



# 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 clients in both onshore and offshore structures.

The company focuses on fundamental analysis in an 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 midstream energy space will continue to grow dramatically 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 organic opportunity sets in the midstream energy sector to maximize the potential for predictable distribution growth.

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## **Executive Summary**

Master Limited Partnerships, or MLPs, are limited partnerships primarily engaged in the exploration, marketing, mining, processing, production, refining, storage, or transportation of any mineral or natural resource. 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 42 partnerships that Alerian follows closely, two-thirds trade on the New York Stock Exchange with nearly all of the remaining third on the NASDAQ and two on the American Stock Exchange. 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.

Alerian Capital Management is solely focused on midstream energy MLPs, which are infrastructure 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. Since 1990, the market capitalization-weighted index of MLPs has generated compound annual returns exceeding 18%, under the radar of the professional investment community. These strong returns were generated through a combination of current yield and consistent annual distribution growth of 8%-9% over the period driven by uniquely attractive business models.

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

- Long-lived, high-value physical assets
- Federally regulated Producers Price Index (PPI) revenue indexing, which provides predictable growth and a built-in inflation hedge in the portfolio
- Significant barriers to entry, which generate attractive organic investment opportunities
- · Operating leverage through fixed asset bases that magnify inelastic demand

The midstream sector today represents \$70 billion of public market capitalization, and has traditionally been owned by United States retail investors (institutional MLP ownership is less than 5%). The market capitalization of the MLP sector is growing exponentially, driven by assets migrating from integrated energy majors into MLPs and by demand for new energy infrastructure. In 1999, the sector market capitalization was a mere \$10 billion; in 2001, the number was \$25 billion. Today, it is nearly triple that as a result of asset rationalization into MLPs, which have the operating expertise and structure to optimize their use. Alerian expects MLPs to exceed \$125 billion in public market capitalization by the end of 2008.

Thematically, an investment in MLPs is an investment in the build-out of US energy infrastructure over the next decade. An MLP investment is a hard asset play, unlike US or Canadian royalty trusts, which own depleting resource pools. There are many natural gas pipelines that were in the ground prior to the Second World War, and, if properly maintained, will still be in service 75 years from today when they have been converted to hydrogen transportation and other alternative energy sources. There is much speculation today about the future trajectory of oil prices, the appropriate levels of necessary storage, and the sufficiency of refining capacity. One thing that all agree on, however, regardless of whether they are calling for \$30, \$60, or \$100 per barrel of oil, is predictable, 1.25% annualized energy demand growth in the US over the next two decades. The majority of MLPs are agnostic to commodity prices, and benefit from simple throughput gains in a fixed-cost pipeline system.

Industry experts estimate that the US needs \$100 billion of new natural gas infrastructure over the next decade and billions more in crude oil and refined petroleum products processing, storage, and transportation. Additionally, there are over \$300 billion of



midstream assets in the US currently owned in both private and public corporate structures. 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 today are on the cusp of a very similar trajectory as compared to Real Estate Investment Trusts (REITs) in the late 1980s. We expect to continue to see 10-15 initial public offerings each year for the foreseeable future. High-returning organic investment projects and acquisitions will continue to create tremendous value and demand additional capital inflows. Over the next three to five years, we expect to see an increase in institutional participation in the asset class as structural barriers to entry that effectively preclude widespread mutual fund ownership are removed. Liquidity and market capitalization have reached the point where MLPs could comprise a meaningful portion of a utility or energy-focused fund. Within the next decade, we believe that these capital inflows will cause a dramatic revaluation in the sector relative to other yield-oriented and energy equities. In the meantime, the fundamentals are in place for MLPs and their superior business models to generate attractive risk-adjusted returns, even without a revaluation. Combining a 7% group-average yield with high single-digit distribution growth, we expect mid-teens annualized total returns for the sector.



## Why own Master Limited Partnerships?

Over the past 15 years, midstream MLPs have outperformed the S&P 500 with a cumulative gain of 886% versus 549% for the broader market, and 18.3% versus 11.1% on a compound annualized basis. The fundamentals remain unchanged from decades past. Valuation is in line with historical levels. Demand for investment in new energy infrastructure has never been greater. The structural encumbrances that restrict wholesale institutional investment are still in place creating exploitable inefficiencies in the market. Many investors look at the historical returns wistfully and believe they have missed out and that it must be too late. But the fundamental and structural underpinnings that have led to nearly two decades of outperformance remain solidly in place. This asset class is still in its infancy and the opportunity for outsized returns over the next decade still exists.

