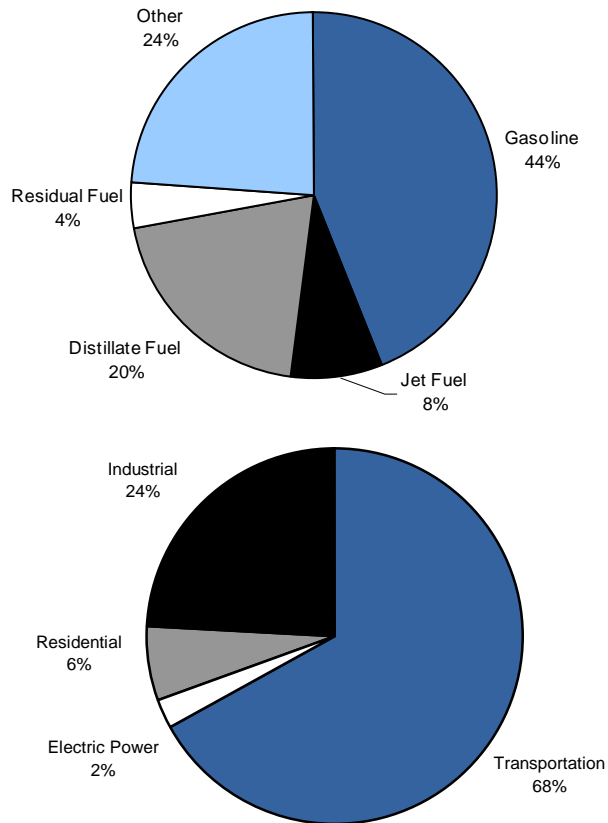
## What is a Midstream Asset?

Traditional MLP operations can be broadly grouped into four categories – pipelines, terminals/storage, marine transportation and midstream services. These categories can further be subdivided by product types, including ammonia, bulk products, carbon dioxide, coal, crude oil, heating oil, refined petroleum products, natural gas and natural gas liquids, and propane.

### Crude Oil/Refined Products Transportation

Crude oil and refined petroleum products are transported by pipelines, marine transportation, railroads and trucks. Pipelines are the most efficient mode of transportation for long-haul movement (accounting for roughly 60% of transportation), followed by tankers/barges (approximately 30% of transportation). Rail and truck usage is cost-effective only over short distances and, therefore, accounts for only a small percentage of petroleum transportation.

**Petroleum Products Shipment Content and Consumption**



Source: Energy Information Administration

The US crude oil and petroleum products transportation system links oil wells and import terminals to refineries, which in turn are linked to end users of petroleum products. This system is comprised of networks of pipelines, terminals, storage facilities, tankers, barges, rail cars, and trucks. Generally speaking, pipelines are the lowest-cost alternative for transportation across long distances. Throughout the distribution system, terminals exist to provide storage, distribution, blending, and other ancillary services. Crude oil that is pumped to the surface from reservoir deposits is collected on gathering pipelines and brought to longer-haul trunk pipelines to be transported to refineries, which then separate

the feedstock into products. Product then originates on pipeline systems from direct connections with refineries and interconnections with other interstate pipelines for transportation and ultimate distribution.

Petroleum products transported, stored, and distributed through petroleum products pipelines and terminals include:

- refined petroleum products, which are the output from refineries and are primarily used as fuels by consumers (gasoline, diesel, jet fuel, kerosene, and heating oil)
- liquefied petroleum gases (LPGs), which are produced as byproducts of crude oil refining and as part of natural gas production (these include butane and propane)
- blendstocks, which are blended with petroleum products to enhance various specifications, such as raising a gasoline's octane or oxygen content
- heavy oils and feedstock for further processing by refineries and petrochemical facilities
- crude oil and condensate, which are used as feedstock by refineries

Fungible products shipped on such systems are typically generic products. These products meet published standard specifications; shippers will receive equivalent product but may not get back the actual product shipped. Segregated products are branded products or specific blendstock materials. On segregated shipments, shippers will receive the same product that they had injected into the system.

With pipeline transportation, crude oil and refined petroleum products travel at roughly three to five miles per hour in long-haul trunkline pipelines. The greater the volume being transported on a given day, the faster the product generally moves. It can take anywhere from two to three weeks for a batch of petroleum products to move from a refinery tailgate in Houston, Texas, to the New York harbor.

Interstate pipelines carry crude oil and refined products across state boundaries and are subject to FERC regulation on the rates charged for their services, on the terms and conditions of the services they offer, and on the location, construction, and abandonment of their facilities. Intrastate pipelines transport within a particular state and are not subject to regulation by the FERC, but rather individual state agencies responsible for such oversight.

Petroleum pipelines benefit from a benign overarching federal regulatory framework, which provides management teams with a strong incentive to innovate and cut costs. Unlike traditional cost-of-service, authorized rate-of-return utility rate-making, petroleum products pipelines do not have to share cost improvements with their customers. After an initial rate is set, as per the 1992 Congressional Energy Policy Act, the tariff rate structure on the pipeline is increased by the PPI for Finished Goods plus a 1.3% margin every July 1<sup>st</sup>.

Transportation tariffs vary depending on where the product originates, where ultimate delivery occurs, and any applicable discounts. All interstate transportation rates and discounts are in published tariffs filed with the FERC. Tariffs are designed to ensure appropriate rates of return for pipeline owners, with annual tariff increases of PPI + 1.3% functioning as an embedded cost recovery mechanism – thus providing a built-in inflation hedge for partnerships that own crude oil and refined product interstate pipelines. Published tariffs serve as contracts, and shippers nominate the volume to be shipped up to a month in advance. In addition, supplemental agreements are entered into with shippers that typically result in volume and/or term commitments by shippers in exchange for reduced tariff rates. These agreements have terms of one to 10 years. Product services such as ethanol loading, additive injection, and custom blending are performed as needed under monthly or long-term agreements. Pipeline operators generally do not take title to the product they are shipping, leaving little direct commodity exposure (inelastic demand characteristics for refined petroleum products further supports this).

Competition with other pipeline systems is based mainly on transportation charges, quality of customer service, proximity to end users, and history of individual customer relationships. However, given the different supply sources on each pipeline, pricing at either the origin or terminal point on a pipeline may outweigh transportation costs when customers choose which line to use.

### **Marine Transportation**

Although pipelines are a key component in the distribution chain, they do not reach all markets and are not capable of transporting all refined petroleum products or economically transporting most chemical products. Marine transportation – primarily conducted by tankers and tug barges – fills this gap. Tankers and barges transport refined petroleum products from refineries to terminals and facilities engaged in further processing. Customer contracts generally have initial terms of one to three years. Similar to pipeline transportation, marine transportation providers do not assume ownership of any of the products that are transported on their vessels.

The US flag coastwise marine transportation industry is guided by the Merchant Marine Act of 1920 (commonly referred to as the Jones Act), a set of federal statutes that mandates that vessels engaged in trade between US ports must operate under the US flag, be built in the US, be at least 75% owned and operated by US citizens, and be staffed by a US crew. One of the principle reasons for the Jones Act is to maintain a fleet of vessels available for charter to the US government to meet national defense needs, but it also serves to insulate the market from direct foreign competition.

In 2004, we saw the first Jones Act marine transportation IPOs in the MLP sector: K-Sea Transportation Partners LP and US Shipping Partners LP. The coastwise vessel fleet is highly fragmented and predominantly family owned. We believe there will be additional IPOs and substantial opportunity for consolidation in the sector as capital requirements rise due to increasingly stringent environmental requirements. In many cases, we view these vessels as floating pipelines; these ships often carry products that cannot be carried in a competing pipeline, or they service areas that are not currently serviced by pipelines and are unlikely to be so in the future.

The domestic supply of vessels is decreasing due to the Jones Act and the Oil Pollution Act of 1990 (OPA 90), which mandates the phase-out of certain non-double-hulled vessels by a series of deadlines through 2015. Given the expected decline in available vessels due to these requirements, oil and chemical companies are increasingly interested in entering into long-term charter agreements in order to ensure shipping capacity for their products. Further, major oil and chemical companies have become progressively more selective in their choice of tanker and barge operators. These companies place particular emphasis on strong environmental and safety records as well as operating performance. This preference will likely accelerate the scrapping of older, lower-quality vessels. Additionally, these companies continue to concentrate more on their core operations by divesting vessels and securing third-party transportation.

