

Tables, Figures, and Workpapers for Dr. Carpenter's Testimony

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Table 1: Assets by Business Segment

Company	Gas Pipelines & Storage	Oil & Liquids Pipelines	Midstream Services	Terminals	Other	Total
[1] TC PipeLines LP	100%	0%	0%	0%	0%	100%
[2] Boardwalk Pipeline	96%	0%	4%	0%	0%	100%
[3] Columbia Pipeline Partners LP	96%	0%	4%	0%	0%	100%
[4] Spectra Energy Partners LP	92%	8%	0%	0%	0%	100%
[5] EQT Midstream Partners LP	72%	0%	28%	0%	0%	100%
[6] Kinder Morgan Inc.	70%	12%	0%	12%	7%	100%
[7] Enable Midstream Partners LP	40%	0%	60%	0%	0%	100%
[8] Tallgrass Energy Partners LP	29%	57%	14%	0%	0%	100%
Average Share	74%	10%	14%	1%	1%	100%

Source: The Brattle Group. Data from 2014 company annual reports (10-K SEC Filing). See Workpaper 3.

Notes: Based on the segment analysis reported in each company's 10-K SEC Filing.

[1]-[4]: Based on Property, Plant and Equipment.

[6]: The 'other' category includes the company's CO2 segment, which includes the transportation of CO2 for use in oil recovery projects and oil production and transportation.

Table 2: EBITDA by Business Segment

Company	Gas Pipelines & Storage	Oil & Liquids Pipelines	Midstream Services	Terminals	Other	Total
[1] TC PipeLines LP	100%	0%	0%	0%	0%	100%
[2] Boardwalk Pipeline	100%	0%	0%	0%	0%	100%
[3] Columbia Pipeline Partners LP	100%	0%	0%	0%	0%	100%
[4] Spectra Energy Partners LP	85%	15%	0%	0%	0%	100%
[5] EQT Midstream Partners LP	68%	0%	32%	0%	0%	100%
[6] Kinder Morgan Inc.	55%	14%	0%	13%	17%	100%
[7] Enable Midstream Partners LP	41%	0%	59%	0%	0%	100%
[8] Tallgrass Energy Partners LP	58%	13%	28%	0%	0%	100%
Average Share	76%	5%	15%	2%	2%	100%

Source: The Brattle Group. Data from 2014 company annual reports (10-K SEC Filing). See Workpaper 3.

Notes: Based on the segment analysis reported in each company's 10-K SEC Filing.

[6]: The 'other' category includes the company's CO2 segment, which includes the transportation of CO2 for use in oil recovery projects and oil production and transportation.

[8]: As reported in the 10-K SEC Filing, Adjusted EBITDA is used in for each segment.

Table 3: EBIT by Business Segment

Company	Gas Pipelines & Storage	Oil & Liquids Pipelines	Midstream Services	Terminals	Other	Total
[1] TC PipeLines LP	100%	0%	0%	0%	0%	100%
[2] Boardwalk Pipeline	100%	0%	0%	0%	0%	100%
[3] Columbia Pipeline Partners LP	100%	0%	0%	0%	0%	100%
[4] Spectra Energy Partners LP	85%	15%	0%	0%	0%	100%
[5] EQT Midstream Partners LP	67%	0%	33%	0%	0%	100%
[6] Kinder Morgan Inc.	60%	15%	0%	12%	13%	100%
[7] Enable Midstream Partners LP	40%	0%	60%	0%	0%	100%
[8] Tallgrass Energy Partners LP			(N/A)			
Average Share	79%	4%	13%	2%	2%	100%

Source: The Brattle Group. Data from 2014 company annual reports (10-K SEC Filing). See Workpaper 3.

Notes: Based on the segment analysis reported in each company's 10-K SEC Filing.

[6]: The 'other' category includes the company's CO2 segment, which includes the transportation of CO2 for use in oil recovery projects and oil production and transportation.

[8]: Depreciation and Amortization were not broken out by business segment in the company's annual report.

Table 4: Proxy Group Pipeline Systems: Selected Sample

Pipeline System	Income (\$m)	Assets (\$m)
Tennessee Gas Pipeline Company, LLC	458	4,381
Southern Natural Gas Company, LLC	215	2,345
El Paso Natural Gas Company, LLC	192	2,074
Florida Gas Transmission Company, LLC	162	2,228
Kinder Morgan Louisiana Pipeline, LLC	132	867
Colorado Interstate Gas Company, LLC	124	1,251
Ruby Pipeline, LLC	78	1,683
Texas Eastern Transmission, LP	379	5,878
Algonquin Gas Transmission, LLC	92	1,436
Gulfstream Natural Gas System, LLC	77	847
Texas Gas Transmission, LLC	137	1,617
Gulf South Pipeline Company, LP	104	2,495
Gulf Crossing Pipeline Company, LLC	58	1,427
Columbia Gas Transmission, LLC	213	3,673
Equitrans, LP	112	1,375
Enable Gas Transmission, LLC	107	1,764
Gas Transmission Northwest, LLC	72	722
Other 26 Pipelines	663	9,726
Sub-Total of Selected Sample	2,713	36,062
Total of Proxy Group Pipelines	3,376	45,788
Sub-Total of Selected Sample (% of Total)	80.3%	78.8%

Sources: 'Net Utility Operating Income' and 'Net Utility Plant' reported in each pipeline's 2014 FERC Form 2 via SNL Energy (accessed 11/20/2015). Parent company ownership from 2014 company annual reports when available, else from company websites (accessed 11/13/2015).

Note: Income and assets are weighted by the company in the proxy group's ownership of each respective pipeline system. See Workpaper 4.

Table 5: Age-Discounted Contract Cover

Pipeline System	5-Year Contract Cover	10-Year Contract Cover	25-Year Contract Cover
Kinder Morgan Louisiana Pipeline, LLC	100%	100%	80%
Gulfstream Natural Gas System, LLC	100%	95%	79%
Equitrans, LP	97%	89%	66%
Florida Gas Transmission Company, LLC	94%	80%	61%
Ruby Pipeline, LLC	83%	65%	45%
Gulf Crossing Pipeline Company, LLC	80%	52%	37%
Columbia Gas Transmission, LLC	75%	58%	41%
Tennessee Gas Pipeline Company, LLC	71%	58%	43%
Algonquin Gas Transmission, LLC	71%	58%	44%
Texas Eastern Transmission, LP	70%	60%	45%
ANR Pipeline Company	69%	61%	54%
Gulf South Pipeline Company, LP	67%	54%	38%
El Paso Natural Gas Company, LLC	65%	54%	40%
Colorado Interstate Gas Company, LLC	65%	54%	38%
Gas Transmission Northwest, LLC	63%	52%	36%
Enable Gas Transmission, LLC	57%	36%	25%
Southern Natural Gas Company, LLC	52%	42%	31%
Texas Gas Transmission, LLC	50%	31%	21%
Average (excluding ANR)	74%	61%	45%
Median (excluding ANR)	71%	58%	41%

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015).

Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Ratios calculated as discounted contracted capacity divided by discounted maximum capacity, calculated as the contracted capacity on the pipeline on October 1, 2015, multiplied by 365.25 days per year. A discount rate of ten percent is used. Pipeline systems are ranked by 5-Year Contract Cover. See Workpaper 5.

Table 6: Age-Discounted Contract Cover, Excluding Shale Producers

Pipeline System	5-Year Contract Cover	10-Year Contract Cover	25-Year Contract Cover
Kinder Morgan Louisiana Pipeline, LLC	100%	100%	80%
Gulfstream Natural Gas System, LLC	100%	95%	79%
Florida Gas Transmission Company, LLC	94%	80%	61%
Equitrans, LP	80%	74%	56%
Ruby Pipeline, LLC	77%	61%	42%
Gulf Crossing Pipeline Company, LLC	75%	49%	35%
Algonquin Gas Transmission, LLC	71%	58%	44%
Columbia Gas Transmission, LLC	63%	47%	34%
Gas Transmission Northwest, LLC	63%	52%	36%
El Paso Natural Gas Company, LLC	63%	52%	39%
Colorado Interstate Gas Company, LLC	60%	50%	36%
Southern Natural Gas Company, LLC	52%	42%	31%
Texas Eastern Transmission, LP	51%	41%	30%
Texas Gas Transmission, LLC	50%	31%	21%
Gulf South Pipeline Company, LP	50%	38%	27%
Tennessee Gas Pipeline Company, LLC	49%	37%	27%
Enable Gas Transmission, LLC	45%	29%	20%
ANR Pipeline Company	37%	29%	25%
Average of Proxy Group Pipelines	67%	55%	41%
Median of Proxy Group Pipelines	63%	50%	36%

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015).

Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Calculations identical to those in Table 5, excluding shippers that have been classified as shale producers. See Workpaper 6.

Table 7: Type of Storage Facilities Owned by Proxy Group Pipeline Systems

Pipeline System	Production-Area Storage [1]	Market-Area Storage [2]
Algonquin Gas Transmission, LLC		
Colorado Interstate Gas Company, LLC	X	X
Columbia Gas Transmission, LLC		X
El Paso Natural Gas Company, LLC	X	
Enable Gas Transmission, LLC	X	
Equitrans, LP		X
Florida Gas Transmission Company, LLC		
Gas Transmission Northwest, LLC		
Gulf Crossing Pipeline Company, LLC		
Gulf South Pipeline Company, LP	X	
Gulfstream Natural Gas System, LLC		
Kinder Morgan Louisiana Pipeline, LLC		
Ruby Pipeline, LLC		
Southern Natural Gas Company, LLC	X	
Tennessee Gas Pipeline Company, LLC		X
Texas Eastern Transmission, LP	X	X
Texas Gas Transmission, LLC		X
ANR Pipeline Company		X

Source: EIA 191 Field level Storage data in 2014, Energy Information Administration ('EIA'). Release date Sept. 2015.

Notes:

[1]: Production-area storage facilities serve the balancing needs of producing fields. An 'X' is displayed in this column if the pipeline system owns storage facilities located in producing regions of the United States, e.g., southern states close to Mexico and the Gulf of Mexico, as defined by the EIA.

[2]: Market-area storage facilities serve seasonal needs of demand centers. An 'X' is displayed in this column if the pipeline system owns storage facilities located in consuming regions of the United States, as defined by the EIA. See Workpaper 7.

Table 8: Contribution of Storage to Total Regulated Revenues and Assets

Storage Type	Pipeline System	Storage Share of	
		Operating Revenues	Storage Share of Assets
	[1]	[2]	[3]
Market-Area Storage	ANR Pipeline Company	24.6%	11.8%
	Columbia Gas Transmission, LLC	23.0%	24.4%
	Equitrans, LP	11.1%	21.7%
	Texas Gas Transmission, LLC	4.4%	9.4%
	Tennessee Gas Pipeline Company, LLC	3.7%	1.8%
	Colorado Interstate Gas Company, LLC	0.3%	10.9%
Producer-Area Storage	Texas Eastern Transmission, LP	6.5%	3.8%
	Southern Natural Gas Company, LLC	5.9%	2.9%
	Enable Gas Transmission, LLC	3.5%	6.3%
	Gulf South Pipeline Company, LP	1.5%	3.3%
	El Paso Natural Gas Company, LLC	0.0%	1.5%

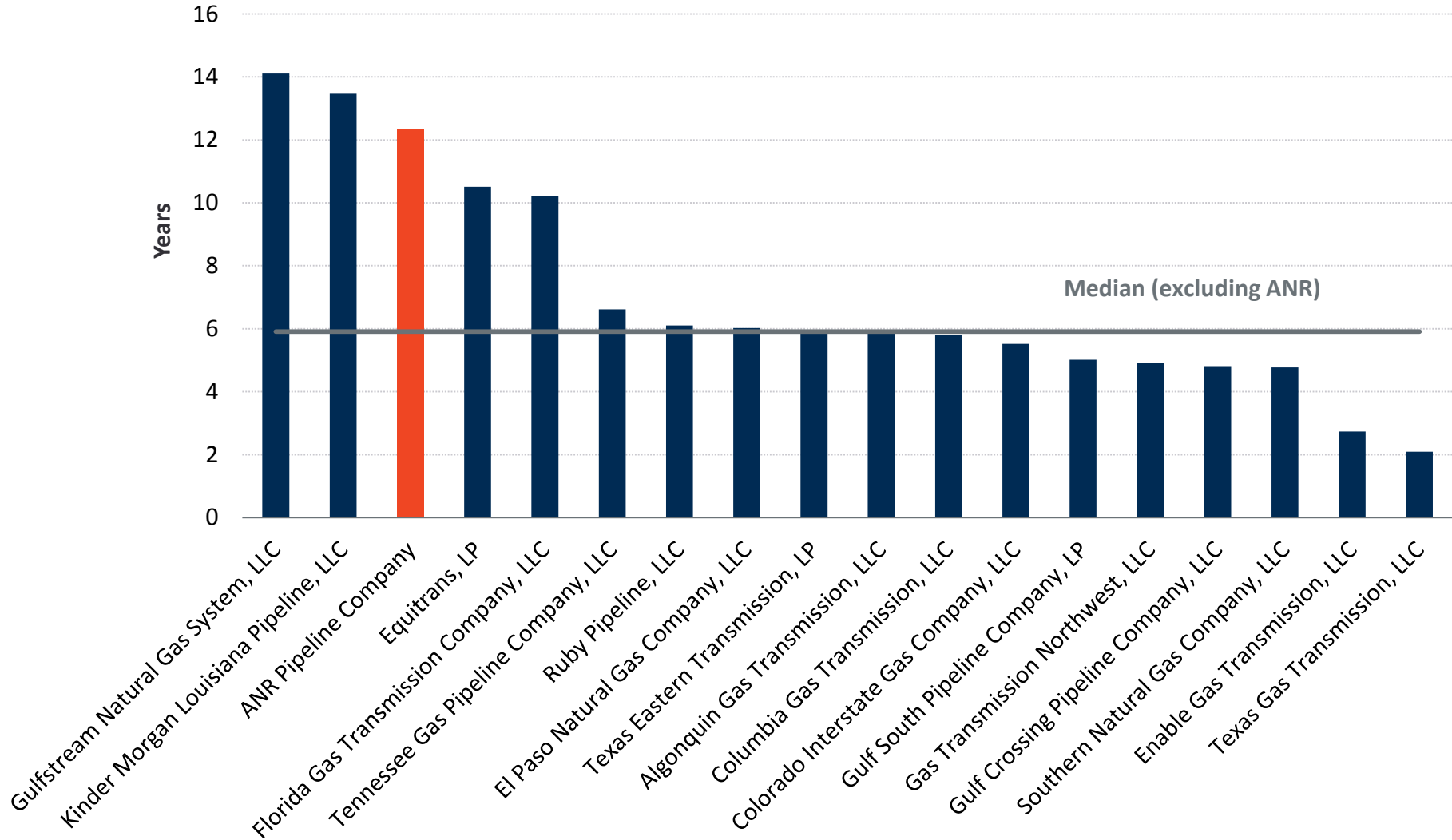
Sources and Notes:

[1]: Pipelines are classified according to the category of storage most prominent in their storage assets based on the working gas capacity, then ranked by storage share of operating revenues.

[2]: Revenues from Storing Gas ÷ (Revenues from Storing Gas + Revenues from Transportation of Gas). Source - 2014 FERC Form 2. See Workpaper 8.

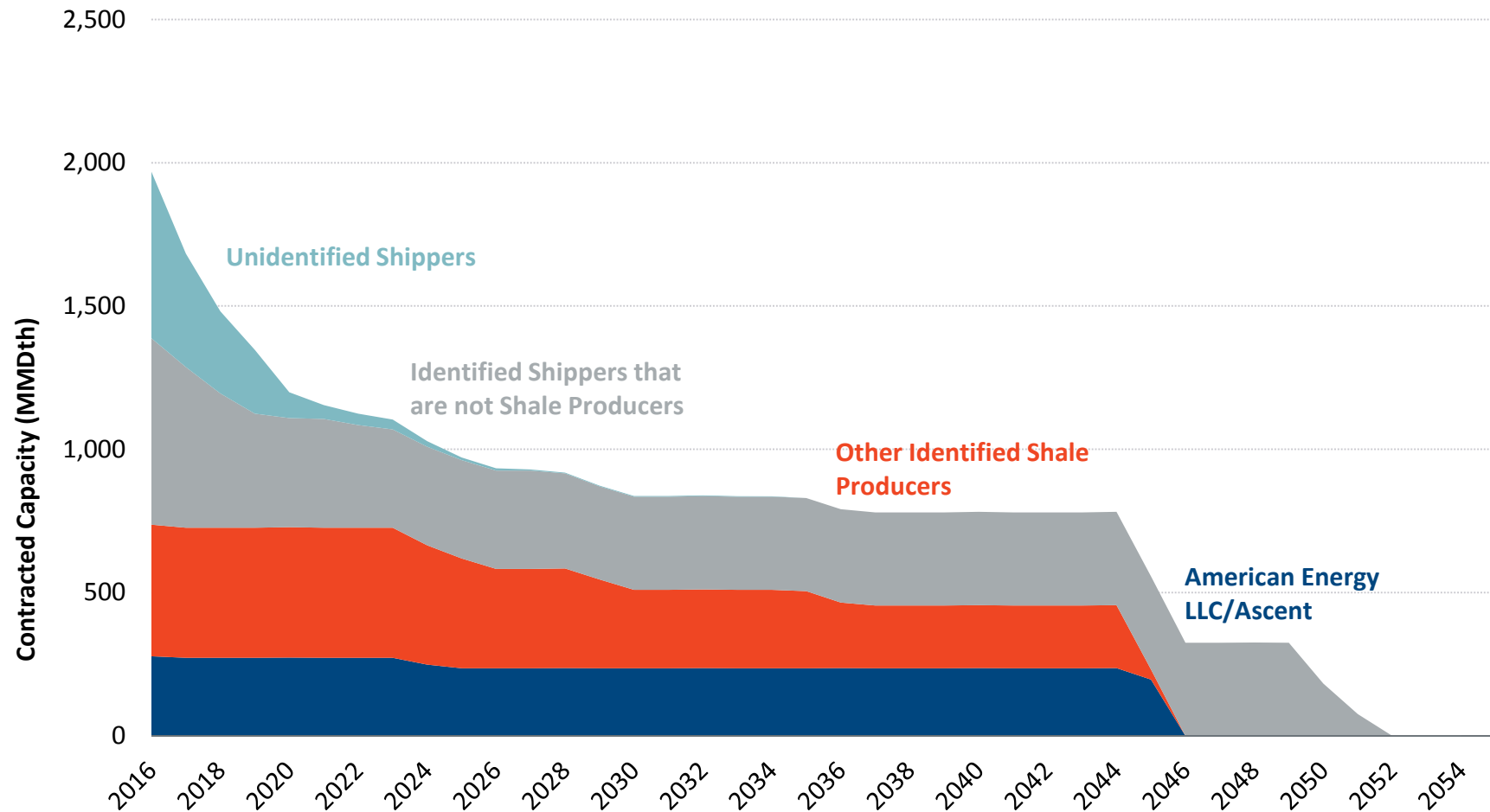
[3]: Underground and Other Storage Plant ÷ (Underground and Other Storage Plant + Total Transmission Plant). Source - 2014 FERC Form 2, via SNL Energy. See Workpaper 9.