# Midstream energy businesses have generated superior historical returns: (Total Returns January 1990- March 2006)

	Annualized Return	Standard Deviation	Largest Drawdown	% Positive Months	Value of \$1,000	Sharpe Ratio	Correlation to MLPs
<b>MLP Composite</b>	18.3%	13.8%	-15%	66%	\$8,856	1.05	
S&P 500	11.1%	14.2%	-47%	64%	\$5,490	0.53	0.28
Russell 2000	11.8%	18.5%	-31%	62%	\$6,028	0.49	0.32
Hedge Funds	13.1%	7.6%	-12%	68%	\$7,247	1.22	0.22
REITS	14.0%	13.2%	-19%	61%	\$8,264	0.86	0.38
NASDAQ	11.1%	24.9%	-78%	60%	\$5,487	0.34	0.22
EAFE World	3.6%	16.4%	-47%	59%	\$1,763	0.06	0.18
Dow Jones	11.9%	14.4%	-31%	64%	\$6,189	0.58	0.28

Source: ACM, Bloomberg, Hennessee

We expect the internal and acquisition growth of the past decade to continue. We believe that these opportunities will significantly add to annual returns and boost future valuation, as investors likely begin to more appropriately discount the strong and predictable growth rates. Despite incredibly strong group performance, which would lead an investor towards an indexing strategy, stock selection is paramount in the asset class. The performance variation of MLPs in any given year is pronounced, creating the potential for outsized returns relative to the index. We feel more comfortable forecasting market-beating total returns for the long term than for any particular year. 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.

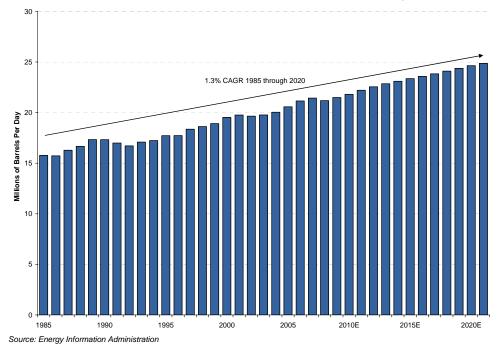
## Thematic Investment in US Energy Infrastructure Growth

There are many perspectives on the future direction of commodity prices. Every CEO, commodities analyst, and portfolio manager has his two cents on where he 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 towards record storage levels as an indicator that commodities and energy equities speculation has entered its own dot-com era. Regardless of their side of the debate, there's something that every opinionated oil executive, analyst, and portfolio manager can usually agree on – petroleum products and natural gas energy demand growth will continue to increase at a 1.25% annual rate over the next decade, just as it has for the previous two.

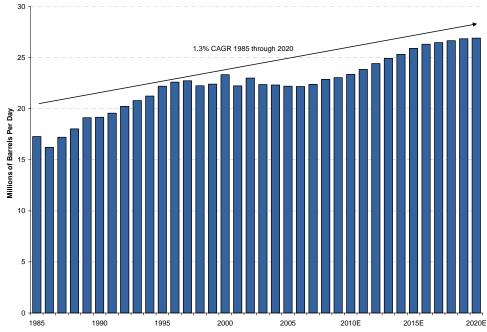
It is this very predictable trend that has driven the outsized returns of the last two decades in MLPs. Institutional investors have not missed the boat on MLP performance, because the fundamentals remain unchanged. The US population continues to grow predictably,



spreading south and west, and the suburban sprawl continues to increase the number of drivers traveling longer distances to reach their place of work.



Historical and Forecast US Petroleum Products Consumption



Historical and Forecast US Natural Gas Consumption

Source: Energy Information Administration

However, one trend that has changed is the supply side of our energy commodities. Natural gas is no longer primarily developed by wildcatters in Texas. The Rockies and LNG hold our natural gas future. Approximately 75% of our petroleum products usage is foreign sourced; international gasoline arbitrage 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, they will demand hundreds of billions of dollars of greenfield investment. 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.

