East Daley Midstream Guidance Outlook

Underrated or Overrated? 2020 Midstream Themes

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Questions?
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2020 Midstream Guidance Outlook

As we approach the New Year, midstream companies will begin releasing 2020 guidance, giving investors a first look into management's expectations for the coming year. In East Daley's third annual installment of the *Midstream Guidance Outlook*, we discuss themes and trends for next year that we predict will have major impacts to the sector by bringing together commodity fundamentals with asset-level financial modeling. Additionally, this year's *Midstream Guidance Outlook* includes an introduction to the largest upgrade ever to our asset-level modeling with the addition of the East Daley Return Metric (EDRM). EDRM acts as a proxy for Return on Capital Employed (ROCE) and is designed to allow investors to analyze ROCE at the asset-level and across different companies, commodity types, asset types, and basins/hubs.

Key Takeaways

- Global oil and natural gas demand growth is likely to continue into the foreseeable future and will support U.S. production increases and, in turn, U.S. midstream sector growth.
- Despite recent concerns and cautious rhetoric from producers, East Daley still forecasts Permian production to register ~16% average growth in 2020.
- The market is likely still underestimating the impact of the impending ~3 MMb/d Permian crude oil pipeline overbuild which could have significant negative impacts to midstream marketing and transportation revenues.
- Preliminary 2020 production guidance and current rig activity indicates the U.S. natural gas market will still be oversupplied next year. The oversupply would push prices even lower to induce more supply rationalization, a negative for midstream assets tied to gas-levered basins.
- East Daley's asset-level ROCE (EDRM) makes its debut in 2020 and will allow return analysis for different companies, commodity types, asset types, and basins/hubs.

Building on the themes from this *Midstream Guidance Outlook*, East Daley will release the midstream fundamentals section of the annual *Dirty Little Secrets* report, titled *Molecules to Money: Asset-Level ROCE* in December. Finally, the midstream company sections of *Dirty Little Secrets* will be released in January, analyzing near and long-term risks for every midstream company under East Daley coverage.

Overrated or Underrated? 2020 Midstream Themes

In last year's *Midstream Guidance Outlook* East Daley's *Consensus Comparison Report* showed that our Adj. EBITDA estimates for 2019 were skewed positively vs. consensus based largely on our forecast for strong production growth to continue feeding midstream assets. This fundamental tailwind of continued production growth likely persists as we head into 2020; however, counteracting headwinds have emerged that are shifting some of our coverage to skew negatively vs. consensus (Figure 1).

In East Daley's view, the most significant headwind forming is the impending overbuild of crude oil pipelines out of the Permian and Cushing, which we forecast will significantly impact fee based and marketing earnings for several midstream companies in 2020 and 2021. Additionally, the need for natural gas supply rationalization will have negative impacts to earnings for natural gas levered assets in the Northeast, Ark-La-Tex, and Rockies. Finally, East Daley's midstream treadmills are still churning and continue to forecast legacy asset declines for a variety of reasons. However, there are still bright spots heading into next year. Midstream companies that largely avoid the headwinds listed above should continue to benefit from the tailwinds of continued U.S. production growth. Indeed, Figure 1, on page 2, shows we forecast ~45% of the midstream companies under coverage to outperform consensus in 2020. In this year's *Midstream Guidance Outlook,* we play a game of "overrated vs. underrated" for the themes East Daley and the market are watching heading into 2020:

- Theme 1 – The End of Global Oil and Gas Demand Growth: **Overrated**
- Theme 2 – Permian Production Growth Concerns: **Overrated**
- Theme 3 – Potential Downside from the Permian and Cushing Overbuilds: **Underrated**
- Theme 4 – Additional Natural Gas Rationalization: **Underrated**

- Theme 5 – The Midstream Treadmill: **Underrated**
- Theme 6 – Asset-Level ROCE (East Daley's Asset-Level Return Metric): **Underrated**