Figure 1: Weighted Average Remaining Life



Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

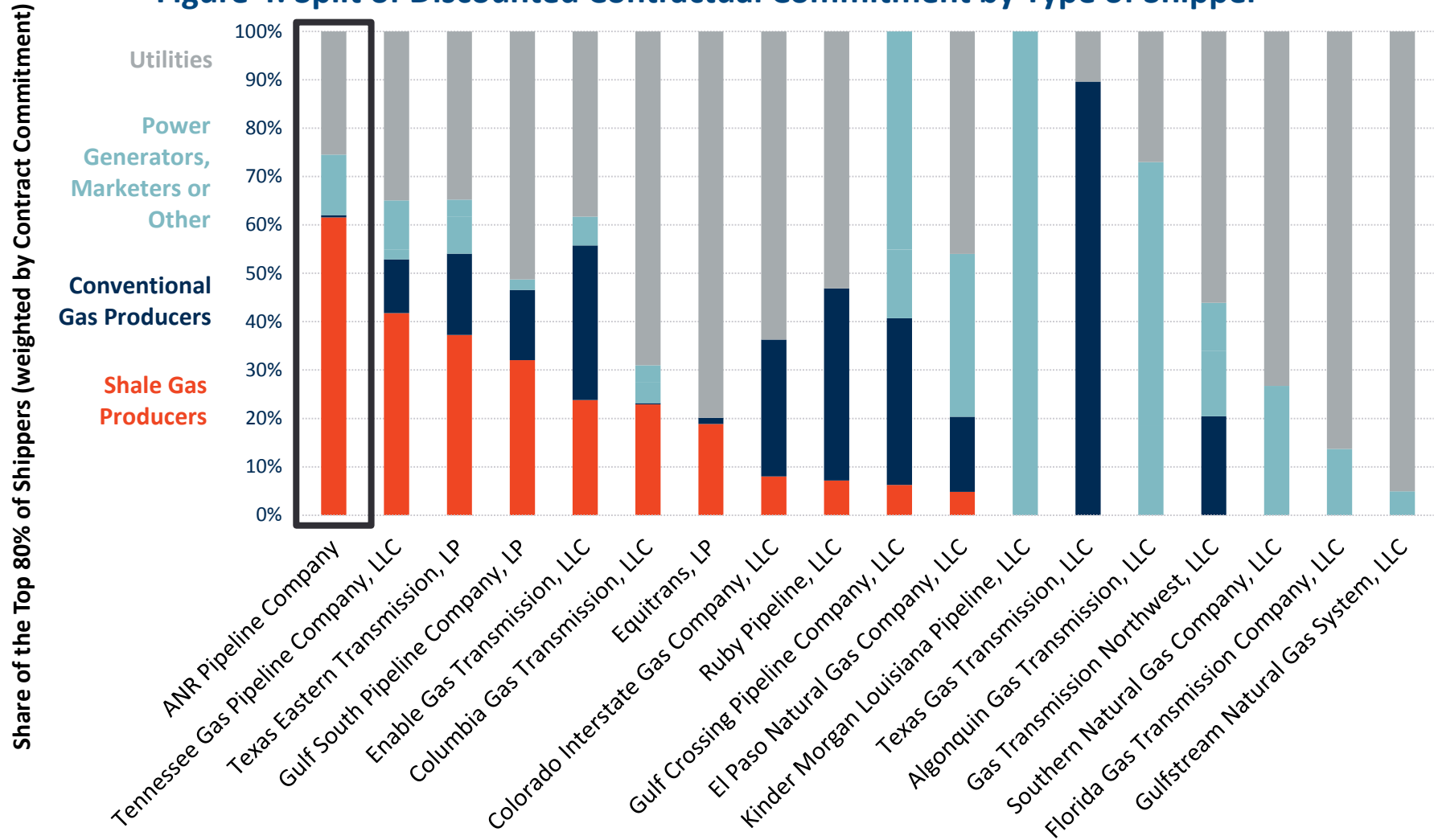
Note: Calculated as the average remaining contract life weighted by volume, starting on January 1, 2016. See Workpaper 10.

Figure 3: ANR Pipeline Company's Contract Portfolio

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: "Unidentified Shippers" include any shipper that is not in the top 80% of one of the 18 pipelines analyzed. "Identified Shippers that are not Shale Producers" include shippers identified as utilities, conventional gas producers, power generators, marketers, and other. See Workpaper 11.

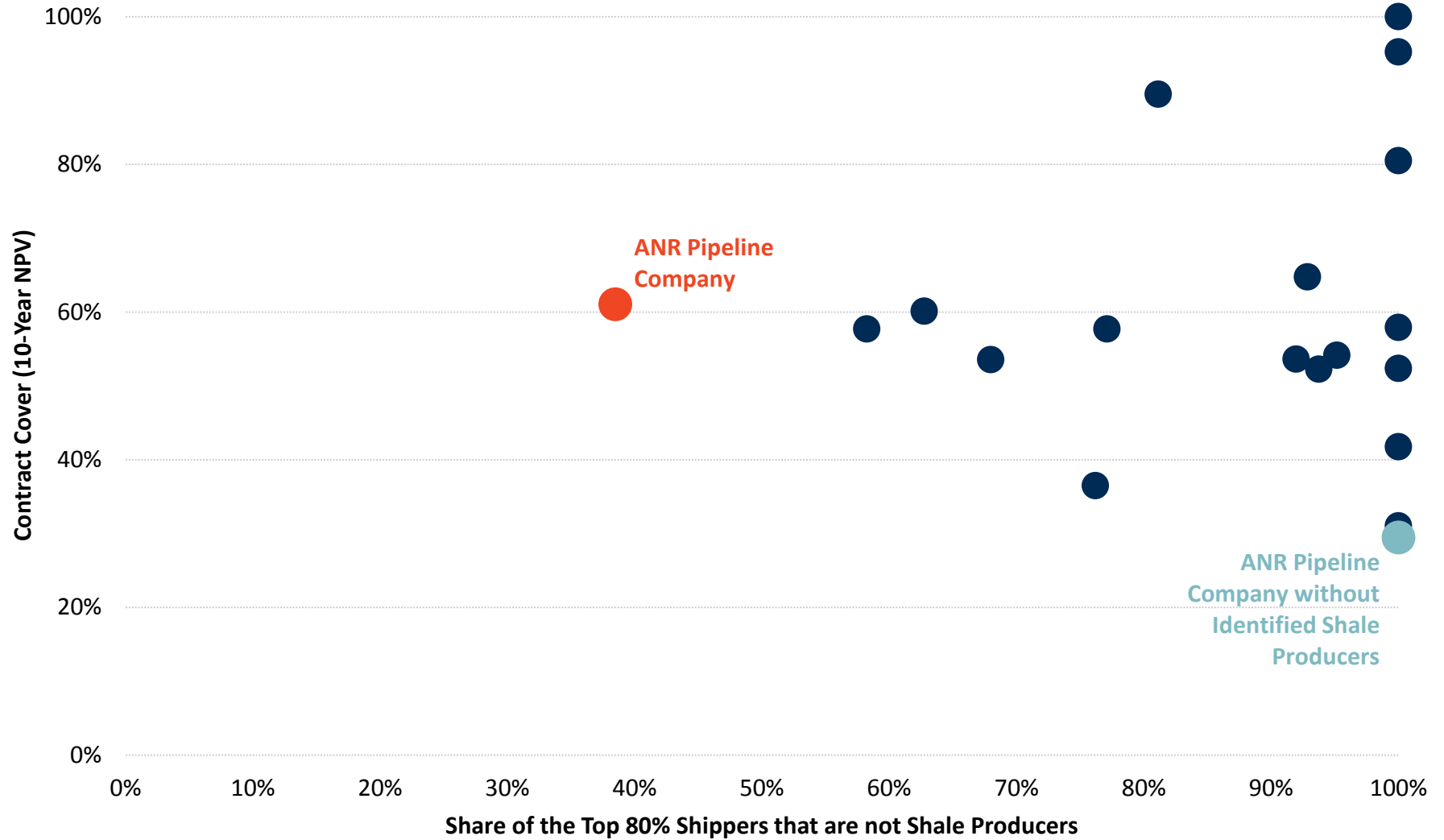
Figure 4: Split of Discounted Contractual Commitment by Type of Shipper