US natural gas consumption has stagnated over the last three years as supply bottlenecks, LNG permitting difficulties, and declining production have overwhelmed the supply side, putting certain industrial producers (namely ammonia fertilizer companies) out of business. Despite rapidly growing production in the Rocky Mountains, this supply has been unable to reach consumption areas because takeaway capacity in those regions is insufficient. As capacity additions are made in the Rockies, permitted LNG terminals are constructed, and technology trends increase production from older regions such as the Texas Panhandle, we expect natural gas consumption to trend upwards predictably.

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. So as the energy and investment communities continue to argue over whether oil will trade at \$30 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

There are many long-haul natural gas pipelines that have been in the ground since before the start of the Second World War. Properly maintained, these pipelines have a practically infinite useful life. These pipes have been in the ground for more than 75 years and they will still be in the ground in another 75 years, after we have exhausted this planet's supply of gaseous and liquid hydrocarbon energy resources and have converted these pipelines to alternative fuels such as hydrogen and ethanol. We see a real and permanent value in the cash flows that these assets provide.

## **Better Business Models**

MLPs generated 18% annualized returns over the past decade, not because of any onetime events or changes 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, as 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 in the portfolio. 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, since 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 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 year despite fallout from September 11<sup>th</sup> and the ensuing 2002 recession. High barriers to entry exist because initial capital costs are prohibitive and the ability to create new rights of way are very limited.



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

- Top-line growth driven by energy demand growth and the PPI factor in their pricing, leveraged through a fixed-cost business model with minimal and predictable capex, generating mid single-digit annual cash flow growth off existing asset base, which implies low double-digit expected returns when added to current yield
- Attractive organic investment opportunities resulting from their franchiseprotected 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; while the growing acquisitive nature of MLPs introduces new risks, MLPs have a built-in capital market discipline since they pay out most of their cash flow and therefore need to come back to the capital markets regularly to finance this growth.

Importantly, 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 virtually zero daily 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. 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 that support the long-term cash flow trajectory of MLPs.

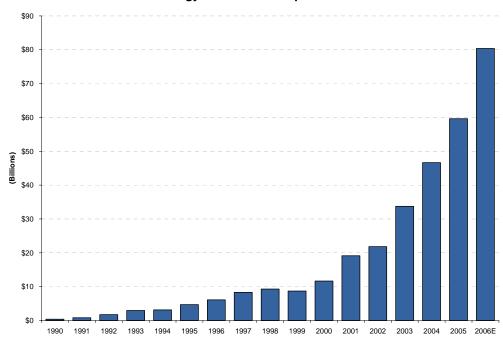
Furthermore, without *physical* product shortages such as those experienced in the 1970s, there will be very little consumption impact even over a period of years during times of highly elevated prices. This long-term track record and the companies' fundamentals imply that regardless of the direction of performance of the broader equity markets and the cyclical state of the economy, MLPs are likely to deliver strong returns that are 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 were created by Congress in their current form 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.

Pipeline 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. MLPs holding these same assets will truly operate them as common carrier pipelines while still providing capacity reservations for the entity that had previously held them. Exxon's investors measure the company's performance based 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 are dwarfed by their exploration and production (E&P) cash flows and will not be rewarded in share price. Consequently, larger energy companies continue to ignore their midstream assets and many remain undermanaged and underutilized.



#### **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 while still 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, and 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.



Particularly in today's high commodity price environment, the Shells and Exxons of the world are incentivized to redeploy the proceeds of these asset sales into higher risk, higher reward exploration and production projects. Their shareholders will not reward them nor likely recognize the value of these undermanaged, underutilized assets relative to the magnitude of E&P cash flows and their volatility.

There is a natural growth that we expect will continue to take place in the sector as more and more of these qualifying assets are moved to this tax-advantaged structure. As noted, we estimate that there are \$300 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 are not included in that estimate but are being explored as possibilities for this structure, adding tens of billions of dollars to potential sector growth.

In 2005, there was an MLP-record \$7.5 billion of equity issuance, as companies aggressively financed growth projects and investments. With a conservative estimate of 50% debt financing, this implies over \$15 billion of total investment. This is on the heels of the previous year's \$5 billion record equity issuance. This aggressive trend has been developing for over five years, and we believe it will only accelerate as larger corporations are increasingly incentivized to divest these assets. Typically, a sector's or company's need to issue equity is viewed as a negative. When it comes to MLPs however, the equity issuance is very bullish in the long run. Because 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 amount of capital discipline in the sector, because 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.

