Dirty Little Secrets

Market Fears Create Historic Opportunity in the Midstream Energy Sector

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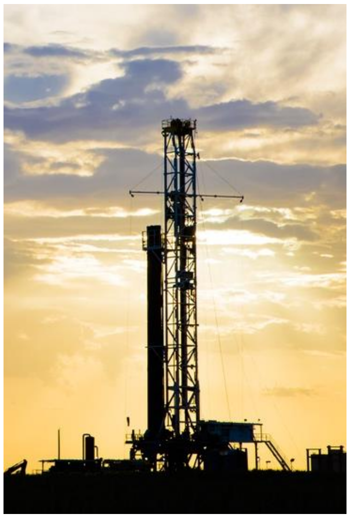

Dirty Little Secrets 2019:

- Investors are missing a historic opportunity in a midstream sector that is expected to grow more than $10 billion in EBITDA (20%) over the next four years.
- AMZX and WTI have a strong correlation despite midstream cash flows having a tighter correlation to production growth, which will grow by 5% CAGR over the next four years.
- That $10 billion in net growth from 2018-2022 is not created equal: companies like Energy Transfer Partners (ET), Enterprise Products Partners (EPD) and Williams Companies (WMB) will drive that growth, while others will struggle to manage the $4 billion treadmill in legacy asset declines over that same time period.
- U.S. crude oil supply is predicted to increase by 1.0 MMb/d in 2019, a growth rate similar to 2014 despite a 50% decline in oil prices.
- A record level of DUC inventories (more than 2,500 wells in the Permian alone) continue to fuel midstream asset growth.
- Production growth will fuel midstream infrastructure opportunities in new ways, such as water disposal; East Daley estimates that $5.8 billion of CapEx spend will be required to expand produced water disposal capacity through 2022.

1 Introduction – Demystifying the Disconnect Between the Midstream Market and Industry Fundamentals

The midstream sector has faced somewhere between anemic returns and gut punching losses over the past five years. The one-, three- and five-year total return on the MLP Index (AMZX) is -11%, 2% and -26%, respectively. At the same time, industry fundamentals have provided tailwinds for the midstream sector; production growth feeding midstream assets has increased by a compound annual growth rate (CAGR) of 4% for natural gas and 7% for crude oil over the past five years. That growth has accelerated in the past two years to a historic combined 6 MMBoe/d or 25% (Figure 1.1). East Daley expects this trend to continue in 2019 despite the recent pull back in crude oil prices. The Permian and Bakken basins will lead the way for crude oil and the northeast will dominate natural gas uplift. At current prices, this growth will drive over $10 Billion of EBITDA into the midstream sector over the next four years.

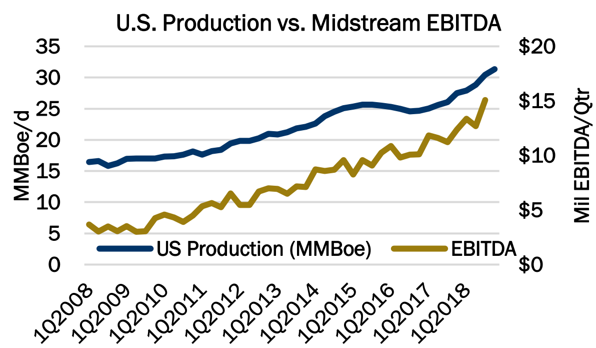

Figure 1.1: Source - East Daley, Bloomberg

There is a strained relationship between declining equity markets and growing U.S. production fueling the midstream sector. This has left many investors perplexed and some avoiding the entire industry. The disentanglement between the capital markets and industry fundamentals has been strained for several reasons. Capital structure was an issue discussed in 2018's Dirty Little Secrets report, but that hurdle has largely been cleared. The market perceived declining oil and gas prices to be an issue in the past, and yet production continues to climb. The biggest issue is simply, the complexity and lack of data surrounding the midstream space. As shown in Figure 1.2, the market tends to revert to the oversimplified heuristic that correlates WTI prices to the value of the midstream space (AMZX). Plainly put, it is difficult to quantify the risk to specific assets versus the opportunity for a company to grow. ***These overemphasized and generalized risks combined with disregarded tailwinds have driven a wedge between the market and underlying fundamentals, creating outsized opportunity for the informed investor.***