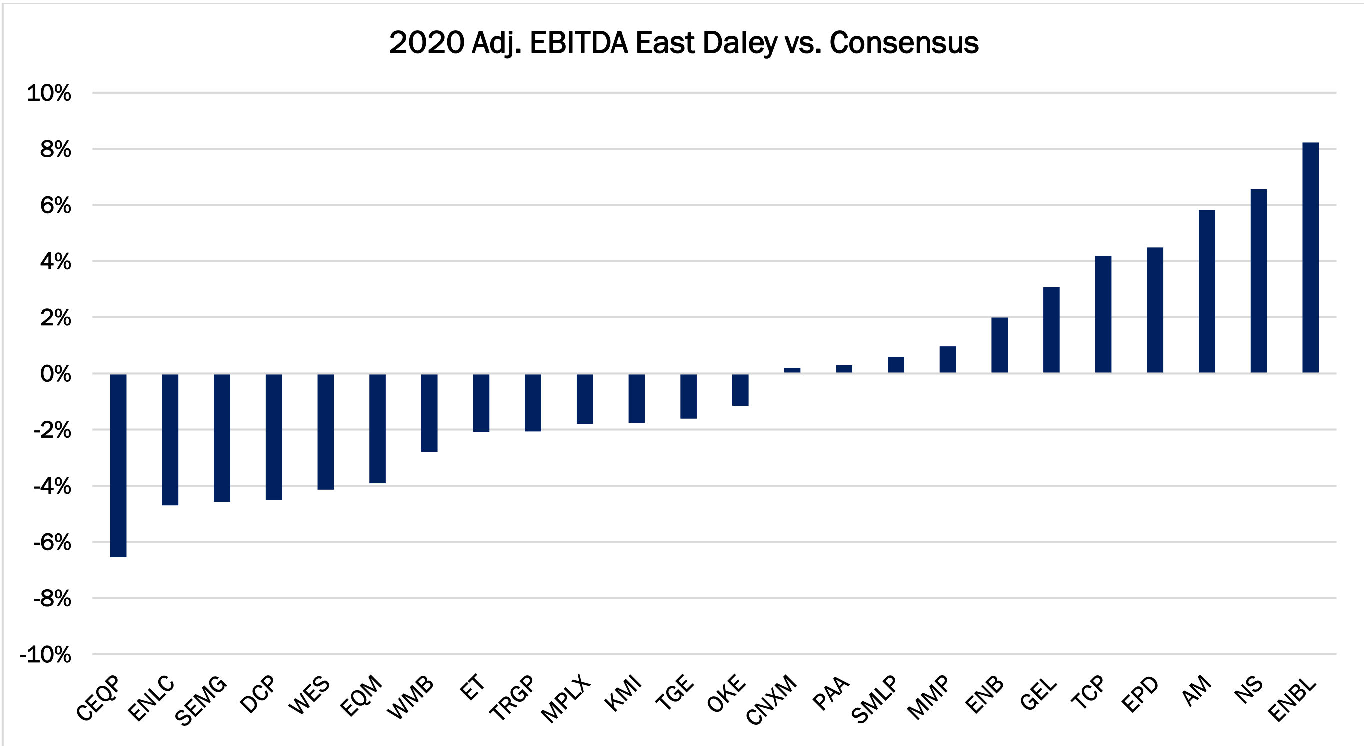


Figure 1 – East Daley vs. Consensus 2020 Adj. EBITDA (East Daley Consensus Comparison Report)

Overrated – The End of Global Oil & Gas Demand Growth

Last year, East Daley discussed the fundamental view that continued growth in world liquids demand and supply discipline from the Organization of the Petroleum Exporting Countries (OPEC) would drive U.S. production higher, creating a tailwind for the U.S. midstream industry. The growing production theme has largely played to script as U.S. liquids production is trending to deliver a Y-o-Y increase of ~1.4 MMb/d in 2019 (Figure 2 on Page 3) based on YTD data and East Daley's estimates. However, the growth was only partially supported by new liquids demand (+0.8 MMb/d - EIA Short-Term Energy Outlook), which saw a growth lag due to slowing economies globally (3% global GDP growth, the lowest rate since 2009 - IMF). The other portion of the U.S. supply increases was made possible by decreasing Iranian and Venezuelan production, which saw significant declines due to U.S. sanctions and/or continued underinvestment.

Looking ahead to 2020, OPEC appears likely to continue to cede market share to support prices. However, U.S. producers are unlikely to see a similar benefit from the significant supply declines they saw from Iran and Venezuela. Thus, U.S. production in 2020 is likely to be more dependent on the pace of global demand growth than pockets of declining global supply. East Daley currently forecasts ~1.4 MMb/d of average U.S. liquids (oil and NGLs) production growth next year (using current commodity forward curves and preliminary 2020 producer guidance). Given the current trade headwinds and softness in some global economies, there is certainly risk that demand growth could continue to lag and production would fall short of our forecast. However, we strongly reject some of the recent sentiment that global demand for oil and gas is hitting its peak. While economies will slow and recessions will occur, over the long-term global GDP growth is likely to continue churning higher. This GDP growth will fuel more oil and gas consumption as the two are, in our view, inextricably linked into the foreseeable future. Thus, the long-term tailwinds supportive of continued growth in U.S. production are still in place; even if there are some bumps along the way due to global economic struggles.