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 need for an equity offering means a company is likely engaging in an attractive organic growth project, typically with a 13%-17% IRR, relatively low risk, and substantial accretion to unitholders. For this reason, unlike other publicly traded concerns in which acquiring companies often trade sharply downwards after a transaction announcement, MLPs will actually trade up substantially as investors factor in the future accretion from the investments.

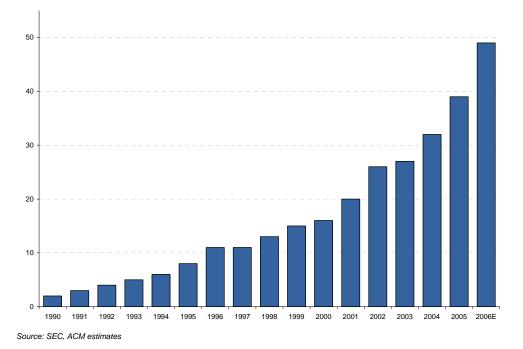
#### Substantial Investment Required to Meet US Infrastructure Demands

We expect over \$100 billion in natural gas infrastructure investment over the next decade as the Rockies become the most prolific and quickly growing gas-producing basin in the US. We expect substantial investment in petroleum products infrastructure as coalliquefaction 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. It urged the FERC as it considered a particular matter before it, 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. We believe that MLPs will continue to be an increasing portion of such expansion projects.



Number of Publicly Traded Energy MLPs



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

We believe that because of the lack of institutional participation in the asset class given significant barriers to entry including restrictions on mutual fund ownership and Unrelated Business Taxable Income (UBTI) generation for tax-exempt institutions, there is a structural mispricing of MLPs relative to other asset classes. We believe there is a valuation arbitrage that should logically play out as the spread between MLPs (with distribution yields of ~7% 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 in the asset class. If MLPs traded flat on a yield basis to utilities, that would imply a 133% revaluation to the group.

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. Today, nearly 20 years after Congress created the structure, we believe that institutional focus will result in a similar substantial revaluation of MLP yields versus the risk-free rate as well as other asset classes. Given the substantially similar asset risk profiles of REITS and MLPs (we would argue MLPs have a substantially lower business risk profile), 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 spread will disappear over time.

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, growing as follows:

- 1999 approximately 15 midstream energy MLPs with a combined \$10 billion market capitalization
- 2001 approximately 20 midstream energy MLPs with a combined \$20 billion market capitalization
- Today approximately 42 midstream energy MLPs with a combined \$70 billion market capitalization.

#### 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, philosophically, 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 anybody's 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, there is no incentive for a Goldman Sachs or Morgan Stanley salesperson to educate or pitch the investor because there is no commission to be generated. There has never been a widespread educational process or focus on Wall Street on educating the institutional customer on MLPs, because the customer was restricted from purchasing. For this same reason, the universe of expert analysts and portfolio managers who understand the many nuances of the midstream 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.

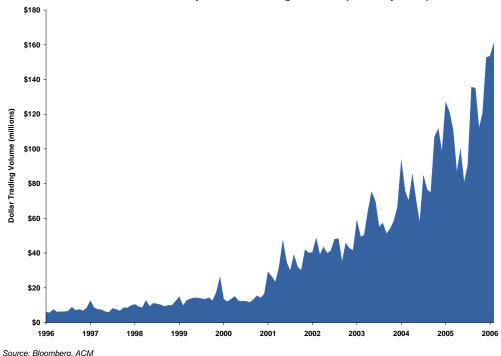
Pursuant to Section 331 of the American Jobs Creation Act of 2004, MLP distributions and income allocations are now considered qualifying sources as it relates to the special tax status of RICs. However, at least 75% of an RIC's assets must be invested in investment vehicles that are not MLPs, and an 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.

However, 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 issuance of 1099s by RICs (typically in November) and the issuance of K-1s by MLPs (February) 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 mutual fund holders. When the K-1s are issued and allocations are available, mutual fund investors then need to adjust their tax returns to account for the changes. Another administrative burden relates to state filing requirements. With some MLPs operating in multiple states, a mutual fund investor 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.