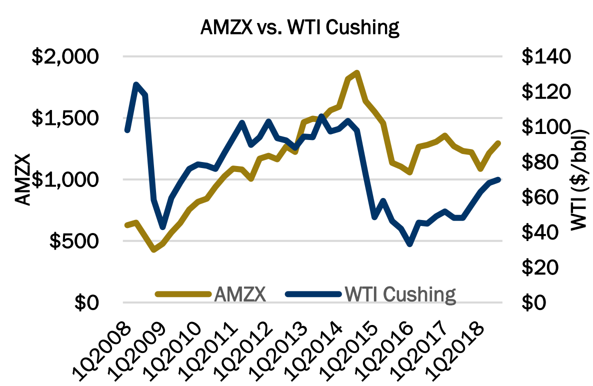

Figure 1.2: Source - Bloomberg

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1.1 2019 Dirty Little Secrets Highlights –Treadmills and Tailwinds

Fear of the Midstream Treadmill

Risk in the midstream sector is in many ways like a treadmill. Natural well declines on gathering and processing assets continually require new well interconnects. Shifting supply and demand dynamics result in volume declines and spread changes that can reduce pipeline and storage revenue. Understanding these legacy asset declines by company provides investors with more clarity on how growth projects will impact total company cash flows in the future.

Midstream companies are no stranger to the difficult dichotomy of growing a business while offsetting assets subject to volume, price or fee-based declines. While investors understand that the risk of cash flow declines on legacy assets exists, details tend to remain elusive. It makes sense – companies are inclined to emphasize growth. Management generally does a good job of laying out capital budgets and subsequent cash flows in investor presentations, often highlighting low cost-to-EBITDA multiples, but often chooses to deemphasize future downside risks. East Daley's independent assessment allows for unbiased company forecasts which quantify legacy asset decline risks.