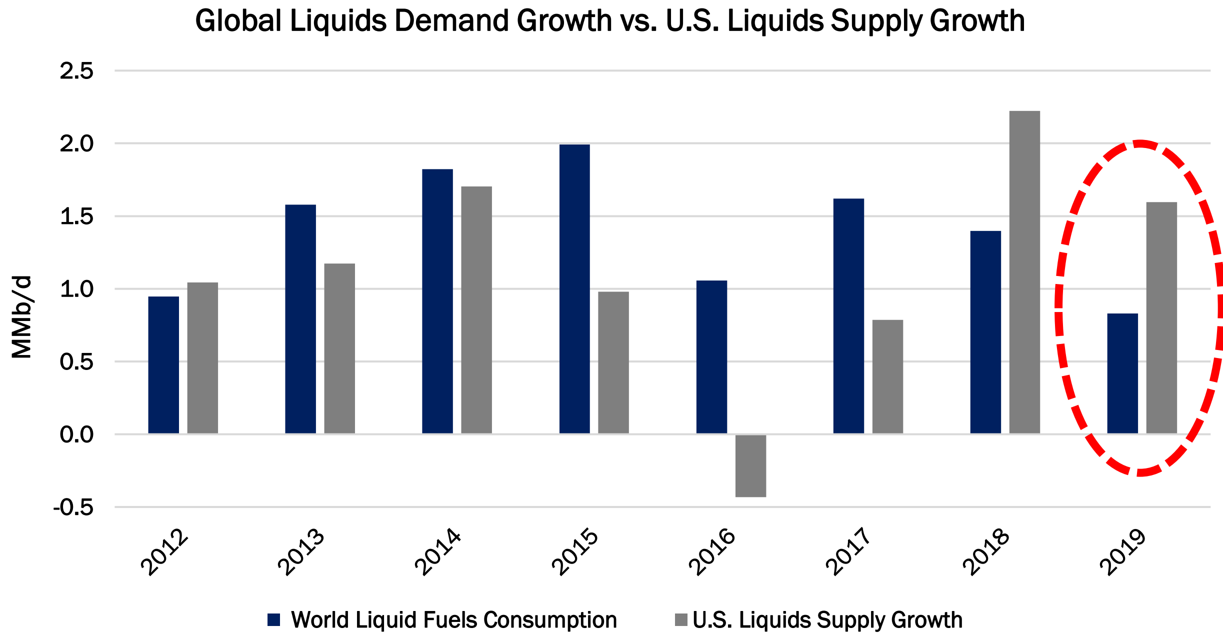


Figure 2 – World Liquids Demand Growth vs. U.S. Supply Growth (EIA, BP)

Overrated – Permian Production Growth Concerns

Recent rig declines and cautious producer commentary have been a catalyst for some market analysts to significantly reduce their Permian production growth forecasts for next year. While near-term producer commentary should certainly be factored into production forecasting, rig count declines can sometimes be misleading. In the case of the Permian, it is important to understand that the rig counts seen in 2018 and part of 2019 were creating far more wells than producers were completing. Thus, drilled but uncompleted (DUC) well inventories rose significantly, and East Daley estimates current Permian inventory is ~1,370 wells above a normal DUC inventory.

Based on current rig counts and drill times, East Daley estimates fewer than 530 Permian wells/month to be drilled in 2020, which is down from 550 wells/month in 2019. However, well completions are forecasted to be at higher levels in 2020 under the assumption operators start working through DUC inventories. Despite the lower levels of drilling activity, completions are forecasted to average 570 wells/month in 2020, which is up from 535 wells/month in 2019. Additionally, completions and tie-in activities during 2019 were negatively impacted by crude oil pipeline constraints, resulting in temporary WTI-to-Midland price discounts. With pipeline capacity largely de-bottlenecked heading into 2020, completions activity is expected to be less volatile with fewer crude takeaway constraints. Natural gas takeaway will remain a primary concern in 2020 until either a) Mexico pipeline infrastructure comes online or b) KMI's Permian Highway Pipeline comes online in 1Q2021.

One aspect of East Daley's supply constraint forecasting methodology is closely watching producer production guidance as a comparison to our basin and individual gathering and processing system-level models. Figure 3, located on page 4, shows the largest oil producers in the Permian, their recent commentary on 2020 growth, and East Daley's assumed Y-o-Y production growth. As the table shows, the weighted average growth rate comes in at ~12% vs. average 2019. It should be noted that producer commentary for 2020 commonly assumed a ~$50/bbl oil price and we believe actual production will likely tick higher if prices can sustain in the $55-$60 range. Additionally, producers typically sandbag guidance to ensure they hit numbers communicated to their investors. Thus, we currently expect production growth to come in ~3-4% above where producers guide yielding a 16% (~700 Mb/d oil) average growth rate for the Permian.

Producer	Approx. 2019 Gross Oil Production	East Daley Assumed 2020 Permian Oil Growth	Company Preliminary 2020 Guidance
OCCIDENTAL (PERMIAN RESOURCES)	334,652	5%	5%
CONCHO RESOURCES	312,317	11%	Low double digit oil growth
PIONEER NATURAL RESOURCES	288,240	13%	13% "reasonable" for 2020
EOG RESOURCES	254,339	15%	Mid-teens growth company wide
DIAMONDBACK ENERGY	234,256	12%	12.5%
EXXON MOBIL	206,565	40%	~40% based on presentation graph
OCCIDENTAL (EOR)	169,016	0%	N/A
CHEVRON	135,358	20%	~21% based on presentation graph
APACHE	126,248	10%	Modest company-wide oil production growth
PARSLEY ENERGY	112,824	12%	12%
DEVON ENERGY	99,531	15%	7-9% total company oil growth
CIMAREX ENERGY	98,039	14%	"Some" company oil growth
ENDEAVOR ENERGY RESOURCES	92,163	12%	N/A
ENCANA	81,374	8%	"Modest" liquids growth
MEWBOURNE OIL COMPANY	80,475	0%	N/A
SM ENERGY	76,670	5%	"Very low growth to some growth"
SHELL	72,213	0%	N/A
WPX ENERGY	61,608	9%	N/A
SURGE OPERATING	56,472	0%	N/A
CENTENNIAL RESOURCE DEVELOPMENT	55,539	0%	N/A
CROWNQUEST OPERATING	49,089	0%	N/A
Weighted Average Total		**12%**	