Liquidity has also historically been a concern in the sector, although this continues to improve as well. The median market capitalization in the space has doubled to \$1 billion in the last three years. A typical fear for the institutional investing community is that the sector does not possess sufficient liquidity for investment. However, compared to gas utilities, which attract substantial institutional attention, MLPs have virtually zero mutual fund ownership. For example, Peoples Gas and Light (NYSE: PGL), a \$1.4 billion gas utility and member of the S&P 500 Index, counts Barclays, Allianz Global, Bank of America, Vanguard, State Street, and Federated 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, they continue to devote substantial resources and capital investment towards this sector while ignoring MLPs. As trading liquidity increases, we believe that institutional interest will continue to grow in the sector.





#### Closed-End Funds – The Largest Allocation of "Institutional" Capital in the Sector

Currently, institutional participation in the MLP space principally comes from dedicated closed-end funds, all of which were launched during 2004-2005. There are three investment firms – Kayne Anderson, Tortoise, and Fiduciary – that run exclusively MLP closed-end funds (with approximate market capitalizations included below):

- Kayne Anderson MLP Investment Company (KYN), \$950 million
- Tortoise Energy Infrastructure Corporation (TYG), \$425 million
- Fiduciary/Claymore MLP Opportunity Fund (FMO), \$350 million
- Tortoise Energy Capital Corporation (TYY), \$325 million
- Energy Income and Growth Fund (FEN), \$125 million (managed by Fiduciary)

Two of the firms also manage other closed-end funds, a portion of which are invested in Master Limited Partnerships alongside a broader energy mandate:



- Kayne Anderson Energy Total Return Fund (KYE), \$700 million
- Tortoise North American Energy Corporation (TYN), \$100 million

These closed-end funds are organized as tax-paying corporations, and consequently are not restricted by qualifying income and UBTI limitations (by using a corporate structure, these funds lose the tax efficiency of investing directly in MLPs to avoid these restrictions on ownership). Due to the large deferred tax liabilities created within these tax-paying corporate structures, these companies are typically hesitant to sell their holdings, making active management of MLPs potentially difficult and tax inefficient.

The closed-end funds have underperformed the market-capitalization weighted index of MLPs and are trading below net asset value, making additional share issuance difficult and turning the spigot off to what many believed would be an important source of funds flow for the space. There are several reasons for this underperformance including:

- Corporate tax structure creates current leakage
- Portfolio managers' potential hesitancy to sell holdings, which would trigger substantial deferred tax liabilities and create the resulting double taxation
- Substantial fees, as management fees are generally calculated on the *leveraged* assets under management; these funds typically use 30%-40% leverage

#### 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 towards the pure-play public GP entity, and these have been making their initial public offerings in an MLP structure themselves.

These structures offer investors a leveraged play on MLP growth. We believe that the majority of these entities are overpriced relative to the risk that investors are assuming; there are very few GPs whose valuation stands up to a dividend discount model (DDM) with an appropriate cost of capital. The investment community continues to accord MLPs a 7% cost of equity capital. With such a high degree of innate leverage? The impacts of leverage, financial structure, and trading liquidity on the cost of capital demand adjustments to the CAPM or any other model. For the leverage risk that the investor is taking in owning those GP units, the required rate of return, which is the cost of capital, should be greater than holding the limited partner units – substantially greater. With GPs pricing *debt* at nearly 7.0% for 10-year notes, how can the cost of equity for such a highly leveraged structure not be substantially higher? We would estimate somewhere between 12%-14%, not the 7.0% current average yields associated with LP units. If, for whatever reason, an MLP never grew its distribution again, the GP would have to be valued precisely at a 7.0% yield because it would generate the exact same stream of cash flows.

These GPs currently trade at 3% yields in the public markets, and although there is tremendous potential for distribution growth at the GP level, we generally do not believe it is worth the risk at current price levels. We view purchasing GP units in conjunction with LP units as creating a synthetic position in the "whole" company; we are creating a security without a general partner by balancing the risk/reward and cash flow characteristics of the two publicly traded securities. However, at current price levels, we do not believe this position can be efficiently created.