### **Crude Oil/Refined Products Terminals**

Terminals are large storage and distribution facilities that handle crude oil and refined petroleum products. Terminals are typically located in close proximity to refineries and can be classified as either inland or marine. Inland terminals generally consist of multiple storage tanks that are connected to a pipeline system. Products are loaded and unloaded from the common carrier pipeline to storage tanks and directly from storage tanks to a truck or rail car loading rack. Marine terminals primarily receive petroleum products by ship and barge, short-haul pipeline connections from neighboring refineries, and common carrier pipelines.

Terminals generate fees primarily by providing short- and long-term storage of crude oil and refined petroleum products, as well as ancillary services. Revenue is generated by charging customers a fee based on the amount of product that is delivered through terminals. In addition to throughput fees, revenue is generated by charging customers a fee for providing services such as blending and additive injection. Terminals are unregulated and rates are market-based as a result. Terminal contracts, which typically provide for storage for anywhere from a few days to several months, generally last for one year with annual renewal provisions. Most of these contracts contain a minimum throughput provision that obligates the customer to move a minimum amount of product through a terminal or pay for terminal capacity reserved but not used. In general, similar to pipeline operators, terminal operators do not take title to the products that are stored in or distributed from their terminals.

Terminal demand is greatest in a contango market, in which future petroleum prices represented by the forward curve are higher than prevailing spot prices. In these circumstances, customers tend to store more product to arbitrage the higher prices expected in the future. When backwardation (the opposite of contango, i.e. future prices are lower than spot prices) exists, customers tend to transport more product to end markets to take (advantage?) of current higher prices in lieu of storing product.

Refiners and chemical companies will use third-party terminals when their facilities are insufficient due to size constraints, specialized product handling requirements, or geographic considerations.

### **Midstream Natural Gas Industry**

Natural gas is rapidly growing as a global energy source, accounting for approximately 25% of world energy consumption today. This growth has been driven by plentiful reserves, the environmental benefits of its clean-burning nature, and the broad range of its applications.

Once natural gas is produced from wells in areas such as the Gulf of Mexico, producers then seek to deliver the natural gas and its components to final markets. The midstream natural gas industry is the link between upstream E&P and downstream end markets. The midstream natural gas industry generally consists of natural gas gathering, transportation, storage, and processing/fractionation activities. The midstream segment typically involves local competition based on the proximity of gathering systems and processing plants to natural gas-producing wells.

Given the May 2007 DC Circuit Court ruling that upheld the Federal Energy Regulatory Commission's policy regarding an implied tax component in the cost of service for determining allowed pipeline rates of return, we have seen the beginning of a significant shift of interstate natural gas assets into the MLP structure with multiple initial public offerings in the second half of 2007 of pure play interstate natural gas pipeline companies, and continuing in what could amount to the divestiture of more than \$200 billion of assets.

### **Transportation**

The US natural gas pipeline system transports natural gas from producing regions to customers such as local distribution companies (LDCs), industrial users, and electric generation facilities. Similar to crude oil and refined product pipelines, interstate pipelines carry natural gas across state boundaries and are subject to FERC regulation on the rates charged for their services, terms and conditions of the services they offer, and location, construction, and abandonment of their facilities. Intrastate pipelines, likewise, provide transportation within a particular state and are not subject to FERC regulation, but rather governance at the state agency level.

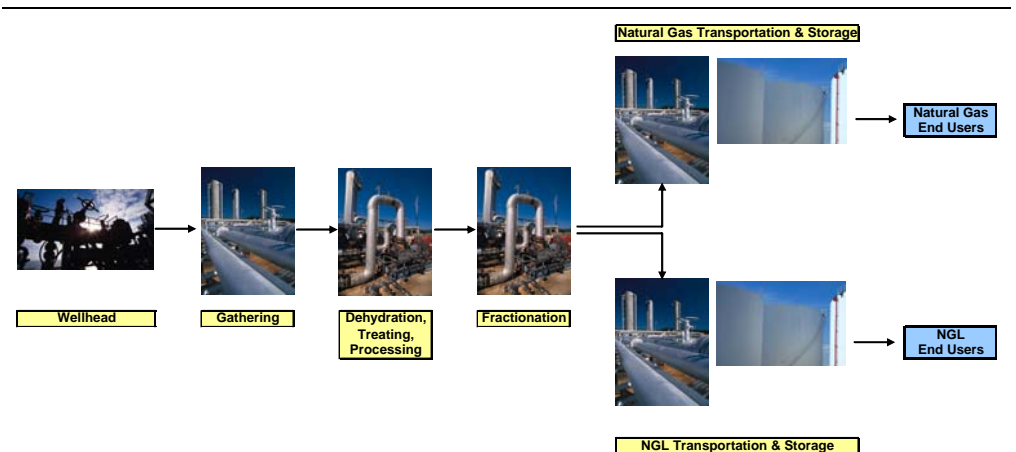
The US Gulf Coast is the most prolific domestic natural gas-producing region. Total US production is insufficient to meet US demand, however. The majority of this supply shortfall is likely to be met through natural gas imports from Canada as well as through LNG imports, which are expected to be delivered predominately through Gulf Coast terminals. According to the Energy Information Administration (EIA), LNG's share of total US gas supply could be as high as 20% by 2025, compared to less than 3% today. However, the recent success US producers have had in accessing shale gas and other non-conventional sources might result in a much reduced role for LNG versus even these relatively recent expectations. Nonetheless, given the extensive pipeline infrastructure and available gas-processing capability in and around the region, the Gulf Coast is the target for most of the proposed onshore LNG terminals.

**Gathering**

The natural gas-gathering process involves the connection of producing wells to pipelines, called gathering systems, which provide short-haul takeaway capacity. Gathering systems generally consist of a network of small-diameter pipelines that collect natural gas from producing wells and transport it to trunkline pipelines for further transmission. Gathering systems operate at design pressures that maximize the throughput from all connected wells. Some systems are supported by a reserve dedication, which commits the producer to utilize the midstream service provider's system for all current and future production for a specified period, often for the life of the producer's reservoir lease.

Since wells produce at progressively lower field pressures as they age, it becomes increasingly difficult to deliver the remaining production in the ground against a higher pressure that exists in the connecting gathering system. Natural gas compression is a process in which a volume of gas at an existing pressure is compressed to a desired higher pressure, allowing gas that no longer naturally flows into a higher-pressure downstream pipeline to be brought to market. Field compression is typically used to allow a gathering system to operate at a lower pressure or provide sufficient pressure to deliver gas into a higher-pressure downstream pipeline. If field compression is not installed, then the remaining natural gas in the ground will not be produced because it cannot overcome the higher gathering system pressure. In contrast, if field compression is installed, a well can continue delivering natural gas that otherwise would likely not be produced.

**Natural Gas Value Chain**



Source: ACM

**Dehydration**

Natural gas collected at the wellhead has a variety of components that typically render it unsuitable for long-haul pipeline transportation. Produced natural gas can be saturated

with water, which must be extracted given that natural gas and water can combine to form ice that can block parts of the pipeline gathering and transportation system. Water can also cause corrosion when combined with carbon dioxide (CO<sub>2</sub>) or hydrogen sulfide (H<sub>2</sub>S) in natural gas. In addition, condensed water in a pipeline can raise pipeline pressure. To meet downstream pipeline and end-user gas quality standards, natural gas is dehydrated to remove the saturated water.

### Treating

In addition to water, natural gas collected through a gathering system may also contain impurities such as carbon dioxide and hydrogen sulfide, depending on the reservoir from which it is derived. Natural gas with elevated amounts of carbon dioxide or hydrogen sulfide can be damaging to pipelines and fail to meet end-user specifications. As a result, gas with impurities higher than what is permitted by pipeline quality standards is treated with liquid chemicals called amines at a separate plant prior to processing. The treating process involves a continuous circulation of amine, which has a chemical affinity for carbon dioxide and hydrogen sulfide that allows it to absorb the impurities from the gas. After mixing, gas and amine are separated and the impurities are removed from the amine by heating. Further, to alleviate the potentially adverse effects of these contaminants, many pipelines regularly inject corrosion inhibitors into the gas stream.