Source: The Brattle Group. Data taken from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Calculated using forward contract commitments, discounted on a ten-year basis with a discount rate of 10 percent. See Workpaper 13.

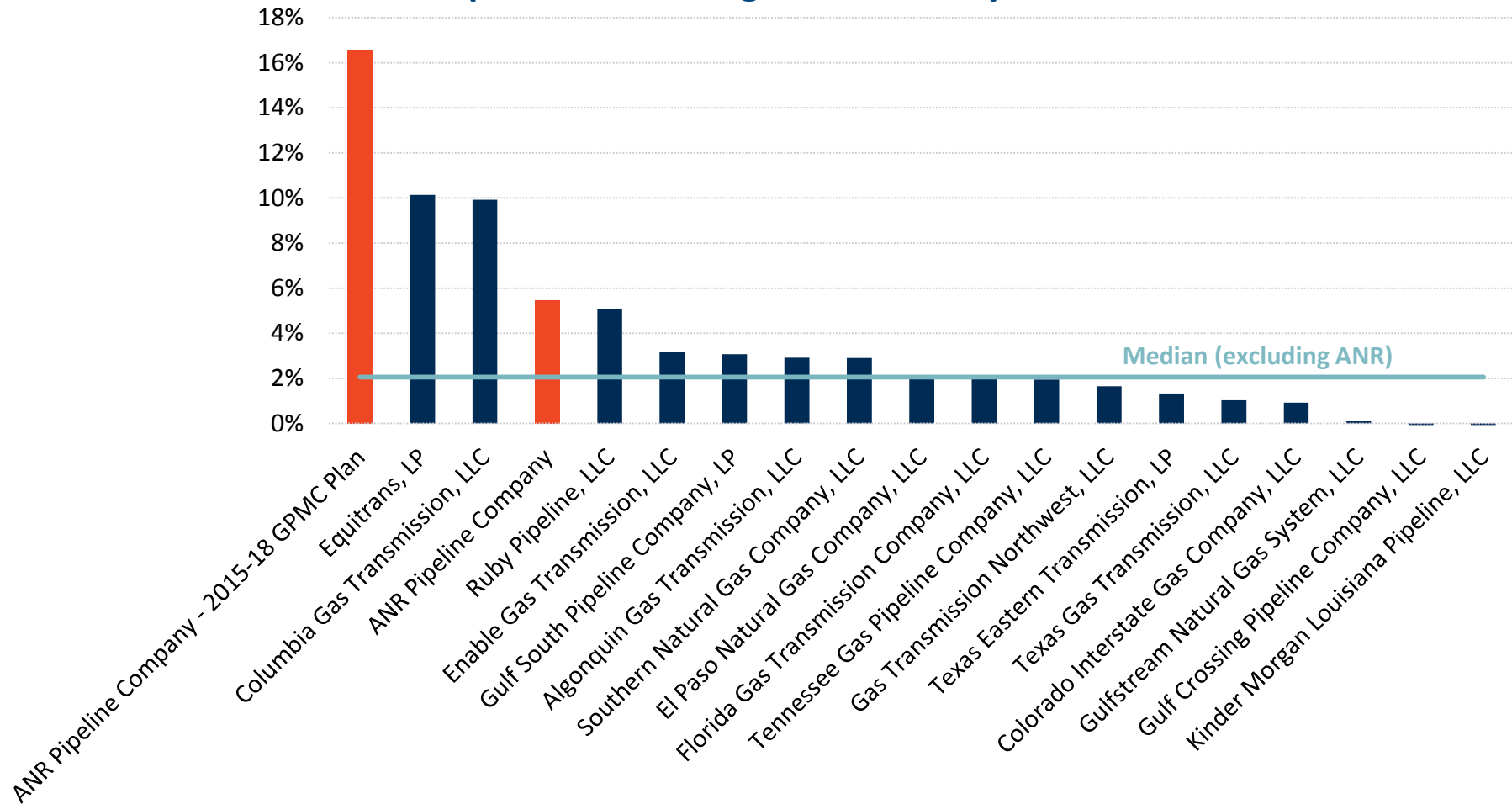
Figure 5: Customer Portfolio vs. Contract Cover



Source: The Brattle Group. Data taken from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