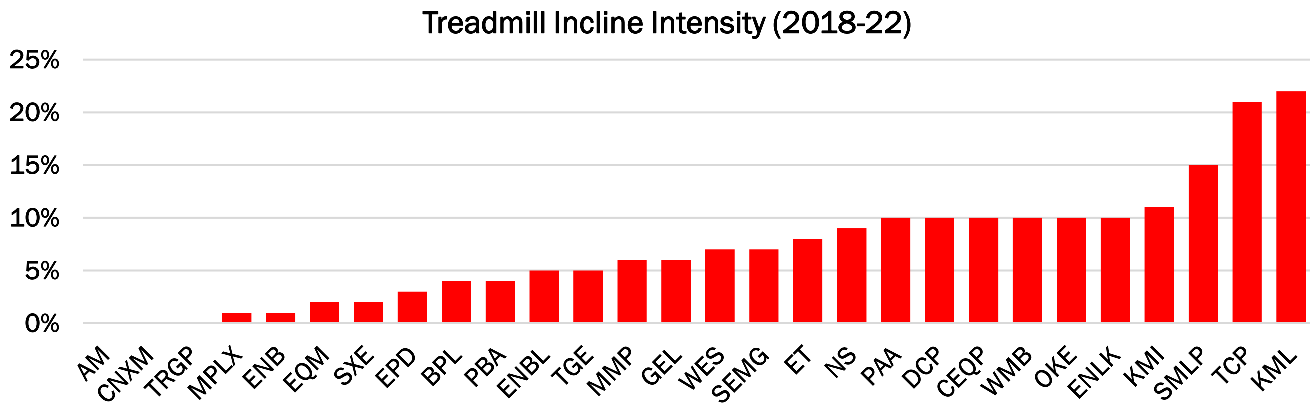

Figure 1.1.1: Source – East Daley

East Daley defines legacy cash flow risk in Section 1 of this report as follows: -(the sum of EBITDA change on legacy assets from 2018 to 2022) / (2018 EBITDA). This measure is called the Treadmill Incline Intensity (TII). Risks that eat away at base business cash flows and offset future growth projects include: contract roll-off risks; marketing risks; commodity price declines; tariff rate cases; and production declines in Tier III basins. Companies with a higher TII face the most risk of generating cash flows shortfalls versus market expectations – the equivalent of a violent tumble on a steeply inclined treadmill conveyer belt. The TII and the associated legacy risk for each of the companies in this report are shown in Figure 1.1.1 The higher the TII, the more the risk to future cash flows and thus the more the company should be doing to offset that risk.

Section 6 of East Daley's 2019 Dirty Little Secrets report will dig even deeper into some of the driving factors behind declines as we explore the impact of what is likely to be a major theme in 2019, demand-constrained growth for natural gas. Oil-driven natural gas supply growth along with surging production in the Northeast is expected to result in a reduced gas price environment that will reduce rigs in Tier III basins and incentivize a shift from dry to liquids-focused drilling in the Northeast. While there are companies that may benefit from this shift, there are also midstream assets exposed to fringe producing basins subject to lower rig activity. To understand these potential risks, Section 8 will detail each midstream company and the risks they face due to a declining or reduced production profile. To be clear, the TII is measuring legacy asset risk. For companies like Antero Midstream, the bigger risk is for slower growth in the Northeast that is discussed in more detail in Section 6. To understand cash flow expectations versus the market's expectations, Section 8 will describe the risk to company cash flows, asset by asset, based on models driven by every well feeding its systems.

Midstream Tailwinds

Midstream tailwinds continue to be ignored, but East Daley covers each of these favorable currents in sections 3, 4, 5 and 6. Section 3 discusses production growth for crude oil, natural gas and NGLs and the impact that growth has to specific midstream companies. As shown in Figures 1.1.2 and 1.1.3, the Permian and Bakken will lead the path to growth for crude oil, while the Northeast and the Permian will lead the way for natural gas production. Despite the recent pull back in crude oil pricing, efficiency gains are driving considerable volume increases and ultimately cash flow growth for the sector.

Yearly Average Natural Gas Production (Bcf/d)

Basin	2018	2019	19 vs. '18	% Change
Northeast	28.16	33.54	5.38	19%
Permian	7.82	9.53	1.71	22%
ArkLaTex	10.03	11.24	1.21	12%
Anadarko	7.72	8.42	0.70	9%
DJ	2.00	2.36	0.36	18%
Bakken	1.47	1.74	0.27	18%
Eagle Ford	6.07	6.20	0.13	2%
Powder River	0.65	0.74	0.09	14%
Barnett	3.12	2.74	-0.38	-12%
Rockies	7.87	7.46	-0.41	-5%
Other	8.31	7.66	-0.65	-8%
Total	**83.23**	**91.63**	**8.40**	**10%**

Figure 1.1.2: Source – East Daley

Yearly Average Oil Production (MMbbl/d)

Basin	2018	2019	19 vs. '18	% Change
Permian	3.41	4.10	0.69	20%
Bakken	1.32	1.47	0.15	11%
DJ	0.47	0.54	0.07	15%
Anadarko	0.67	0.72	0.04	7%
Powder River	0.12	0.16	0.04	36%
Eagle Ford	1.39	1.41	0.02	2%
Northeast	0.11	0.12	0.01	12%
Gulf of Mexico	1.73	1.76	0.04	2%
PADD 5	0.95	0.94	-0.02	-2%
Other	0.73	0.76	0.03	5%
Total	**10.90**	**11.99**	**1.09**	**10%**

Figure 1.1.3: Source – East Daley

This growth has and will continue to result in opportunities for the midstream space as each additional molecule navigates its way from well head to the water, increasingly capturing global market share. Section 5 covers the upside to midstream companies with NGL assets on the U.S. Gulf Coast (USGC) since most of the supply growth in NGLs (save ethane) will be exported to satiate global market demand. Section 4 analyzes how regional crude oil price arbitrage has incentivized infrastructure growth, shifting volatile earnings from marketing affiliates to long-term, fee-based earnings on long-haul pipelines. Finally, Section 7 covers what investors should expect for 2019 capital spend, as well as production growth-driven infrastructure spending through 2028. While the cyclical nature of commodity markets can be lamented by investors who demand consistent growth, many companies in the space are locking in more stable revenue profiles and could diversify their investments into less conventional assets like crude gathering, water gathering and export terminals.