### Processing

Once water and other impurities are removed from natural gas, the gas must then be separated into its components. Natural gas processing involves the separation of natural gas into pipeline quality natural gas and a mixed stream of natural gas liquids (NGLs). The primary component of natural gas is methane (CH<sub>4</sub>), but most gas also contains varying degrees of liquids including ethane (C<sub>2</sub>H<sub>6</sub>), propane (C<sub>3</sub>H<sub>8</sub>), normal butane (C<sub>4</sub>H<sub>10</sub>), isobutane (C<sub>4</sub>H<sub>10</sub>), and natural gasoline. NGLs are used as heating fuels and as feedstock in the petrochemical and oil refining industries.

Natural gas pipelines have specifications as to the maximum NGL content of the gas to be shipped. In order to meet quality standards for pipelines, natural gas that does not meet these specifications must be processed to separate liquids that can have higher values as distinct NGLs than they would by being kept in the natural gas stream. NGLs are typically recovered by cooling the natural gas until the mixed NGLs separate through condensation. Cryogenic recovery methods are processes where this is accomplished at very low temperatures and provide higher NGL recovery yields. After being extracted from natural gas, the mixed NGLs are typically transported to a fractionator for separation of the NGLs into their component parts.

Processing contracts can take on a number of forms including: (1) fee-based arrangements; (2) percentage of liquids/proceeds contracts, which effectively give the processor long exposure to natural gas and/or NGL prices; (3) percentage of index contracts, which effectively lock in a margin for the processor; and (4) keep-whole contracts, which effectively creates a long NGL / short natural gas position for the processor and exposes the processor to what is referred to as the *fractionation spread* (the processor retains ownership of the NGLs and is required to reimburse the producer for the value of the lost heat content from the NGLs having been stripped out, creating the short gas position).

### Fractionation

Fractionation is the method by which NGLs are further separated into individual components. NGL fractionation facilities separate mixed NGL streams into discrete NGL products. Ethane is primarily used in the petrochemical industry to produce ethylene, a key building block for a wide range of plastics and other chemical products. Propane is used in the production of ethylene and propylene and as a heating fuel, an engine fuel, and an industrial fuel. Isobutane is commonly used to enhance the octane content of

motor gasoline. Normal butane is used in the production of ethylene, butadiene (an important component of synthetic rubber), motor gasoline, and isobutane. Natural gasoline, a mixture of pentanes and heavier hydrocarbons, is used primarily to produce motor gasoline and petrochemicals. In the US, NGLs are produced primarily by gas processing plants but also by crude oil refineries.

Fractionation isolates the different boiling points of the individual NGL products. NGLs are fractionated by heating mixed NGL streams and sending them through a series of distillation towers. As the temperature of the NGL stream is increased, the lightest (lowest boiling point) NGL product boils off the top of the tower, where it is condensed and moved to storage. The remaining stream is then sent to the next tower, where the process is repeated and a different NGL product is separated and stored. This process continues until the NGL stream has been separated into its components.

Natural gas processing facilities have some flexibility in the extent to which they separate NGLs from natural gas. The actual volume of NGLs produced is often determined by the degree to which NGL prices exceed natural gas prices and the cost of separating the mixed NGLs from the natural gas stream. When the value of extracting discrete NGL products is less than what would be achieved by allowing them to remain in the natural gas stream, the recovery levels of certain NGL products, particularly ethane, can in some instances be reduced. Ethane rejection and similar processes to reduce NGL recovery are still limited by pipeline and end-user specifications, although blending with low NGL content natural gas (referred to as *dry* gas as opposed to NGL-rich *wet* gas) can sometimes be used as an alternative to processing.

After NGLs are fractionated, the fractionated products are transported to customers or stored for future delivery. NGL products must be pressurized or cooled to a liquid state for storage or transportation. The mixed NGLs delivered to fractionation facilities from domestic gas processing plants and crude oil refineries are typically transported by NGL pipelines and, to a lesser extent, by rail car and truck. Both producers and end users will look to store NGLs to ensure an adequate supply for their respective customers over the course of the year and, in particular, periods of heightened demand.

MLPs that own or operate natural gas processing and fractionation plants must manage a unique set of complex risks associated with the basis between natural gas and various NGL products. With the benefit of developing hedging markets, most MLPs have become quite sophisticated in their management of these risks, ensuring the ability to continue providing their unitholders with dependable distributions.

### **Storage**

Natural gas storage facilities are used by natural gas end users such as LDCs to ensure a reliable supply for their customers and their marketing and trading businesses as part of a purchase and sale strategy. Natural gas is typically stored in underground facilities such as salt dome caverns and depleted reservoirs. Natural gas demand is usually greater during the winter because it is mainly used for heating by residential and commercial customers. Typically, excess natural gas delivered during summer months is stored to meet the increased demand during winter months. However, as natural gas-fired electric generation continues as an emerging theme, demand for natural gas during the summer months to meet cooling needs should rise accordingly.

Natural gas is typically stored underground in salt formations and depleted reservoirs because above-ground storage tends to be uneconomical. Salt formations are not altered by the stored products and can contain large quantities of natural gas safely and in a cost-effective manner. A salt cavern is formed by drilling and dissolving an underground cavern in a naturally existing salt formation and installing related surface facilities. Water mixed with salt, or brine, is used to displace the stored products and to maintain pressure in the well as product volumes change.

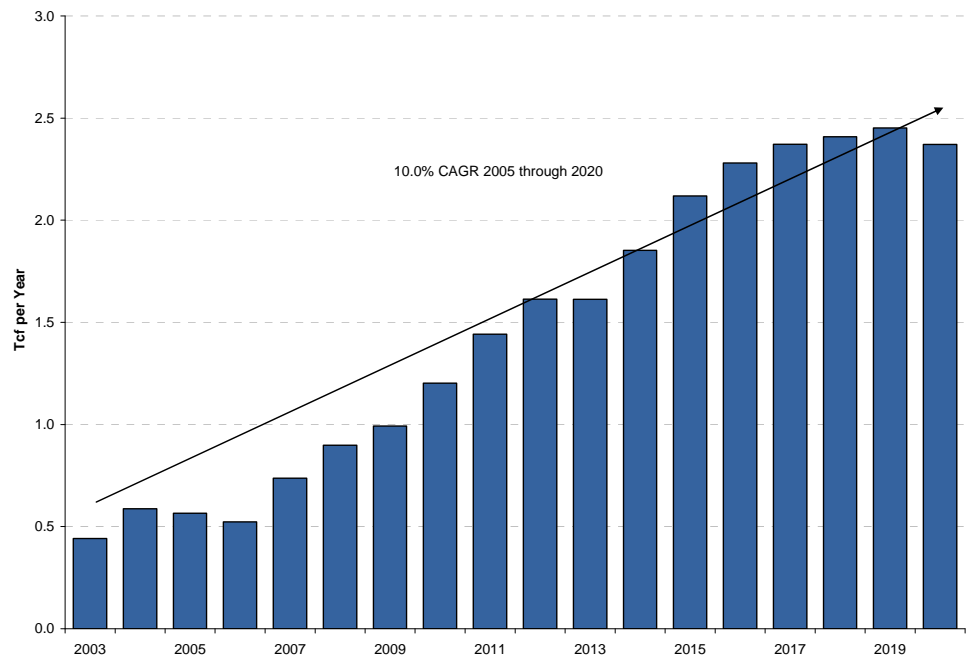
### LNG Transportation

As the use of natural gas continues to rise internationally, the gap between the expected demand by consuming nations and their production levels is also increasing, requiring the shortfall to be met with imports. A majority of the global supply of natural gas has traditionally been stranded given the dislocation in producing regions and end markets and the difficulty in transporting gas between the two. Pipeline transportation is generally the most cost-effective means of transporting natural gas, although such transportation is naturally limited by distance and terrain. When pipeline transportation is not possible or natural gas demand sufficiently exceeds available supply, LNG provides a way to import natural gas.