Figure 3 – 2020 Guided/Forecasted Permian Production Growth (Company Data, East Daley Forecasts)

Underrated – Potential Downside from the Cushing and Permian Overbuild

In 2019, East Daley released our *Crude Hub Report and Data Set* which allocates barrels to every major pipeline into and out of major U.S. crude hubs. The model is powerful in that it balances oil supply and pipeline demand which can tease out insights that are not easily seen without balancing each basin and hub. For example, it would be logical to conclude that there is significant need for incremental oil pipeline capacity out of Cushing based on the amount of incremental upstream production (DJ, Bakken, Powder, Canada, Anadarko). However, allocating barrels across all the major hubs and basins using the *Crude Hub Report and Data Set* tells a different story. As shown in Figure 4, located on page 5, East Daley's Cushing supply forecast is estimated to be largely flat from 2019-2022, implying new builds and expansions will create a significant overbuild. The reason for no growth inbound to Cushing is two-fold. First, much of the growing supply will utilize pipelines which do not connect into Cushing (DAPL/ETCOP, Trans Mountain). Second, Permian supply which previously flowed to Cushing will shift to Gulf Coast bound pipelines as the new Permian pipelines come online. This lost supply from the Permian largely offsets the portion of growing supply headed to Cushing from upstream basins.

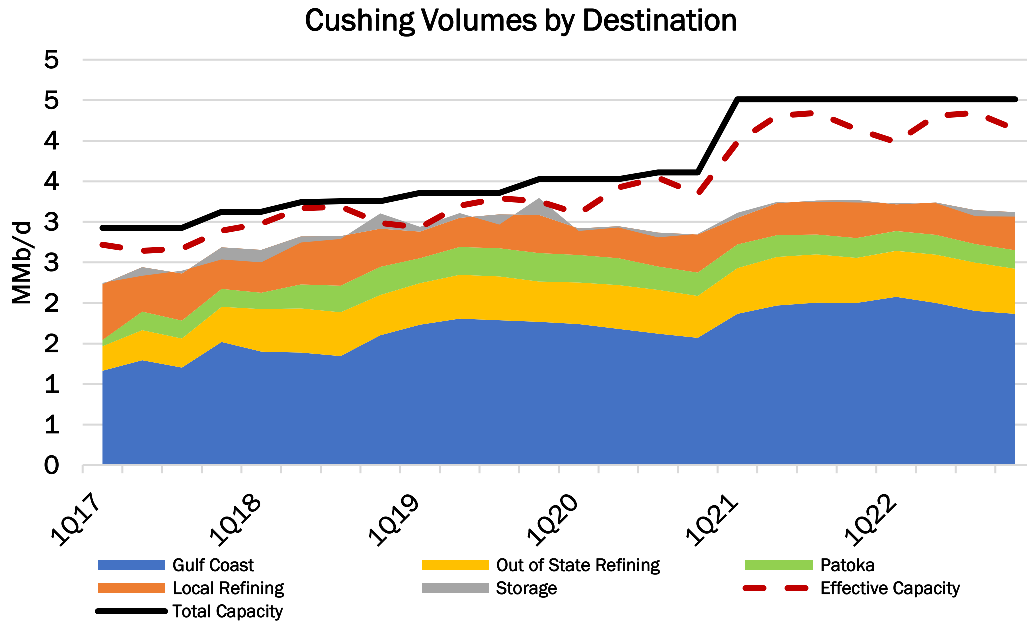


Figure 4 – Cushing Pipeline Forecast (East Daley Crude Hub Model)

The Permian faces an overbuild scenario of its own heading into 2020 and 2021, as new pipeline capacity massively outpaces forecasted production growth and overall Permian supply. Shown in Figure 5 below, East Daley's *Crude Hub Report and Data Set* forecasts an overbuild for both total capacity and Gulf Coast capacity out of the basin. The forecasted overbuild of Gulf Coast bound capacity will likely tighten spreads between Midland and the Gulf Coast substantially more than the current ~$2/bbl spread.

Recent commentary from some midstream companies has downplayed the potential Permian overbuild citing the high cost (~$2/bbl) of drag reducing agents (DRAs) which currently support some of the higher pipeline capacities. While this $2/bbl figure may be accurate for some pipelines, East Daley estimates most DRA costs are much lower. Using FERC Form 6 data, reported fuel and power costs for several pipelines known to use DRAs (Pony Express, Permian Express, Bridgetex) indicate DRA cost per incremental barrel is between $0.50-$1.00/bbl. Thus, while a portion of capacity could be lost as spreads tighten, much of this higher capacity is still available at spreads near $1.00/bbl.