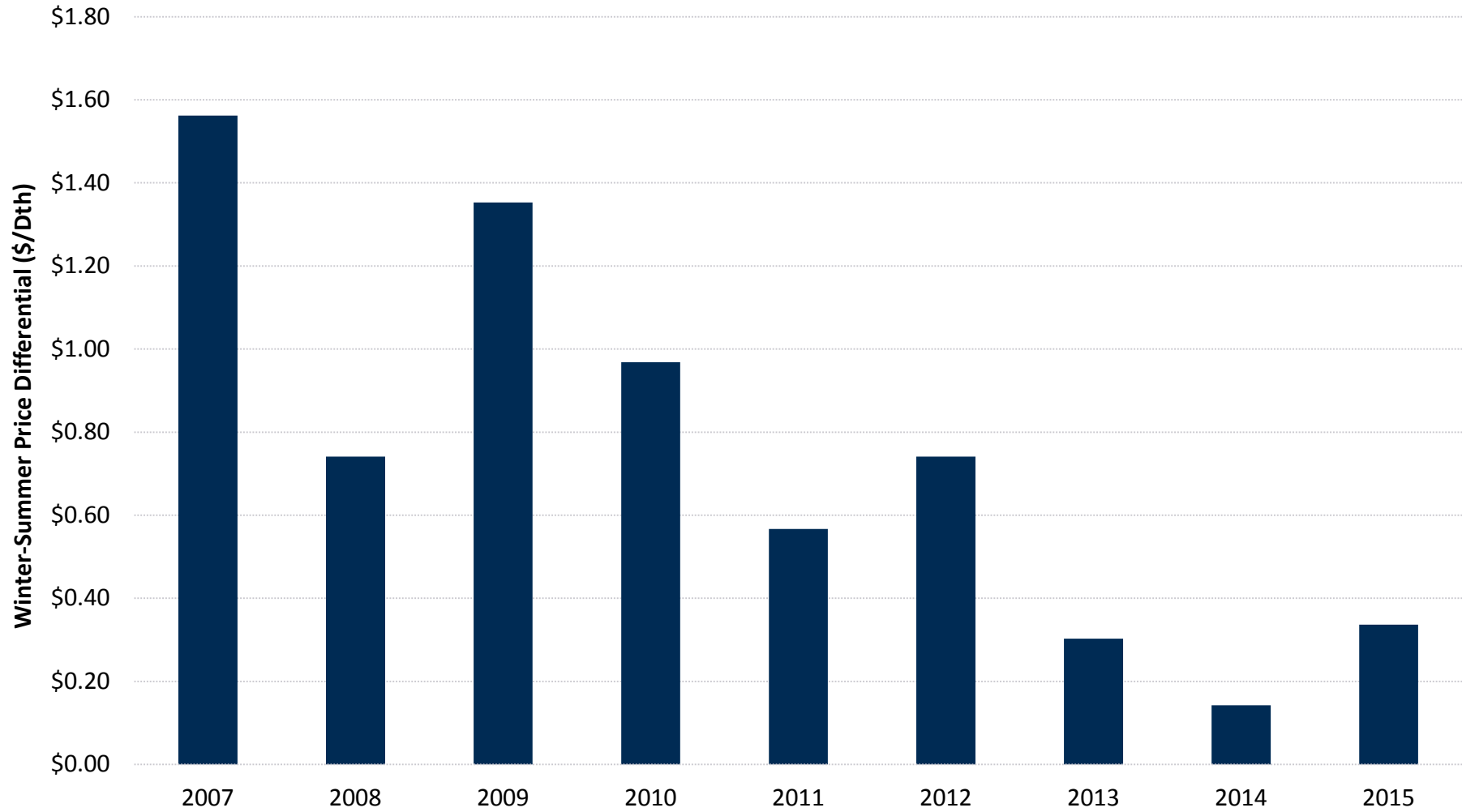
Note: See Workpaper 15.

Figure 6: Average Annual Transmission Plant Additions less Expansion Capex, as Percentage of Net Utility Plant



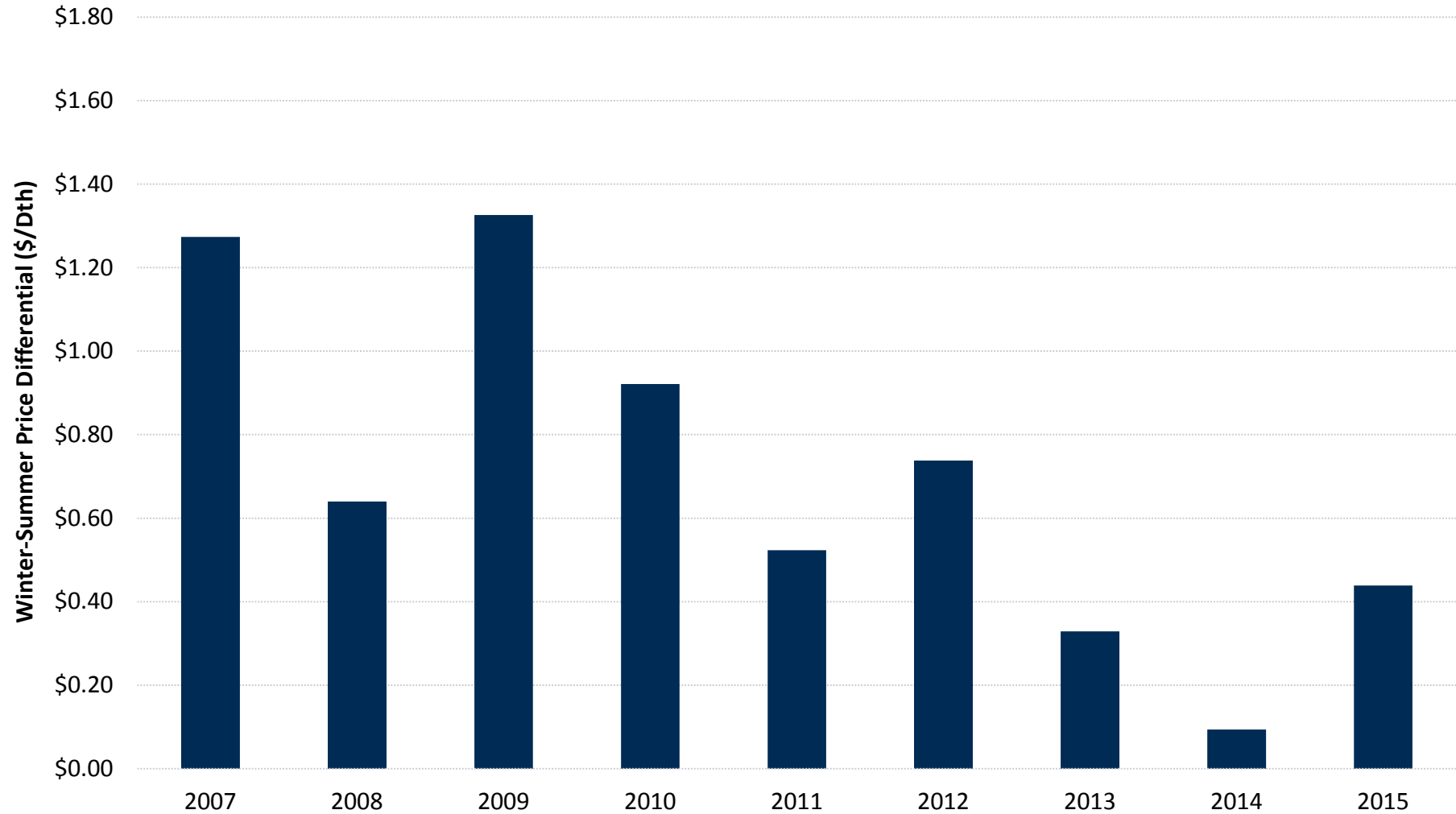
Source: The Brattle Group. 2010-14 transmission plant additions and utility plant data from annual FERC Form 2 filings via SNL Energy (accessed 01/08/16). Pipeline expansion data from the EIA. ANR 2015-18 forecast data from ANR Witness Hampton's testimony.

Note: Calculated as the average of additions less expansion costs between 2011 and 2014, divided by 2010 net utility plant. ANR forecast value calculated as the average of GPMC expenditures between 2015 and 2018 divided by 2014 net utility plant. See Workpaper 16.

Figure 7: Winter-Summer Price Differential for Henry Hub

Source: The Brattle Group. Data from NYMEX via Bloomberg (accessed 11/10/15).