LNG provides an economical way to transport natural gas via ship by cooling it to a liquid form. This significantly reduces the volume, enabling storage and transportation by ship over long distances, thereby helping regions with inadequate reserves or limited access to long-distance transmission pipelines to meet their natural gas demand. LNG is transported overseas in specially built tanks on double-hulled ships to terminals where it is offloaded and stored in insulated tanks. The LNG is regasified and then shipped by pipeline for distribution to natural gas customers. LNG carriers are usually enlisted to carry LNG on time charters, where a vessel is hired for a fixed period of time, typically around 25 years. LNG shipping historically has been predicated on long-term, fixed-rate time charter contracts owing to how expensive LNG carriers are to build, as well as the need for natural gas customers to maintain a reliable supply of natural gas.

The two primary groups of LNG vessel operators are nationalized energy and utility companies and independent ship owners. Given the complex, long-term nature of LNG projects, major energy companies historically have transported LNG through their captive fleets. However, independent ship owners are starting to gain a greater share of LNG ship charters. Similar to other tanker and barge operations, the increasing ownership of the world LNG fleet by independent owners is mainly attributable to: (1) the desire of some major energy companies to reduce their commitment in the transportation business, which is non-core to their operations; (2) the cost of financing new LNG carriers; and (3) in the case of LNG, the high construction costs of liquefaction and regasification facilities.

**Historical and Forecast U.S. LNG Supply**



Source: Energy Information Administration

The volume of LNG shipped internationally is increasing quickly as a result of recent improvements in liquefaction and regasification technologies, decreases in LNG shipping costs, and increases in demand from consuming regions located far from natural gas reserves. Historically, Indonesia, Malaysia, and Algeria have been the major LNG exporters, with the Middle East, Africa, and Russia expected to become large exporters over time. The largest importers of LNG have traditionally been Japan, South Korea, and Taiwan, with Europe and North America starting to emerge as major importers as well. It is likely that there will be a significant increase in the amount of LNG shipped from major gas-producing areas to regions with insufficient gas production in order to meet expected increases in global natural gas demand.

Winters this decade have been so much warmer than normal that market participants do not appear to have an historical reference point for what today's consumer requires in a colder environment. As many times as one repeats "past performance is no guarantee of future results," people always try to fit historical numbers into recognizable patterns to predict future results.

For years there has been a downward-sloping forward natural gas curve as a result of the previously widely held belief that LNG would be a significant contributor to future US supply. At first this horizon was initially pushed back as a result of permitting delays and construction difficulties. However, at this point, there appears to be a far more difficult conundrum -- the supply side. Not only has the cost of liquefaction capability risen four-times over, but far more importantly, other geographies are willing to pay far higher prices for their LNG relative to the US. Typically, this is a result of other countries' far greater dependence on LNG as a percentage of their supply source. While LNG represents a smallish 3% of US supply, it will comprise nearly 50% of UK supply by 2010 and Asian countries such as Japan and Korea find themselves in a similar predicament. This winter, Japan and Korea paid nearly three times as much per spot LNG cargo compared to the United States. Given the significant difference in pricing between the United States and these regions, it appears very unlikely that current spot pricing in the US is going to attract very much supply.

The other remaining issue is that the United States has turned itself into an LNG spot market. Whereas competing nations' utilities have been willing to sign long-term (20-year plus) contracts, US utilities, weary after signing long-term contracts post deregulation decades ago that resulted in paying above-market prices and hurting consumers for years to come, are not willing to sign such contracts a second time. The firm has avoided any LNG-themed investments, whether they be in regasification or associated pipelines or storage, and we will likely continue to do so until we see signs that this market will develop in the United States as we expect within the next decade.

## Valuing Midstream Energy Businesses

At the most basic level, the valuation of an MLP is no different than the valuation of any publicly traded corporate entity or private enterprise. Today's fair value should reflect the expected future cash flow stream to the investor, appropriately discounted for the risk associated with the stream of payments and the time value of money. The industry standard for MLP valuation is relative yield, which purportedly attempts to capture cash flow risk by taking a one-year forward distribution estimate, dividing by a distribution yield assumption, and comparing it to that of other MLPs. We believe, however, that a bottoms-up calculation of the appropriate required rate of return is required and a longer-term outlook on cash flow generation is needed.

### Popular Misconception: Relative Yield

Historically, MLPs have largely been thought of as fixed-income substitutes with a focus on the yield component, despite the lack of a strong correlation between yield indices and MLP unit prices, and the substantial and growing portion of total returns generated by growth and capital appreciation. However, many MLPs are truly growth vehicles, and given 8-9% annualized distribution growth over the last decade as an asset class, with top performers substantially above this mean, we believe capital gains and distribution growth will be a much larger part of total returns for top performers. Consequently, yield dispersion metrics (relative to historical levels, the MLP group, relevant individual MLPs, Treasuries, and other yield-oriented investments) are increasingly sub-optimal in valuing these yield-growth hybrid instruments. Indeed, were one to value MLPs by yield comparison alone in October 2008, the entire space would have been a strong buy when it (and the broader market) still had further to fall.

We believe that the ideal MLP valuation model incorporates two components: (1) the intrinsic value of the partnership's current assets; and (2) the option value associated with future investments and acquisitions. Investors are increasingly turning to the distribution discount model, or DDM, in its various multi-stage forms to value MLPs. However, this model fails to incorporate the second aforementioned component. Further, the DDM-derived fair value is very sensitive to a number of assumptions, including the cost of capital and the terminal growth rate.

We believe that an MLP's cost of capital is a function of its business risk profile. As such, there are two main components to consider -- cash flow volatility and cash flow sustainability. Volatility refers to the quarterly fluctuation in operating cash flow. For example, the propane and heating oil businesses are seasonal, and thus exhibit significantly higher quarterly cash flow volatility than refined products transportation. Sustainability of cash flows takes into consideration the regulatory environment in which the MLP operates and whether or not its asset base is depleting in nature. If an interstate pipeline generates stable cash flows, but is at risk to have its tariff arrangements completely restructured by the FERC, its business risk profile is adversely affected. Depleting assets increase the business risk profile as well because they force the company to make acquisitions to maintain its cash flow stream. Examples of depleting asset businesses include E&P, gathering and processing, and mining. Canadian Royalty Trusts are organized around these types of assets.

### Stable, Growing Distributions – The Defining Characteristic of the MLP Model

At a high level, midstream MLPs can be compared to other high-yield equities by examining relative dividend yields. We believe it is also important to compare "distributable" cash flow (after maintenance capital expenditures) to recognize the unique characteristics of these attractive business models. Unlike real estate, a pipeline never needs a new front lobby. Maintenance capital expenditures are relatively low and predictable. But one fact that stands out is how cheap MLPs appear relative to other yield equities.

While there is no legal requirement regarding the level of unitholder cash distributions, a precedent has largely been set that investor interest in any given partnership is predicated on safe cash distributions that are consistently paid out just as a corporate board sets a dividend policy. Distributable cash flow is generally calculated as EBITDA plus non-cash losses, minus interest expense, maintenance capital expenditures, and non-cash gains. Growth capital expenditures and acquisitions are typically financed through the capital markets, creating a self-regulating mechanism that forces management teams to make smart investments. Each debt or equity offering is essentially a voting mechanism on how well they have done.

MLP distribution yields currently average approximately 7.5% for midstream energy partnerships. Depending on the relative stability of cash flows, partnerships will typically maintain 1.05-1.20x cash coverage of their distribution. A distribution cut or even heightened concern over distribution stability would have a significantly adverse impact on a partnership's unit price, creating another self-regulating mechanism that in this case forces management teams to be prudent with their distributable cash coverage. It is a testimony to the stability of the underlying cash flows of the midstream sector (here defined as the toll-road business models as opposed to those whose margins vary with changes in commodity prices) that in the entire history of midstream publicly traded MLPs, there has not been a single distribution cut (outside one case of outright fraud).

In addition to high current yields, the opportunity afforded by acquisitions and organic growth opportunities has helped support average per annum distribution growth of 8-9%, varying within a wide range by individual partnership. The proper way to value an individual MLP is to factor in both the current distributable cash flow, regardless of the payout, and the ability of the management to grow the distribution through a combination of inherent asset growth, organic investment opportunities, and acquisitions prospects.