# **Energy MLP Universe**

Name	Industry	Ticker	Market	Units	Price	Mkt Cap	IPO Date
Alliance Resource Partners LP	Coal	ARLP	NASD	36.4	\$35.33	1,287	08/16/1999
AmeriGas Partners LP	Propane	APU	NYSE	56.8	\$30.35	1,724	04/12/1995
Atlas Pipeline Partners LP	Natural Gas & NGLs	APL	NYSE	12.5	\$41.40	520	01/28/2000
Boardwalk Pipeline Partners LP	Natural Gas & NGLs	BWP	NYSE	103.4	\$21.40	2,213	11/08/2005
Buckeye Partners LP	Refined Products	BPL	NYSE	39.4	\$42.50	1,676	12/16/1986
Calumet Specialty Products Partners LP	Refining	CLMT	NASD	26.1	\$28.65	749	01/25/2006
Copano Energy LLC	Natural Gas & NGLs	CPNO	NASD	18.3	\$43.75	802	11/08/2004
Crosstex Energy LP	Natural Gas & NGLs	XTEX	NASD	26.6	\$33.57	892	12/11/2002
DCP Midstream Partners LP	Natural Gas & NGLs	DPM	NYSE	17.5	\$27.57	482	12/01/2005
Dorchester Minerals LP	Exploration & Production	DMLP	NASD	28.2	\$26.10	737	02/03/2003
Enbridge Energy Partners LP	Crude Oil	EEP	NYSE	53.9	\$43.47	2,341	12/20/1991
Energy Transfer Partners LP	Natural Gas & NGLs	ETP	NYSE	110.6	\$39.22	4,339	06/25/1996
Enterprise Products Partners LP	Natural Gas & NGLs	EPD	NYSE	408.7	\$24.65	10,075	07/27/1998
Ferrellgas Partners LP	Propane	FGP	NYSE	60.6	\$21.16	1,282	06/28/1994
Genesis Energy LP	Crude Oil	GEL	AMEX	13.8	\$12.18	168	11/27/1996
Global Partners LP	Refined Products	GLP	NYSE	11.3	\$21.22	239	09/28/2005
Hiland Partners LP	Natural Gas & NGLs	HLND	NASD	8.4	\$43.20	363	09/28/2005
Holly Energy Partners LP			NYSE	16.1			
, , ,	Refined Products	HEP			\$41.50	668	07/07/2004
Inergy LP	Propane Defined Dreducts	NRGY	NASD	40.3	\$26.48	1,067	07/25/2001
Kinder Morgan Energy Partners LP	Refined Products	KMP	NYSE	162.3	\$48.10	7,808	07/30/1992
K-Sea Transportation Partners LP	Barge	KSP	NYSE	9.9	\$32.51	322	01/08/2004
Linn Energy LLC	Exploration & Production	LINE	NASD	27.8	\$20.25	563	01/12/2006
Magellan Midstream Partners LP	Refined Products	MMP	NYSE	66.4	\$33.15	2,200	02/05/2001
Markwest Energy Partners LP	Natural Gas & NGLs	MWE	AMEX	12.9	\$44.86	577	05/20/2002
Martin Midstream Partners LP	Natural Gas & NGLs	MMLP	NASD	12.7	\$31.51	400	10/31/2002
Natural Resource Partners LP	Coal	NRP	NYSE	16.8	\$52.26	879	10/10/2002
Northern Border Partners LP	Natural Gas & NGLs	NBP	NYSE	46.4	\$48.00	2,227	09/24/1993
Pacific Energy Partners LP	Crude Oil	PPX	NYSE	39.3	\$30.35	1,193	07/22/2002
Penn Virginia Resource Partners LP	Coal	PVR	NYSE	20.8	\$56.99	1,187	10/24/2001
Plains All American Pipeline LP	Crude Oil	PAA	NYSE	73.8	\$44.63	3,292	11/17/1998
Regency Energy Partners LP	Natural Gas & NGLs	RGNC	NASD	38.2	\$21.79	833	01/30/2006
Rio Vista Energy Partners LP	Refined Products	RVEP	NASD	1.9	\$5.72	11	10/01/2004
Star Gas Partners LP	Propane	SGU	NYSE	32.5	\$2.63	86	12/14/1995
Suburban Propane Partners LP	Propane	SPH	NYSE	30.3	\$29.67	899	02/29/1996
Sunoco Logistics Partners LP	Refined Products	SXL	NYSE	25.9	\$41.02	1,061	02/04/2002
TC Pipelines LP	Natural Gas & NGLs	TCLP	NASD	17.5	\$33.29	583	05/24/1999
Teekay LNG Partners LP	Barge	TGP	NYSE	34.4	\$31.39	1,079	05/04/2005
TEPPCO Partners LP	Refined Products	TPP	NYSE	70.0	\$36.26	2,537	02/28/1990
TransMontaigne Partners LP	Refined Products	TLP	NYSE	7.3	\$29.45	215	05/24/2005
US Shipping Partners LP	Barge	USS	NYSE	13.8	\$23.20	320	10/28/2004
Valero LP	Refined Products	VLI	NYSE	46.8	\$49.58	2,321	04/09/2001
Williams Partners LP	Natural Gas & NGLs	WPZ	NYSE	14.0	\$32.71	458	08/16/2005
			NI OL	11.0	ψ02.11	100	00,10,2000
Publicly Traded MLP GPs							
Energy Transfer Equity LP	Natural Gas & NGLs	ETE	NYSE	137.2	\$23.37	3,207	02/02/2006
Enterprise GP Holdings LP	Natural Gas & NGLs	EPE	NYSE	88.9	\$36.40	3,235	08/23/2005
Inergy Holdings LP	Propane	NRGP	NASD	20.0	\$34.00	680	06/20/2005
Magellan Midstream Holdings LP	Refined Products	MGG	NYSE	62.6	\$34.00 \$22.11	1,385	02/09/2005
Magenan Musican Holdings LF	Reinieu Froducis	WIGG	NIGL	02.0	ΨΖΖ.ΙΙ	1,305	02/03/2000
Institutional Shares							
	Crude Oil	EEQ	NYSE	11.0	¢10 51	500	10/10/2002
Enbridge Energy Management LLC				11.9	\$42.54	508	10/10/2002
Kinder Morgan Management LLC	Refined Products	KMR	NYSE	58.9	\$43.94	2,589	05/14/2001
Deduktore The deal Order in the 1999 M							
Publicly Traded Subordinated Units	0	NSP	NYSE	0.5	<b><b>MEO</b> 10</b>	400	00/00/0005
	1,001	NGD	NVSE	95	SED 10	420	08/09/2005
Natural Resource Partners LP Star Gas Partners LP	Coal Propane	SGH	NYSE	8.5 3.4	\$50.40 \$2.25	429 8	03/26/1999