Note: Calculated as the difference between winter contracts (November to March) and summer contracts (April to October) using forward prices as of March in each year. For example, the 2007 value is calculated as the difference between winter 2007-08 and summer 2007 using the average of March 2007 forward prices. Seasonal contracts data used when available, else an average over winter and summer months was used. See Workpaper 17.

Figure 8: Winter-Summer Price Differential for Michcon Citygate

Source: The Brattle Group. Data from NYMEX via Bloomberg (accessed 11/10/15).

Note: Calculated as the difference between winter contracts (November to March) and summer contracts (April to October) using forward prices as of March in each year. For example, the 2007 value is calculated as the difference between winter 2007-08 and summer 2007 using the average of March 2007 forward prices. Seasonal contracts data used when available, else an average over winter and summer months was used. See Workpaper 17.

Workpaper 1:
Capacity Expiring in the Next Five Years for ANR

[1]	Capacity Booked in 2016 (Dth)	1,968,497,696
[2]	Capacity Booked in 2021 (Dth)	1,154,215,995
[3]	[2] ÷ [1]	59%

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Notes:

[1]: Sum of contracted capacity in 2016.

[2]: Sum of contracted capacity in 2021.

Workpaper 2: ROE Adder

Credit Risk Premium

[1]	Average Yield for E&P Companies	6.3%
[2]	Average Yield for Utilities	3.8%
[3]	Difference between [1] and [2]	2.5%

Percentage of Top Shippers that are Shale Producers

[4]	ANR Pipeline Company	62%
[5]	Average Pipeline System	12%
[6]	Median Pipeline System	6%

Shale Producer Risk Exposure

[7]	ANR Pipeline Company	1.5%
[8]	Average Pipeline System	0.3%
[9]	Median Pipeline System	0.2%

Sources and Notes:

- [1]: Average yield for companies in the 'Bloomberg Intelligence North America Independent E&Ps Valuation Peers' Index during the month of November 2015. Calculated as the average of yields on a set of bond indexes with ten year terms, weighted by the index weights as defined by Bloomberg. For A and BBB ratings, US energy-specific bond indexes were used. For BB and B ratings, US corporations-specific indexes were used. B, CCC, and SD ratings were grouped together. Company ratings are from CapIQ and Bloomberg (accessed 01/12/16) and yield data is from Bloomberg (accessed 01/14/16). See Workpaper 18.
- [2]: Calculated as the average yield for A and BBB-rated utilities bonds with ten year terms during the month of November 2015. Data from Bloomberg (accessed 01/14/16). See Workpaper 19.
- [3]: [1] – [2].
- [4]-[6]: See Workpaper 13.
- [7]: [3] X [4].
- [8]: [3] X [5].
- [9]: [3] X [6].

Workpaper 3: Financial Information for the Proxy Group Companies

Selected Information from BOARDWALK PIPELINE PARTNERS, LP
2014 Form 10-K
Note 7 Property Plant, and Equipment
(\$ millions)

Component		Gross PP&E (in \$)	PP&E (in %)
[1]		[2]	[3]
<i>Depreciable, Gross Amount</i>			
Transmission	[a]	\$7,720	86.5%
Storage	[b]	\$759	8.5%
Gathering	[c]	\$337	3.8%
<i>Non-Depreciable, Gross Amount</i>			
Storage	[d]	\$106	1.2%
Total	[e]	\$8,921	100.0%

Sources & Notes:

Boardwalk Pipeline Partners, LP's 2014 Form 10-K.

[3]=[2]/([2],[e])

[e]=sum([a]-[d])

Selected Information from BOARDWALK PIPELINE PARTNERS, LP
2014 Form 10-K
Consolidated Statements of Income and Note 2 Accounting Policies
(\$ millions)

Component		EBITDA (in \$)	EBIT (in \$)	EBITDA (in %)	EBIT (in %)
[1]		[2]	[3]	[4]	[5]
Interstate natural gas and NGLs pipeline systems including integrated storage facilities	[a]	\$687	\$398	100.0%	100.0%
Total	[b]	\$687	\$398	100.0%	100.0%

Sources & Notes:

Boardwalk Pipeline Partners, LP's 2014 Form 10-K.

[4]=[2]/([2],[b])

[5]=[3]/([3],[b])

BOARDWALK PIPELINE PARTNERS, LP
2014 Form 10-K
Consolidated Statements of Income
(\$ millions)

Income Statement Accounts		Values
Operating Income	[a]	\$398
Add: Depreciation and amortization	[b]	\$289
EBITDA	[c]	\$687
EBIT	[d]	\$398

Sources & Notes:

Boardwalk Pipeline Partners, LP's 2014 Form 10-K.

[c] = [a] + [b]

[d] = [a]

Selected Information from Columbia Pipeline Partners LP
2014 Form 10-K
Note 5 Property Plant, and Equipment
(\$ millions)

Component [1]		Gross PP&E (in \$) [2]	PP&E (in %) [3]
Pipeline and Other Transmission Assets	[a]	\$5,328	73.8%
Storage Facilities	[b]	\$1,327	18.4%
Gas Stored Base Gas	[c]	\$300	4.1%
Gathering and Processing Facilities	[d]	\$263	3.6%
Total	[e]	\$7,218	100.0%

Sources & Notes:

Columbia Pipeline Partners LP's 2014 Form 10-K.

[3]=[2]/([2],[e])

[e]=sum([a]-[d])

Selected Information from Columbia Pipeline Partners LP
2014 Form 10-K
Combined Statements of Operations and Note 16 Segments of Business
(\$ millions)

Component		EBITDA (in \$)	EBIT (in \$)	EBITDA (in %)	EBIT (in %)
[1]		[2]	[3]	[4]	[5]
Gas Transportation and Storage Services	[a]	\$607	\$489	100.0%	100.0%
Total	[b]	\$607	\$489	100.0%	100.0%

Sources & Notes:

Columbia Pipeline Partners, LP's 2014 Form 10-K.

[4]=[2]/([2],[b])

[5]=[3]/([3],[b])

Columbia Pipeline Partners LP
2014 Form 10-K
Combined Statements of Operations
(\$ millions)

Income Statement Accounts	Values
Operating Income	[a] \$489
Add: Depreciation and amortization	[b] \$119
EBITDA	[c] \$607
EBIT	[d] \$489

Sources & Notes:

Columbia Pipeline Partners, LP's 2014 Form 10-K.

[c] = [a] + [b]

[d] = [a]

Selected Information from ENABLE MIDSTREAM PARTNERS, LP
2014 Form 10-K
Note 17 Reportable Segments
(\$ millions)

Component		Total Assets (in \$)	Total Assets (in %)
[1]		[2]	[3]
Gathering and Processing Facilities	[a]	\$8,356	60.3%
Transportation and Storage	[b]	\$5,493	39.7%
Total	[c]	\$13,849	100.0%

Sources & Notes:

ENABLE MIDSTREAM PARTNERS, LP's 2014 Form 10-K.