#### **Distribution Discount Model**

Thus, to arrive at the true fair value of an MLP, we believe it is appropriate to begin by determining the cash value of the existing assets. This is done with a cash flow analysis (in this case DDM) discounted both for time value and the risk related to the degree of cash flow volatility, which is captured in the cost of capital calculation. We believe it is then appropriate to ascribe some value to the investment and acquisition optionality inherent in this structure, as noted above, to sum with the intrinsic value of the underlying business and reach an accurate total fair value approximation for each partnership.

#### **Investment/Acquisition Optionality**

Future investment optionality arises from a management team's ability to use its regional franchise monopoly assets to make high-return investments within their current logistics footprint. Acquisition optionality arises from the optimization opportunities and synergies of moving MLP-qualifying assets from publicly traded corporations and other tax-paying entities to MLPs (as reviewed above, we estimate that there exists at least \$200 billion of assets that would be eligible for this structure). We believe that the optionality for each partnership is best derived by running a multivariate Monte Carlo simulation for the division of the entire opportunity set of acquisitions among each of the MLPs, adjusting each partnership for a number of variables including timing, cost of capital, management propensity for making acquisitions, and opportunities within existing businesses/geographies. The simulation must also be run with different assumptions regarding what portion of MLP-qualifying assets will be placed in new versus existing partnerships. We believe this multi-step valuation methodology provides a more tangible, consistent fair value by which to make investment decisions.

Even with the significant retracement in prices, we believe that this option component has become a far too significant portion of valuation, and that stock-specific risk in the sector still exists with certain companies trading at premiums to net asset value. The MLP

investment community appears to justify this premium to intrinsic value by pointing toward acquisitions that will occur in the future largely via “drop downs” from their parents. We, however, are not impressed. If a partnership’s business strategy is to acquire historically low-returning, commodity-sensitive, high-maintenance assets, the cost of equity capital will be in excess of 12%, not the implied yield given by the security price.

The majority of the investment community calculates economic benefits by taking the spread between the security’s current yield and the return earned on the asset. A company’s cost of equity capital does not necessarily bear any relation to its current yield (Microsoft does not have a 1.50% cost of equity capital by virtue of its yield, and neither does a low-yielding, “high-growth” MLP), yet the investment community’s acquisition analysis continues to reflect these numbers. Furthermore, we believe that the acquirer’s true long-term economic benefits must take into account the acquired asset’s risk profile and the commensurate required rate of return. If a low-risk, interstate transportation company purchases riskier, commodity price-sensitive gas-gathering assets, one cannot use the predecessor company’s cost of capital. However, we continue to see the investment community conduct economic analysis on this basis.

Using an artificially low and theoretically incorrect cost of equity capital leads to exorbitantly “accretive” transactions that offer no true economic benefit to the unitholder over the long term. A fear we have discussed for years is that given the large premiums to net asset value, a misstep at one of these partnerships could send the stock plummeting more than 50%, thus harming the cost of capital for the sector overall, and we have seen that occur to a certain extent in the last two years. We believe such risks place a premium on strong fundamental analysis and highlight the fact that financial “risk” metrics such as betas and leverage ratios do not fully capture “portfolio risk”.

The options model approach is an inadequate substitute for selective and qualitative judgment in security selection, but we believe it provides a strong rational check on predictions of future growth potential. Having a detailed understanding of a management team’s current logistics footprint and appraisal of its ability to maximize its opportunity set is crucial to evaluating future growth. There is no substitute for industry focus and the deep industry relationships that such focus affords when investing in this sector.

#### **Other Relative Price Metrics**

Aside from relative yield, Enterprise Value/EBITDA (EV/EBITDA) and Price/Distributable Cash Flow (P/DCF) metrics, among others, are also helpful in gauging what near-term market expectations are being reflected in an MLP’s unit price. However, these metrics also fail where relative yield does, in that they are static and do not fully incorporate future growth potential nor appropriately discount for the associated risk of current cash flows. Although near-term pricing inefficiencies exist due to limited institutional participation, we believe that the most compelling investment theme in this space is to select partnerships with strong management teams and assets that are poised to grow significantly, and to hold these investments as the growth story plays out over the long term.

## The Re-Birth and Collapse of the E&P MLP

In 2009, this whole section of the primer appears somewhat out of focus, but we still receive many questions on the viability of the E&P MLP space, both with regard to the current companies, and the prospects for the structure to move into prominence again. Most importantly, it's a poignant reminder of the excesses of 2006-2007, and the lesson of the final paragraph of this chapter, which has remained the same for many years.

Whenever an investment banker asks you to act as his conscience you can be sure you are in for a deluge of equity issuance.

In late 2005, one of the most commonly asked questions from the investment banking and equity capital markets community was "are exploration and production assets right for the MLP asset class?" It's not a question of right or wrong, every asset has its price; it's a question of whether the risks are truthfully presented to the investor class. We are far more concerned with commodity price-sensitive companies masquerading as "energy infrastructure" (i.e. gas gathering operations with 100% percentage-of-proceeds contracts that are sold to investors as if they had the same risk profile as interstate pipelines) than we are of actual exploration and production companies falling short of their distributions.

Although Alerian focuses its portfolios on energy infrastructure partnerships, it has always believed that the MLP structure would eventually broaden to include a variety of assets such as upstream (E&P), downstream (refining) and new technologies (coal gasification, LNG regasification). We welcomed the new asset diversification, provided it was done with higher-quality assets, disciplined management teams, and responsible partnership structuring (reduced or eliminated incentive distribution rights and higher distribution coverage, in particular). We believed that there would be a fair amount of pressure on new partnerships with commodity price sensitivity to hedge a majority of such exposure to ensure the stable, safe distributions that MLP investors have come to expect. The management team must also have been highly disciplined in determining its true maintenance capital expenditures, which should be defined as the replacement cost of the reserves it is producing (not the marginal near-term production costs to develop any proved undeveloped reserves contiguous to its current properties).

Alerian has always taken a very cautious approach to commodity price exposure in its portfolios, preferring partnerships with stable, toll road business models that provide the same level of cash flows within extremely wide commodity price bands. Decisions to invest outside of the infrastructure space are done with a very disciplined approach that requires a high level of due diligence to feel comfortable with future volumes (proved reserves, long-lived, slow-declining production, new well-connect opportunities, etc.) and the level of cash flow protection (hedging, distribution coverage, subordination etc.), among a host of other factors. The rebirth of exploration and production MLPs touted predictable, low decline curves, seasoned management teams, and a commitment to hedging commodity price exposure.

For decades, investment banks and their derivative desks have been trying to persuade energy companies to segregate their holdings into stable production and high-risk exploration, typically by creating a new share class to own the production with a significant hedging component. Management teams generally countered that their investors wanted the commodity price exposure. With the significant growth of the hedging markets in recent years and the growth and success of the MLP vehicle, this is the niche Linn Energy (NASDAQ: LINE) and its followers attempted to carve out for themselves as E&P MLPs. The idea was simple. Exploration and Production companies typically traded at about 4-5x EBITDA, and the market is totally focused on reserve replacement and production growth, which does not favor long-lived assets with little developmental prospects. E&P MLPs traded at 8-9x EBITDA, given the purported low risk and stability of their cash flow. This multiple was lower than pipeline MLPs (12-14x), but still created a meaningful arbitrage over traditional E&P companies with their higher-risk

profile. The opportunity presented to LINE with these mature properties was similar to the opportunity Kinder Morgan had in 2000 when pipeline assets were still mostly housed inside integrated companies and no one had seen the opportunity yet. The current E&P opportunity set comprised of the estimated \$1.5 trillion value of mature producing properties in the United States is larger than the US midstream sector.

To be very clear though, this is not the greater fools theory playing out in a roll-up game; in order for the above trade to make economic sense and create economic value added for the MLP in question, the significantly lower business risk profiles of the acquired assets deserve the higher multiple, and that in the absence of any additional acquisitions, the current assets would provide a satisfactory return on investment without any reserve replacement. The IRR of the property being purchased must satisfy the rate of return required by the company's equity unitholders.