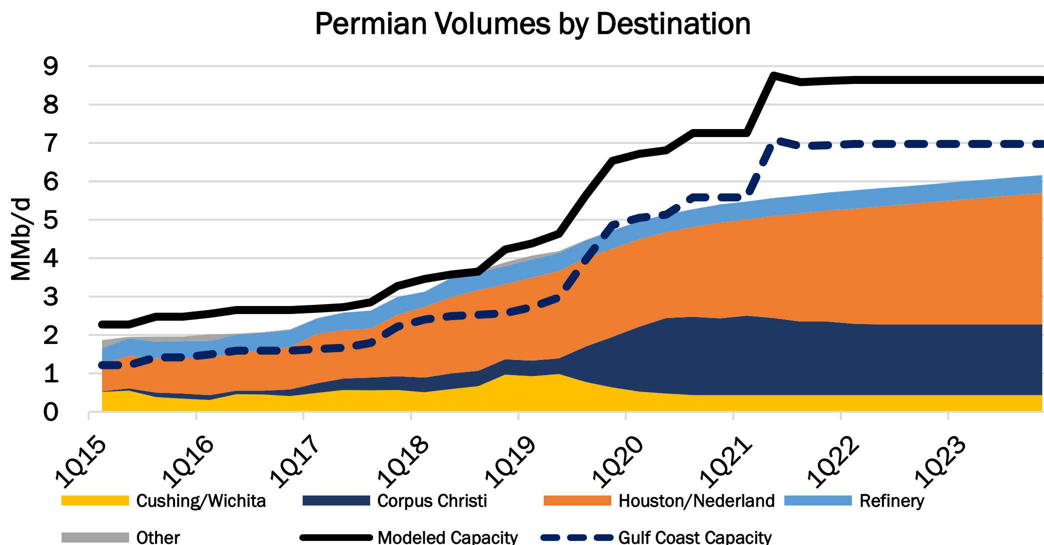


Figure 5 – Permian Pipeline Forecast (East Daley Crude Hub Model)

For further illustration of the overbuilds, Figure 6 below shows East Daley's forecasted 2019 and 2021 flows for the egress pipelines out of both Cushing and the Permian. The potential capacity column highlights the size of the potential overbuilds (~2 MMb/d out of Cushing and ~3 MMb/d out of the Permian). While East Daley believes the market likely recognizes some risk of overbuilds out of these hubs, the potential impact may still be largely underestimated. The size of the overbuild scenario at both Cushing and the Permian will lead to throughput reductions on many of the legacy pipelines, as illustrated in Figure 6 below. Lower volumes (unless protected by MVCs) will lead to a significant reduction in earnings in 2020 onward. However, the largest potential downside is tied to transporation rate declines. With so much unutilized capacity, pipelines will be forced to compete for barrels by offering lower and lower rates. The competition will likely lead to signficant earnings downside for any legacy pipeline trying to contract unused capacity. Additonally, upside for newbuild pipelines will be extremely limited beyond committed throughput levels. East Daley's *Dirty Little Secrets* report in December will further break down the impending overbuilds and analyze the forecasted earnings downside for all Permian and Cushing pipelines under our coverage.

Cushing Pipeline	2019 Flows	2021 Flows	Potential Capacity
Seaway	915,000	763,000	1,150,000
Marketlink	788,000	658,000	990,000
Red River	69,000	105,000	235,000
Diamond	171,000	226,000	400,000
Ozark	338,000	263,000	360,000
P66 Line O	11,000	11,000	36,000
BP1	83,000	83,000	180,000
Midway	115,000	115,000	110,000
Osage	131,000	131,000	150,000
CRV	13,000	13,000	300,000
Red Oak	-	435,000	900,000
Total	**2,634,000**	**2,803,000**	**4,811,000**

Permian Pipeline	2019 Flows	2021 Flows	Potential Capacity
Basin	391,000	180,000	450,000
Centurion	189,000	94,000	245,000
Sunrise	276,000	160,000	500,000
Longhorn	261,000	220,000	275,000
Bridgetex	404,000	336,000	440,000
WTG	414,000	388,000	447,000
Amdel	37,000	33,000	40,000
PE2/3	265,000	261,000	300,000
PE 4	19,500	90,000	120,000
PELA	91,000	83,000	100,000
M2E	605,000	543,000	620,000
M2E II and III	119,000	183,000	-
M2E IV	-	284,000	540,000
Wink-to-Webster	-	296,000	1,500,000
Cactus I	378,000	307,000	390,000
EPIC	120,000	371,700	590,000
Cactus II	205,000	578,000	670,000
Gray Oak	36,000	720,000	900,000
Total	**3,810,500**	**5,127,700**	**8,127,000**

Figure 6 – Cushing and Permian Forecasted Flows vs. Capacities (East Daley Crude Hub Model)

Underrated – Additional Natural Gas Rationalization

One of the major themes highlighted in last year's *Midstream Guidance Outlook* and *Dirty Little Secrets* report was the potential for a natural gas supply glut caused by strong production growth from both oil and natural gas basins. Specifically, both reports called out the high risk of Northeast producers continuing to grow at 10-15% CAGR and the impact that growth would have on prices. Indeed, 2019 proved to be an inflection point where supply growth overwhelmed new demand, causing natural gas prices to tumble. Northeast-exposed equities were crushed in the process, including midstream companies with significant leverage to the Marcellus-Utica. Figure 7, located on page 7, shows total return of midstream equities under East Daley's coverage since our *Midstream Guidance Outlook* was released in early December last year. As shown, natural gas levered names massively underperformed on average.