The Dirtiest Little Secret in the midstream space for 2019 is best summed up by combining Figures 1.1.2 and 1.1.3 into Figure 1.1.4 below. The value of the midstream sector has been correlated to WTI, reducing company valuations, resulting in a high cost of capital (via lower stock prices – Figure 1.1.4: grey line) over the last several years. However, production is expected to continue to grow (Figure 1.1.4: black line), which will require additional midstream infrastructure. If public markets do not recognize this, there is an increased likelihood that midstream companies will turn to private equity, taking opportunity off the table from mainstream investors. This shift already started in 2018 with companies like Blackstone, KKR, Stonepeak and Lowes pouring money into public midstream companies. Risks are inherent in the midstream sector but East Daley views 2019 favorably both for production and cash flow growth. Understanding where those risks lie along with their magnitude will provide investors an informed view of the companies that are best positioned with low relative treadmill risks and high leverage to tailwinds.

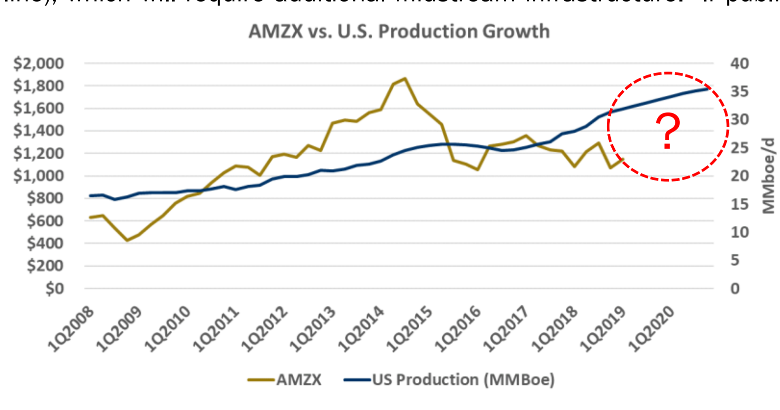

Figure 1.1.4: Source – East Daley

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1.2 About East Daley

East Daley Capital is an energy information and insights provider that is redefining how markets view risk for midstream and exploration and production (E&P) companies. In addition to using top-level financial data to predict a company's performance, East Daley delivers asset and commodity analysis that provides comprehensive, fact-based intelligence. Supported by a team of unbiased, experienced financial and commodity analysts, East Daley provides its clients unparalleled insight into how midstream and E&P companies operate and generate cash flow, in addition to commodity forecasting. East Daley uses publicly available fundamental data and intersects that data with a company's reported financials to asset-level adjusted-EBITDA and distributable cash flow (DCF). The result allows for more informed investment decisions.

2019 Dirty Little Secrets Full Report

Dirty Little Secrets **– Market Fears Create Historic Opportunity for Midstream Energy Sector**

The purpose of *Dirty Little Secrets* is to make a very complex sector easily digestible. This report is a must read for the seasoned market veteran and for those who are looking to get into the midstream space. *Dirty Little Secrets* is a vital tool to help you assess midstream risk by providing you with unbiased and data-driven analysis made possible from the largest database of U.S. energy infrastructure. At East Daley, we do the "heavy lifting" for you so that you can focus on strategy and execution.

Contact East Daley for additional details on purchasing the full *Dirty Little Secrets* report, including an in-person or web presentation to review the report findings in further detail with a team of our analysts. For more information, contact:

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