When the words in the paragraph above were first written in 2006, we should have forwarded them on to every E&P CEO in the MLP space- this premise seems to have been completely ignored and this has led to substantial value destruction. With the exception of John Walker at Enervest Energy Partners, and perhaps Steven Pruet at Legacy, it would appear that every company is guilty of having played to the lowest common denominator and participated in oversized transactions based on "accretion" analysis, as opposed to net present value or economic value added relative to their true cost of capital. Although these excesses have dampened securities prices in the E&P MLP sector in the short term, that does not affect the truth that this structure will be the long-term method of choice for the capitalization of mature-producing properties in the United States. It will take the sector some time to recover from the easy money that led it to the place it is today, and when it resumes its upward march, unit price appreciation will be much slower and valuation will look very different than it did during 2006 and 2007.

The single biggest risk we see in the MLP space today is something that is highlighted by the emergence of exploration and production MLPs -- a misunderstanding of an MLP's equity cost of capital. By the logic shown in much of today's sell-side equity research, and by the investors who clearly reward such transactions by purchasing additional units, it would appear that an MLP's yield is an approximation for its cost of capital. Acquisitions are measured not in terms of economic value added, but in terms of "accretion", a measure of how much cash flow can be distributed tomorrow. Accretion models are run using a company's cost of debt and the company's current equity yield. This, however, is an irrelevant metric. The true benefit to unitholders must be measured by comparing the cash return on the purchased asset versus the cost of equity capital measured by the unitholders' required rate of return. By the logic shown in today's marketplace, Intel (NASDAQ: INTC) should become the consolidator of choice in the midstream space, because with its 3.5% yield, "just think of the accretion." Of course, this is absurd, but it is no less absurd to think of a low-yielding MLP as an appropriate acquirer or to use "accretion" as a measure of the benefit of such a transaction.

## Fundamental Risks

Although we firmly believe in the long-term growth trajectory of MLP cash flows and the overall asset class, investing in these vehicles is not without risks. Fundamental risks for MLPs include environmental incidents, terrorist attacks, regulatory changes, tax status changes, demand destruction from high commodity prices, proliferation of alternative energy sources, inadequate supply of external capital to fund organic growth projects and acquisitions, and conflicts of interest with the general partner.

### Regulatory Risk

Despite being one of the smallest risks from a probability perspective, the far-reaching effects of a change in regulation makes it one of our most closely followed concerns. Over the past two decades, the hallmark of this asset class has been its tremendous 10-12% cash returns on cash invested. Meanwhile, gas utilities have earned 7.5% over the same period, E&P companies have earned 7.0%, and refiners have never earned their cost of capital. It is precisely because of the ability to leverage their status as effective regional franchise monopolies through a benign regulatory framework that MLPs have been provided an incentive to innovate and have earned such strong, stable returns compared to other energy companies.

The majority of the assets in the sector are regulated by the FERC. This is a highly politicized organization, and it would be very difficult for this body to take action that would increase the cost of capital to investment in energy infrastructure. From the 1992 Energy Policy Act through March 2006, there have been only two substantive changes to the pipeline inflation indexing methodology, and these have both been positive for the pipeline owners. Previously, every July 1, pipeline tariffs had been increased by PPI minus 1%; beginning in 2003 this became solely PPI. On March 16, 2006, this adjustment was further increased to PPI + 1.3% for the prospective five years. This methodology allows a partnership's unitholders to benefit from technology and efficiency gains and the associated cost cutting that improves returns, unlike a traditional utility, where returns from such improvements would likely be shared with customers in the next rate case.

As part of the aforementioned process this year, the DOT weighed in with the FERC with the concern that there is serious under-investment in petroleum products infrastructure and that several pipeline systems of national importance lack redundancy. Because the inelastic demand for transportation fuel means that even relatively small capacity shortfalls can have disproportionately large price impacts, the DOT intones that providing a strong return on capital for pipeline operators and the incentive to properly maintain excess capacity is imperative. The FERC is a politically driven organization like many government-appointed agencies, and we believe that the pervasive dynamics? throughout the legislative and regulatory channels would make any changes that increase the cost of capital politically unfeasible under any regime.

Because of the positive effects of the current regulatory environment, we believe this is the single most significant risk to the sector's ongoing long-term cash flow growth trajectory. That being said, we view the likelihood of such a change as inordinately small.

### Demand-Side Throughput Risks

Since the oil crises of the 1970s, refined petroleum products and natural gas demand have risen at a predictable 1.5% annual rate. Leveraging this modest "sales growth" with inflationary pricing power through a fixed-cost asset is all that an MLP needs to steadily increase its cash flows at mid-single-digit rates over time. Stagnation in energy demand would substantially injure a pipeline's ability to increase its cash flows over time. There are several potential risks to energy demand continuing to grow at its forecasted rate over the next two decades, including customer conservation from rising commodity prices and emissions concerns, as well as the introduction of alternative energy sources. Nearly 60%

of petroleum products' pipeline shipments are retail gasoline shipments, i.e. people commuting to work, and parents driving their children to school and to soccer practice. The demand for such uses is highly inelastic. Even for significantly longer trips (e.g. driving the family to Disney World), a doubling or tripling of current gasoline prices does not create competition between driving and taking the train or flying. However, at some marginal point, this could result in certain families not taking such vacations and a corresponding drop in consumption. Demographics are a very powerful force however, and the number of Americans living in the suburbs and commuting to the workplace continues to expand. As the population continues to expand southward and westward, this will put a substantial number of new drivers on the road. As a result of these demographic trends, we believe that a sustained period of minimum \$150 per barrel oil would be needed to push demand sideways permanently, with new families and drivers and their necessary driving needs offsetting the losses of more superfluous driving habits.

Although hybrids are available for purchase today, and other alternative energy vehicles are currently being developed, there will be a substantial period of time before the cost of such vehicles allows them to be manufactured for a mainstream audience. Also, we would note that we fully expect certain pipelines that are currently in service for petroleum products or natural gas to be converted to hydrogen and other alternative energy sources. Just as decades ago many of today's interstate and intrastate natural gas lines were previously in crude oil service, we expect both petroleum products and natural gas lines to be converted to other types of service over time, and believe that competition from alternative fuels will not necessarily be detrimental to MLP cash flows.

### **Supply Asset-Specific Risks**

Although concerns typically focus on the demand side of the throughput equation, without adequate product supplies there will be no pipeline shipments. The majority of pipeline products flows are highly diversified as supplies are aggregated from several refinery complexes. There are certain partnerships that are dependent on specific refineries for product flows, but generally speaking those refineries have access to a diverse group of domestic and international sources, whether they are by pipeline import from the Canadian oil sands or by tanker at the Louisiana Offshore Oil Port. The more diverse the refinery sources and the greater the variety of imported crude oils, the lower the supply side risk.

Natural gas sources are largely in North America, and although LNG is a growing factor, there are not enough import terminals or volumes for this to be considered a truly diversified source. The closer that the wellhead is to the natural gas transportation system, the greater the throughput risks. Typically, large interstate pipelines have such a diversity of supply sources across regions, e.g. onshore Texas, Louisiana, and the Gulf of Mexico, that there is high visibility to long-term supply availability as well as eventual LNG additions. Gas-gathering systems and intrastate pipelines have significantly greater reservoir risk; if the geology of a particular field does not live up to expectations, volumes may suffer.

### **Macro Supply Disruptions**

The US imports nearly three-quarters of its end-use consumption via crude oil and refined petroleum products. Because throughput is one of the primary determinants to MLP cash flows regardless of the demand situation, if there is not sufficient product to place in a pipeline, MLPs will be unable to collect their toll-road revenues for transportation. A substantial reduction in Middle Eastern oil supply, whether voluntarily or due to unforeseen circumstances such as a terrorist attack, would have the potential to harm cash flows for an extended period depending on the extent of the damage or length of voluntary production suspension.

## **Environmental Accidents**

Nearly all MLPs carry comprehensive environmental insurance coverage with relatively low deductibles to cover any product spills that may occur. Because they specialize in optimizing midstream assets and understand the importance of proper maintenance capital expenditures to asset and resulting cash flow longevity, MLPs have strong safety and operating track records, and there have not been any material environmental accidents that have impacted the cash flow and distribution-paying ability of any partnership.