Ticker	Total Return	Basin Exposure (% of 2020 Forecasted EBITDA)									
		Permian	Bakken	Eagle Ford	DJ	Anadarko	PRB	Marcellus / Utica	Canada	Other	Downstream
SMLP	-63%	2%	20%		7%			16%		55%	
AM	-60%					9%		91%		0%	
ENLC	-49%	16%				36%				45%	3%
EQM	-40%							100%		0%	
WES	-30%	41%		4%	43%	1%	1%	3%		6%	1%
DCP	-25%	38%		9%	23%	15%				9%	6%
MPLX	-25%	2%	6%			2%		24%		32%	34%
ENBL	-22%		6%			53%				41%	
CNXM	-17%							100%		0%	
PAA	-16%	40%	2%	3%	5%	2%			6%	21%	21%
ET	-11%	26%	11%	6%				10%		32%	15%
GEL	-9%									69%	31%
TGE	-7%				1%		38%			61%	
WMB	-5%			4%		1%		28%		65%	2%
TRGP	-5%	29%	8%	3%		6%				17%	37%
EPD	7%	20%		8%	1%	1%		3%		29%	38%
MMP	8%	10%		1%	3%					9%	77%
SEMG	9%				13%	10%			29%	13%	35%
KML	9%									20%	80%
CEQP	19%	5%	52%				21%	7%		11%	4%
ENB	24%	1%	3%						48%	33%	15%
OKE	24%	7%	40%			22%		1%	1%	12%	17%
NS	27%	24%		16%						5%	55%
KMI	29%	19%	4%	6%						42%	29%
TCP	40%		5%						72%	23%	

Figure 7 – EBITDA Exposure (East Daley Models); Midstream Company Total Returns Dec. 2018-Nov. 2019 (Bloomberg)

With the drop in natural gas prices, signs of supply rationalization have begun to emerge. Rig counts in natural gas levered basins have begun to drop, with notable reductions already taking place in the Northeast, Rockies, and Ark-La-Tex. However, rationalization is typically a slow and painful process, as producers are often hesitant to halt growth or enter into declines due to commitments to investors and other counterparties. For example, the Northeast is an area that many see leading the way on supply rationalization next year. Several forecasts have even called for Y-o-Y declines in 2020 due to the current low-price environment. The problem? None of the major producers have yet to guide to significant production declines next year. In fact, several are still guiding to significant growth. Shown in Figure 8 below, preliminary producer guidance for 2020 indicates the supply growth party in the Northeast as of now, is planned to continue into next year.

Producer	Net 2019 MMcf/d	Guided 2020 Growth
EQT	3,907	-2%
Cabot	2,359	0-5%
Antero	2,265	8-10%
Ascent	1,809	N/A
Range	1,426	N/A
CNX	1,378	3%
SWN (NE PA)	1,268	N/A
Gulfport	1,072	N/A
Chesapeake	933	N/A
Seneca/NFG	571	14%
Montage	441	N/A
SWN (SW PA)	411	N/A
Total	**17,840**	

Figure 8 – Northeast Production and Preliminary 2020 Producer Guidance (Company Data)

Given the slow rationalization process across gas basins and continued associated gas growth, East Daley's basin *Production Scenario Tools* for 2020 still point to a ~2 Bcf/d of U.S. oversupply. Thus, assuming normal weather, more aggressive supply reductions are likely still needed to balance the market suggesting prices would need to move lower than the current ~$2.55/Mcf 2020 strip. The upcoming December release of the main section of *Dirty Little Secrets* will provide an asset-level analysis of the impact of further supply rationalization on all our midstream companies under coverage.

Underrated – The Midstream Treadmill

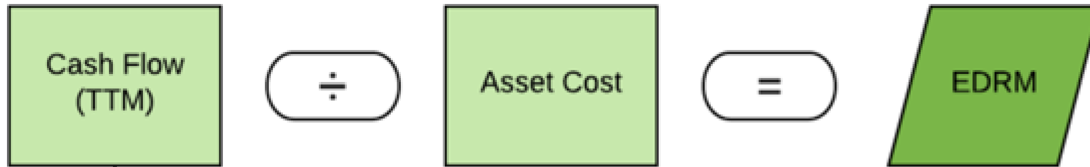
Last year, East Daley introduced its Treadmill Intensity Index™ (TII), which quantifies estimated EBITDA declines on legacy assets (excludes upside from projects that require growth capex) for all our midstream companies under coverage. A harsh reality in the midstream sector is that fundamentals are rapidly changing, and competition is fierce, which often leads to earnings declines on some legacy assets. These declines act as a treadmill to future earnings growth and in severe cases, cliffs that can severely hamper equity performance. Cumulative declines for midstream companies can be difficult to forecast as earnings reductions can be non-material when viewed at the asset-level. However, several non-material asset-level headwinds can form into a fast-paced treadmill that can create quite the workout for midstream companies trying to grow cash flows.