Total market capitalization, adjusted for GP ownership of LP units: \$73 billion

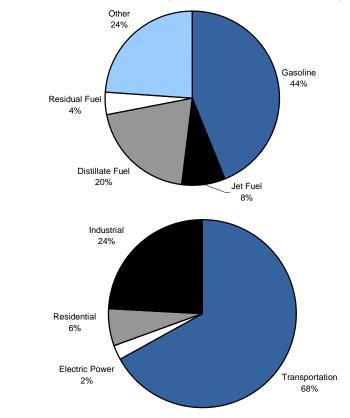


## What is a Midstream Asset?

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 1-10 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 advance 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.

#### 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. Given the extensive pipeline infrastructure and available gas processing capability in and around the region, the Gulf Coast is the target for a majority of the proposed US onshore LNG terminals.

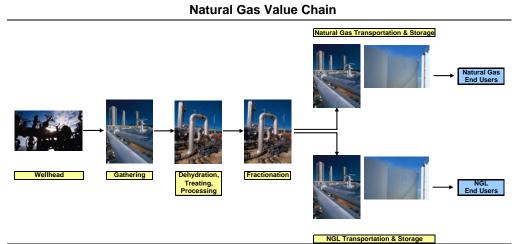
Once natural gas is produced from wells in areas such as the Gulf of Mexico, producers then seek to deliver the natural gas and its components to final markets. The midstream natural gas industry is the link between upstream E&P and downstream end markets. The midstream natural gas industry generally 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.

## Gathering



The natural gas gathering process involves the connection of natural gas producing wells to pipelines, called gathering systems, that 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 are operated at design pressures that will maximize the total throughput from all connected wells. Some systems are supported by a reserve dedication, which commits the producer to utilize the midstream service provider's gathering and transportation 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.