## **Terrorism**

Material terrorist disruption of US midstream energy infrastructure would be difficult. We make the analogy of a terrorist threat to destroy a US highway: there are so many millions of miles of road, the probability of a threat is minimal and the likely impact to the overall transportation system is muted. Also, it is a relatively simple task to replace a pipeline segment that has been damaged by an explosion or otherwise. This can typically be accomplished in a period of days. If, for example, in the case of a natural gas pipeline explosion there were deaths involved, or in the case of a petroleum products line a natural disaster such as a flood was involved, the restart time may stretch to a full week, but would still have minimal cash flow impact to a company. Some MLPs carry terrorism insurance on certain key assets, but most MLPs do not carry any form of terrorism insurance, and we believe that this is a prudent course of action given repair costs and turnaround time relative to premiums.

We believe a more likely and detrimental terrorist threat would actually be on downstream infrastructure, such as a refinery complex that supplies a given pipeline. However, all MLPs carry business interruption insurance (typically effective after 30 days), and because the terrorist attack would not be on the MLP's asset base, this disruption in product flows would be covered by business interruption insurance, just as disruption of product flows for a natural disaster such as a hurricane would be similarly covered.

## **Tax Law Changes**

There is a risk that there could be legislative changes to the 1986 Tax Act that would alter the MLP structure and eliminate the ability to pass through tax liabilities. There are several reasons that we view this as an unlikely event. Just as REITs became a tax-advantaged institutional product (very few would argue that the US needs tax incentives for real estate investment today) and it would prove disastrous to a substantial portion of equity holders' portfolio value if tax laws changed, MLPs are similarly becoming institutionalized and it would be very difficult to push through such legislation. Also, a tax law change would not result in a windfall for Treasury revenues, as MLP investors pay taxes to the US government based on the income that the partnership produces. We would also view it as very difficult for Congress to knowingly increase the cost of capital to US energy infrastructure investment at a time when such investment is of crucial necessity to alleviate the commodity price pressures.

## Financial Risks

Among the financial risks are a sharp increase in interest rates (the yield-oriented nature of MLPs effectively creates “duration” risk), near-term correlations with fixed-income substitutes, energy equities, and/or commodities, and broader risks associated with investing in equities, particularly during sharp market sell-offs such as those seen in October 1987 or September 2001.

### Interest Rates

The average midstream MLP has a near 8.0% distribution yield. In practical terms, this means that a 100 basis point shift to a 9.0% yield would result in an 11.0% price decline in the group, assuming yield spreads hold constant. We have seen several instances of interest rate increases (1994, 1999, and most recently, in April 2004) that have led to poor near-term asset class performance. April 2004 is the most striking example. The 10-year Treasury moved from 3.60% to 4.60% in approximately 20 trading days, sending all yield-sensitive equities, including REITs, utilities, and naturally, MLPs, down 14-18% in the same period.

Many investors tend to incorrectly ascribe MLPs’ spectacular outperformance over the last two decades to the interest rate environment. Although MLPs have benefited from a three-decade-long trend of declining interest rates, so have most other asset classes, from real estate to technology stocks. One cannot view MLPs in a vacuum. We estimate that the change in interest rates has added approximately 3.75% annualized during the last two decades compared to an 18% composite annualized return. However, one would have to strip out these effects in all other classes of equity returns, and relatively, the results look every bit as impressive. These gains are a function of MLPs’ ability to grow cash flows, not the current yield component of their returns.

**Historical MLP Yields and Spreads to Treasuries**



Source: Bloomberg, ACM

Because of the ability to grow their cash flow base, MLPs relatively outperform in a rising interest rate environment. However, just like other classes of yield-sensitive equities, the

short-term price path can be impacted by rapidly rising or declining interest rates. We believe that it is prudent to manage the implicit interest rate shock risk in an MLP portfolio.

### **Equity Volatility and Correlation**

Despite the tendency of MLPs to trade with bonds during periods of drastic interest rate movements, the correlation between bond prices and MLP prices is statistically insignificant. Over whatever periodicity or sample period outside of the three instances named above, there is virtually zero day-to-day correlation between interest rates and MLP yields. They do not trade as bonds. Broadly speaking, over longer periods of time, there is not a significant correlation with the broader equities market either. Over the past fifteen years, MLPs have exhibited a 0.32 price correlation with the S&P 500 Index, because their cash flows are not sensitive to the vicissitudes of the general economy and the news that moves the broader markets. What are MLPs correlated with on a short-term basis then?

*The most indicative measure is the hopes and fears of the retail equity investor.* The retail investor is likely to grasp passing themes in the marketplace and use these as the trigger to increase or decrease their marginal MLP exposure. For example, in August 2004, equities markets hit their bottom of the year and investors were concerned that growth had slowed and that the economy was rolling over. During that month, there was a 0.90 correlation between MLPs and the S&P 500. Over the last two years, for the first time in two decades, MLPs are highly correlated with oil and gas securities even though their cash flows generally have no direct exposure to commodity prices. Since November 2004, we have periodically witnessed a statistically significant correlation between MLPs and energy stocks. On a day-to-day basis, this funds flow activity has been driving MLP prices. Over the long-term, this day-to-day volatility will not affect the cash flows and long-term price path of MLP investments, but it can cause significant week-to-week and month-to-month volatility that will necessarily be incongruous with the group's fundamentals.

### **Equity Crises**

During times of severe equity stress (October 1987, September 2001, October 2008-March 2009), MLPs historically suffered similar shocks despite generating cash flows that are unlikely to be affected by the perceived stress that has been placed on the economy that caused the shock. Despite having solid distributions and yields that will be moving toward increasingly large spreads to Treasuries (that typically rally during periods of equity crisis) MLPs languish for periods of time following substantial fallout in the broader equities market.

# Appendix

## A History of the Creation of MLPs

Limited partnerships (LPs), the closest predecessors to MLPs, rose to prominence following the passage of the Economic Tax Recovery Act of 1981, which established a very generous 15-year cost recovery period for all real estate assets. The new tax code provisions marked the beginning of a period of rapid growth in the number of real estate LPs designed as tax shelters. These partnerships purchased real estate properties on significant leverage and depreciated their properties using the newly established accelerated cost recovery system (ACRS), leading to substantial tax write-offs. Although these partnerships were marketed as conservative, capital-appreciating investment vehicles, their eventual fallout suggests that very few were run with long-term economic profitability as a motive.

High net worth individuals purchased interests in these private or non-publicly traded LPs to offset taxable income generated by other sources such as salaries, dividends, interest, and investment income. These limited partners were considered passive investors, because they were not involved in the day-to-day active management of the partnership and assumed no personal liability beyond their original investment.

During the same period, there were a number of E&P partnerships with rapidly depleting asset bases that were marketed to high net-worth individuals who did not realize both the commodity price dependence nor the depleting nature of the underlying resource. Many of these E&P companies went bankrupt as a result of a turn in commodity prices and the lack of a productive resource base. These early oil and gas partnerships left a bad taste in many investors' mouths and prejudiced them against the structure for years to come, as they lumped any energy-focused partnership in the same group with these failed enterprises. Today's MLP is very different from these failed commodity price-dependent, depleting reservoir partnerships of the early 1980s that hurt so many investors.

Five years later, President Ronald Reagan signed into law the Tax Reform Act of 1986 (TRA), which cracked down on the proliferation of real estate tax shelters and established the foundation for the modern MLP. The modified accelerated cost recovery system replaced the ACRS, and the cost recovery period was extended to 27.5 years for residential real estate and 31.5 years for nonresidential property. TRA eliminated the preferential tax rate on capital gains and lowered overall marginal tax rates, reducing the value of the deductions taken through tax shelters.

TRA Section 465 extended the capital-at-risk limitations of the tax code to real estate tax shelters, preventing limited partners from increasing their cost basis for their share of the partnership's debt unless they were personally liable for repayment. Since limited partners generally provided non-recourse financing and were only liable for their invested capital, they were no longer able to record tax losses and deductions on their personal tax returns that significantly exceeded their investment, as had been done for the past several years.

But what really led to the demise of the tax shelters was TRA Section 469, which prohibited passive investors from using partnership losses to offset taxable income from other sources, i.e. the very thing that the real estate tax shelters were created to do for their high net worth investors. The only partnerships that would survive under the new law were those with mature assets that actually generated passive income.