The TII is not a static index. Fundamentals, modeling assumption adjustments, acquisitions, divestitures, and a host of other inputs are dynamic in the energy sector. Thus, the TII is also constantly changing and is updated by our analysts on a quarterly basis (and included in our *Pre-Call Board Reports*). The TII currently analyzes legacy declines from 2018 to 2022, but this year's *Dirty Little Secrets* will shift the focus forward one year to analyze declines from 2019 to 2023. Figure 9 below highlights the changes to Kinder Morgan's (KMI) treadmill by re-basing the calculations from 2018 to 2019.

Asset	Estimated EBITDA Decline 2018-2022	Estimated EBITDA Decline 2019-2023	Delta
Ruby Pipeline	$132	$129	($3)
Oil Sales/CO2	$306	$124	($182)
Tennessee Gas	$0	$90	$90
Fayetteville Express	$77	$71	($6)
KMCC	$77	$60	($17)
South Texas G&P	$34	$48	$14
Jones Act/Marine	$40	$40	$0
Wyoming Interstate	$30	$30	$0
Kinderhawk	($5)	$20	$25
Cheyenne Plains	$6	$19	$13
Florida Gas	$5	$18	$13
Double H	$28	$17	($11)
Midcontinent Express	$33	$16	($17)
Double Eagle	$8	$13	$5
Camino Real Oil	$16	$11	($5)
Oklahoma G&P	$16	$10	($6)
Red Cedar	$8	$5	($3)
El Paso Pipeline	($52)	$0	$52
Central Florida Pipeline	$0	($12)	($12)
Eaglehawk	($18)	($19)	($1)
SFPP	$0	($41)	($41)
Total	**$741**	**$649**	**($92)**
Base Year EBITDA	$7,568	$7,576	
Treadmill Intensity	**9.8%**	**8.6%**	**-1.2%**

Figure 9 – Kinder Morgan Treadmills (East Daley Blueprint Model Forecasts)

Underrated - Asset-Level ROCE: Introducing the East Daley Return Metric (EDRM)



In 2020, East Daley will introduce our largest modeling update to-date debuting our ability to calculate asset-level ROCE, a data set we believe is untapped and thus extremely underrated. Our midstream company models were built to go into the most granular detail possible and calculate EBITDA for every material revenue-generating asset (Figure 10). Additionally, each asset is tagged to a defined commodity type, asset type, and basin/hub. Using this same tagging methodology, we are adding gross asset cost/PP&E to every asset by early 2020. The addition of gross asset cost allows us to compute a historical and forecasted proxy ROCE at the asset-level, a calculation we are calling the East Daley Return Metric (EDRM).

EAST DALEY CAPITAL

Kinder Morgan
Company Summary
($ in millions)

EBDA Before Certain Items by Segment	FY2018A	Q1'19A	Q2'19A	Q3'19A	Q4'19E	FY2019E	FY2020E	FY2021E	FY2022E	FY2023E
NG Pipelines	4,202	1,201	1,071	1,090	1,242	4,604	4,781	4,663	4,596	4,591
Tennessee Gas Pipeline	1,174	340	314	302	308	1,264	1,209	1,188	1,170	1,174
El Paso Pipeline	532	152	144	148	164	607	628	614	612	610
Colorado Interstate Pipeline	251	80	61	62	81	284	294	273	272	271
Southern LNG	145	36	35	35	35	140	137	137	136	135
Wyoming Interstate Pipeline	105	24	25	24	24	97	89	78	75	67
Elba Express Pipeline	134	35	35	35	36	142	141	141	141	141
Cheyenne Plains Pipeline	41	11	11	11	11	44	37	36	35	25
Mojave Pipeline	12	3	4	3	3	14	13	13	13	13
TransColorado Pipeline	6	3	2	2	2	8	8	7	7	7
KM Louisiana Pipeline	(4)	9	9	9	8	35	34	34	34	34
Tennessee Gas Pipeline_EXP				0	0	0	2	11	11	11
Elba Liquefaction Units_EXP				0	50	50	240	267	267	267
SLNG Terminal at Elba_EXP				0	14	14	57	57	56	56
El Paso Pipeline_EXP				0	0	0	1	3	3	3
KM Louisiana Pipeline_EXP				0	0	0	0	0	32	32
KM Texas/Tejas Combined	410	139	84	96	114	433	425	437	437	437
KM Border	(1)	0	0	0	0	0	0	0	0	0
KM North Texas	11	3	3	3	3	11	11	11	11	11
KM Mier-Monterrey/Other	29	7	7	7	7	29	29	29	29	29
Texas Intrastate Pipelines_EXP				0	2	2	45	55	55	55
Keystone Gas Storage	13	3	3	3	4	13	13	13	13	13
Hiland Gas Gathering/Processing	85	22	24	25	30	100	155	174	185	193
Eagle Ford G&P	236	62	63	66	66	257	269	213	202	209
Saint Jo Processing	6	1	(0)	1	1	2	2	1	(1)	(1)
Copano Oklahoma	13	3	3	3	2	11	9	8	6	5
Hiland Oklahoma	12	3	3	3	3	10	9	8	7	7
Cedar Cove	7	1	1	0	1	3	3	2	2	2
KM Treating	43	12	12	12	12	48	48	48	48	48
KM Altamont	49	14	13	13	13	52	49	47	46	45
Kinderhawk	111	36	37	34	30	136	121	117	116	116
Camino Real Gas Gathering	14	3	3	3	2	12	7	7	8	8
Other/Balance	89	18	5	18	17	59	61	61	61	61
Midcontinent Express	31	7	8	0	0	15	1	(2)	(2)	(1)
Fayetteville Express	55	13	15	15	15	58	60	(11)	(12)	(13)
Gulf LNG	28	2	2	2	2	9	9	9	9	9
Sierrita	7	2	2	2	2	7	6	6	6	6
Florida Gas Transmission	141	32	39	47	36	153	156	148	136	135
Ruby Pipeline	26	11	7	7	6	31	25	(43)	(106)	(98)