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 ( $CO_2$ ) or hydrogen sulfide ( $H_2S$ ) 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, (1) including 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

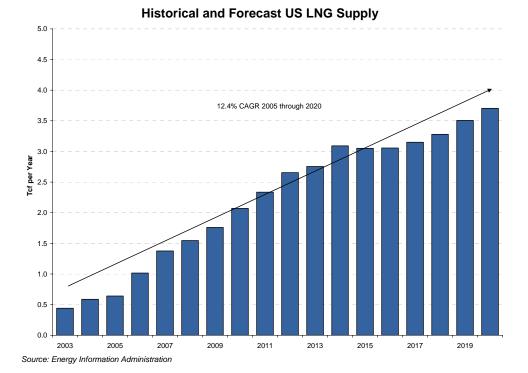
As the use of natural gas continues to rise, the gap between the expected demand by consuming nations and their production levels is also increasing, requiring the shortfall to be met with imports. A majority of the global supply of natural gas has traditionally been stranded given the dislocation in 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.

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. In special facilities at the terminals, 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.



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.



# 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.

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, which are 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% for midstream energy partnerships. A distribution cut or even heightened concern over distribution stability would have a significantly adverse impact on a partnership's unit price (the one midstream MLP that cut its distribution, Plains All American Pipeline LP, promptly restored the distribution back to its previous level following a one-time event), creating another self-regulating mechanism that in this case forces management teams to be prudent with their distributable cash coverage. Depending on the relative stability of cash flows, partnerships will typically maintain 1.05-1.20x cash coverage of their distribution. It is a testimony to the stability of the underlying cash flows of the midstream sector (ex retail propane distribution, which is a different business) that in the entire history of publicly traded MLPs, there has only been one distribution cut, and that was for only one quarter as the result of a rogue trader at the company.

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 their 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 \$300 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 off of different assumptions for 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.

Today, we believe that this option component has become a far too significant portion of valuation, and that stock-specific risk in the sector continues to increase as we continue to see certain "high-growth" MLPs trading at 100% premiums to net asset value. The MLP investment community appears to justify this premium to intrinsic value by pointing towards 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 x percent 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 1.25% 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. Our fear is that given the large premiums to net asset value, a misstep at one of these partnerships could send the stock plummeting over 50%, thus harming the cost of capital for the sector overall. 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 their ability to maximize their opportunity set are 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. 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.



# **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 was only one substantive change to the pipeline inflation indexing methodology, and that was a 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 underinvestment 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 dynamic 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 \$100 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 a blow-up on 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 have been deaths involved, or in the case of a petroleum products line, a natural disaster such as a flood has been 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 was not 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 taxadvantaged 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.



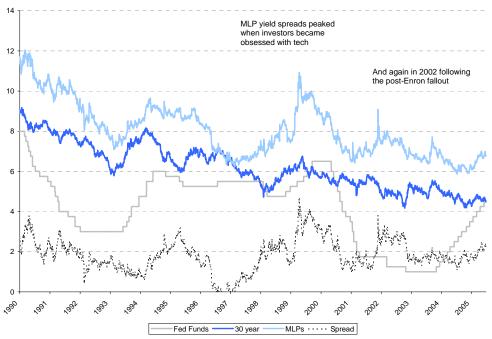
# **Financial Risks**

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 7.0% distribution yield. In practical terms, this means that a 100 basis point shift to an 8.0% yield would result in a 15.5% price decline in the group, assuming yield spreads hold constant. We have seen several instances of interest rates 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 as 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 two decades, MLPs have exhibited a 0.20 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 on to 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. Today, 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 witnessed a strong, statistically significant correlation between MLPs and energy stocks. On a day-to-day basis, this funds flow activity is what will drive 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), 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 towards 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	Uр То	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 Outstandir	ng (mm)		100.0			
Distribution Per LP Unit	t					
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 L	P 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						

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. The GPs of two partnerships, Enterprise Products Partners LP and Valero LP, have recently capped their splits at 25/75 and Suburban Propane Partners LP has had a 30/70 top tier for years. 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.

In recent years, we have seen two partnerships – Copano Energy LLC and Linn Energy LLC – structure themselves with no GPs, 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.



## **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 outside 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. Once an investor's outside basis reaches zero, he typically retains a modest tax shield.

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 inside or underlying basis, and the outside basis or 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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