While TRA established the structural boundaries for LPs, the Revenue Act of 1987 created the business or operating boundaries, eliminating the special tax status for all except those engaged in natural resource activities. In addition, TRA specified that publicly traded partnerships engaged in the exploration, marketing, mining, processing, production, refining, storage, or transportation of any mineral or natural resource would not pay federal taxes in order to encourage investment in US energy infrastructure.

## General/Limited Partner Structure

MLPs have two classes of ownership – GPs and LPs. GPs manage the partnership's operations, receive incentive distribution rights (IDRs), and generally maintain a 2% economic stake in the partnership. LPs are not involved in the operations of the partnership and have limited liability, much like the shareholder of a publicly traded corporation.

IDRs provide GPs with the necessary incentive to grow their MLPs' distributions and consequently raise their own quarterly cash distributions. The partnership agreement entitles GPs to receive a higher percentage of incremental cash distributions when the distribution to LP unitholders reaches certain tiers. The last tier for most MLPs is the 50/50 splits, which means that the GP receives 50% of each incremental dollar paid out above that level. Consequently, the GP would receive a dollar for each dollar paid to LP unitholders above the distribution level specified as the 50/50 splits.

The table below depicts how the IDR structure affects distributions for a hypothetical MLP that is currently paying a \$0.50 quarterly LP unit distribution, has 100 million LP units outstanding, and has distribution tiers at \$0.0625, \$0.1250, and \$0.25 per LP unit.

| How the IDR Structure Affects Distributions for a Hypothetical MLP |          |          |        |        |        |
|--|----------|----------|--------|--------|--------|
|  | Above    | Up To    | LP     | GP     | Total  |
| Quarterly Distribution   |          |          |        |        |        |
| First Tier   |          | \$0.0625 | 98%    | 2%     |        |
| Second Tier  | \$0.0625 | \$0.1250 | 85%    | 15%    |        |
| Third Tier   | \$0.1250 | \$0.2500 | 75%    | 25%    |        |
| Fourth Tier  | \$0.2500 |          | 50%    | 50%    |        |
| Inputs   |          |          |        |        |        |
| Annual Distribution Per LP Unit                                    |          |          | \$2.00 |        |        |
| LP Units Outstanding (mm)  |          |          | 100.0  |        |        |
| Distribution Per LP Unit   |          |          |        |        |        |
| First Tier   |          |          | \$0.25 | \$0.01 | \$0.26 |
| Second Tier  |          |          | \$0.25 | \$0.04 | \$0.29 |
| Third Tier   |          |          | \$0.50 | \$0.17 | \$0.67 |
| Fourth Tier  |          |          | \$1.00 | \$1.00 | \$2.00 |
| Total Distribution Per LP Unit                                     |          |          | \$2.00 | \$1.22 | \$3.22 |
| Distribution (\$mm)  |          |          |        |        |        |
| First Tier   |          |          | 25.0   | 0.5    | 25.5   |
| Second Tier  |          |          | 25.0   | 4.4    | 29.4   |
| Third Tier   |          |          | 50.0   | 16.7   | 66.7   |
| Fourth Tier  |          |          | 100.0  | 100.0  | 200.0  |
| Total Distribution   |          |          | 200.0  | 121.6  | 321.6  |

Source: ACM

Some GPs have chosen to modify their split structure, either by capping their highest split level at a level less than 50/50, or willingly foregoing a certain percentage of cash flow associated with a specific transaction. Doing so effectively lowers a partnership's cost of capital, because the cash outflow to the GP represents a tax on the partnership. This "tax" makes it more difficult for the MLP to bid competitively on acquisitions or spend growth capital on organic projects that meet the partnership's rising hurdle rate. These MLPs are consequently able to pay incrementally more, or bid more effectively, for a set of assets and reap the same amount of accretion, or are able to earn more from a set of assets by paying the same amount compared to being in the 50/50 splits.

A number of MLPs are approaching the high splits, and their GPs are faced with the decision of whether or not to cap their splits. Capping the splits can be considered long-

term greedy, as it expands the pool of assets that the MLP can look to acquire in an accretive manner. Further, most GPs own a significant share of LP units, and over the long run, the cash flow not received from being in the 50/50 splits may be more than offset by continuous growth in the LP unit distributions. However, being “long-term greedy” requires a short-term sacrifice of significant cash flow, because partnerships that have reached the high splits are likely generating enormous amounts of cash for their GPs. Further, as a growing number of GPs are publicly traded, management has a fiduciary responsibility to the shareholders of the GP, who may not be willing to sacrifice the 50/50 splits, especially if they do not own LP units.

More recently, there have been initial public offerings with abbreviated split structures, such as a maximum 25% split. In addition, we have seen MLPs – Copano Energy LLC, Linn Energy LLC, and BreitBurn Energy Partners LP – structure themselves with no incentive distribution rights, meaning all incremental cash flow that is generated returns to common unitholders. As common unitholders, we see these MLPs as consolidators of choice in the space, as the LP ownership stake in these cash flows is not diluted by a GP and its IDRs.

We believe that over time as the market place becomes more sophisticated, investors will demand that all initial public offerings be structured with modified, or more likely, no incentive distribution rights. We view this as unlikely to happen until more widespread mutual fund participation occurs, as these investment managers will demand to know why they are giving up such a significant portion of the future cash flows, and price IPOs accordingly.

## Income Tax Treatment

Given the stable cash generation of most MLP business models, these partnerships are able to return a majority of their excess cash flow back to unitholders. This return of capital has become the cornerstone of MLPs, as investors have come to expect stable cash flows and dependable yields. In addition to stable, cash-generating assets, MLPs do not pay corporate taxes and, consequently, are able to pass on a greater portion of earnings to their limited partner unitholders. Unlike the dividends paid by corporations, MLP distributions are considered 100% return of capital, and therefore are not taxable, and remain so until either: (1) the investor sells his units, or (2) his adjusted basis in the units reaches zero. Any capital appreciation will be taxed at the capital gains rate (assuming the units are held for more than one year), but the portion resulting from downward basis adjustments (e.g. depreciation) will be recaptured as ordinary income.

Instead of paying tax on the cash distributions received, the investor pays tax on his share of the partnership's taxable income, which is a combination of revenue earned, operating costs, and various deductions such as depreciation that significantly reduce his tax burden. In the initial years of ownership, because of the 754 election that allows partnerships to adjust their inside basis for new partners, a partnership will typically generate close to zero taxable income for new investors. For several years, allocated taxable income will typically equal 10-20% of the cash distributions received. This income allocation cannot be used to offset passive losses from other investments, but other investment expenses can be deducted from it if the same MLP's passive income and loss result in a net positive, called portfolio income. Net losses from an MLP are considered passive losses and cannot be deducted from taxable income, but can be carried forward into future tax years to reduce an investor's share of taxable income from the same MLP. Any losses remaining after the sale by an investor of his MLP units can be used to offset other income in that tax year. When an investor files his taxes, he will receive a Schedule K-1 from the MLP, which will identify his share of the partnership's income and losses. Distributions that exceed an investor's outside basis will be taxed at the capital gains rate as return of capital. The investor's allocated income will vary depending on the partnership's operating earnings, deductions, and credits, and generally in practice he will continue to receive a modest "shield" relative to his distribution.

Every time that an MLP makes an acquisition or an investment, the investor is allocated additional depreciation on that investment, which creates a tax shield that will continue as long as the MLP continues to invest new money. The depreciation shield has two components, the underlying basis of the assets, and the depreciation of the investor's basis in the stock, so typically the partner will continue to receive depreciation to the extent that the partnership has income.

US tax-exempt investors, including pension funds and IRAs, generally cannot own MLPs as they will generate UBTI for the investor. Foreign investors generally do not own MLPs because they are subject to FIRPTA (Foreign Investment in Real Property Tax Act), which requires them to file a US tax return and pay income taxes on capital gains of securities bought and sold on US securities exchanges (unlike for example, buying and selling Microsoft, which would only be taxed in the investor's country of origin). Through corporate blocker structures (e.g. a C-Corporation taxable structure) and other more tax-efficient offshore vehicles, both US tax exempts and foreign capital can enter the MLP market place.

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