Figure 10 – Kinder Morgan Asset-Level EBDA (East Daley Blueprint Model Summary Tab)

To illustrate some basic outputs from our preliminary data analysis, the graphs on page 10, compare ROCE between crude oil and natural gas pipelines for a sample and select assets with averages and ranges. As shown, our analysis indicates that crude oil pipelines have significantly higher ROCE volatility compared to natural gas pipelines, likely due to their lighter-handed regulatory oversight on rates and returns. The data also shows that since the start of the U.S. shale revolution (~2006), crude oil pipeline ROCE has grown and outpaced natural gas pipeline ROCE, which has a tight range of returns due to the FERC's heavier-handed regulation on rates. However, crude oil pipeline average ROCE is likely to come down over the next few years due to the impending Permian and Cushing overbuilds we outlined previously. EDRM aims to

capture this forecasted decline across various categories (commodity type, asset type, and basin/hub) using the methodology outlined above.

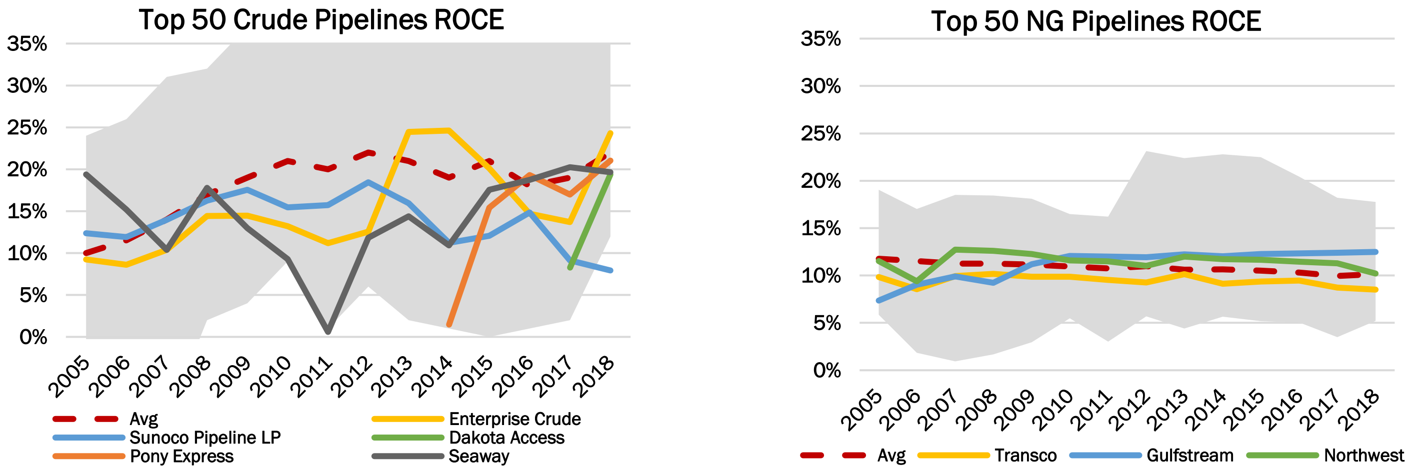


Figure 11 – Crude and Natural Gas Pipeline ROCE (East Daley Analysis)

Conclusion

The tailwind of continued global liquids demand growth is likely to support U.S. production and midstream growth into 2020 and beyond. However, there are headwinds both old and new that could hamper specific midstream company performance. The massive impending overbuild of crude oil pipelines out of the Permian and Cushing will have significant negative impacts for marketing earnings, throughputs, and transportation rates for capacity that is not protected by MVCs. Additionally, the pain of supply rationalization from gas basins may ratchet up in 2020 as the market is likely to be oversupplied based on current producer guidance and observed activity. Finally, many midstream companies still face significant headwinds from their legacy asset treadmills, which can make it extremely difficult to grow earnings. However, there are midstream companies that avoid these headwinds and will enjoy the benefit from continued increases in U.S. production. East Daley's *Dirty Little Secrets Report - Molecules to Money: Asset-Level ROCE* will dive further into these themes and the specific impacts to companies in both the **December 18, 2019** and **January 22, 2020** releases.

Highest Regards,
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