[3]=[2]/([2],[c])

[c]=sum([a]-[b])

[c] Includes eliminations. 2014 10-K does not provide breakout of eliminations by reportable segment.

Selected Information from ENABLE MIDSTREAM PARTNERS, LP
2014 Form 10-K
Note 17 Reportable Segments
(\$ millions)

Component		EBITDA (in \$)	EBIT (in \$)	EBITDA (in %)	EBIT (in %)
[1]		[2]	[3]	[4]	[5]
Gathering and Processing	[a]	\$509	\$349	59.0%	59.6%
Transportation and Storage	[b]	\$353	\$237	41.0%	40.4%
Total	[c]	\$862	\$586	100.0%	100.0%

Sources & Notes:

Enable Midstream Partners, LP's 2014 Form 10-K.

[4]=[2]/([2],[c])

[5]=[3]/([3],[c])

[c]=sum([a]-[b])

ENABLE MIDSTREAM PARTNERS, LP
2014 Form 10-K
Note 17 Reportable Segments
(\$ millions)

Income Statement Accounts		Gathering and Processing Values	Transportation and Storage Values
Operating income	[a]	\$349	\$237
Add: Depreciation and amortization	[b]	\$160	\$116
EBITDA	[c]	\$509	\$353
EBIT	[d]	\$349	\$237

Sources & Notes:

Enable Midstream Partners, LP's 2014 Form 10-K.

[c] = [a] + [b]

[d] = [a]

Selected Information from EQT Midstream Partners, LP's 2014 Form 10-K
Note 3 Financial Information by Business Segment
For the Year Ended December 31, 2014
(\$ millions)

Business Segment	Total Assets (in \$)	Total Assets (in %)
[1]	[2]	[3]
Transmission and storage	[a] \$929	71.8%
Gathering	[b] \$364	28.2%
Total	[c] \$1,293	100.0%

Sources & Notes:

EQT Midstream Partners, LP's 2014 SEC Form 10-K, Note 3 to Consolidated Financial Statements

[3]=[2]/([2],[c])

[c]=sum([a]-[b])

Selected Information from EQT Midstream Partners, LP's 2014 Form 10-K
Note 3 Financial Information by Business Segment
For the Year Ended December 31, 2014
(\$ millions)

Component		EBITDA (in \$)	EBIT (in \$)	EBITDA (in %)	EBIT (in %)
[1]		[2]	[3]	[4]	[5]
Transmission and Storage	[a]	\$210	\$183	67.7%	67.0%
Gathering	[b]	\$100	\$90	32.3%	33.0%
Total	[c]	\$310	\$274	100.0%	100.0%

Sources & Notes:

EQT Midstream Partners, LP's 2014 Form 10-K.

[4]=[2]/([2],[c])

[5]=[3]/([3],[c])

[c]=sum([a]-[b])

EQT Midstream Partners, LP's 2014 Form 10-K
Note 3 Financial Information by Business Segment
For the Year Ended December 31, 2014
(\$ millions)

Income Statement Accounts		Transmission and Storage Values	Gathering Values
Operating Income	[a]	\$183	\$90
Add: Depreciation and amortization	[b]	\$27	\$10
EBITDA	[c]	\$210	\$100
EBIT	[d]	\$183	\$90

Sources & Notes:

EQT Midstream Partners, LP's 2014 Form 10-K.

[c] = [a] + [b]

[d] = [a]

Selected Information from Tallgrass Energy Partners, LP's 2014 Form 10-K
Note 18 Reporting Segments
For the Year Ended December 31, 2014
(\$ millions)

Component		Total Assets (in \$)	Total Assets (in %)
[1]		[2]	[3]
Natural Gas Transportation & Logistics	[a]	\$716	29.2%
Crude Oil Transportation & Logistics	[b]	\$1,395	56.9%
Processing & Logistics	[c]	\$341	13.9%
Total	[d]	\$2,452	100.0%

Sources & Notes:

Tallgrass Energy Partners, LP's 2014 SEC Form 10-K, Note 18 to Consolidated Financial Statements

[3]=[2]/([2],[d])

[d]=sum([a]-[c])

Selected Information from Tallgrass Energy Partners, LP's 2014 Form 10-K
Note 18 Reporting Segments
For the Year Ended December 31, 2014
(\$ millions)

Component		EBITDA (in \$)	EBITDA (in %)
[1]		[2]	[3]
Natural Gas Transportation and Logistics	[a]	\$68	58.1%
Crude Oil Transportation and Logistics	[b]	\$16	13.5%
Processing and Logistics	[c]	\$33	28.4%
Total	[d]	\$116	100.0%

Sources & Notes:

Tallgrass Energy Partners, LP's 2014 Form 10-K.

[3]=[2]/([2],[d])

[d]=sum([a]-[c])

Tallgrass Energy Partners, LP's 2014 Form 10-K
Note 18 Reporting Segments
For the Year Ended December 31, 2014
(\$ millions)

Statement Accounts		Natural Gas Transportation & Logistics Values	Crude Oil Transportation & Logistics Values	Processing & Logistics Values
Total Adjusted EBITDA	[a]	\$68	\$16	\$33
EBITDA	[b]	\$68	\$16	\$33

Sources & Notes:

Tallgrass Energy Partners, LP's 2014 Form 10-K.

[b] = [a]

[a] Adjusted EBITDA is defined as net income excluding the impact of interest, income taxes, depreciation and amortization, non-cash income or loss related to derivative instruments, non-cash long-term compensation expense, impairment losses, gains or losses on asset or business disposals or acquisitions, gains or losses on the repurchase, redemption or early retirement of debt, and earnings from unconsolidated investments, but including the impact of distributions from unconsolidated investments.

Selected Information from TC Pipeline LP's 2014 Form 10-K
Note 5 Property Plant, and Equipment
For the Year Ended December 31, 2014
(\$ millions)

Component		Gross PP&E (in \$)	Total Assets (in %)
[1]		[2]	[3]
Pipeline	[a]	\$2,038	75.6%
Compression	[b]	\$514	19.1%
Metering and other	[c]	\$145	5.4%
Total	[d]	\$2,697	100.0%

Sources & Notes:

TC Pipeline LP's 2014 SEC Form 10-K, Note 5 to Consolidated Financial Statements

[3]=[2]/([2],[d])

[d]=sum([a]-[d])

**Selected Information from TC Pipeline LP's 2014 Form 10-K
Consolidated Statements of Income and Note 1 Organization
For the Year Ended December 31, 2014
(\$ millions)**

Component		EBITDA (in \$)	EBIT (in \$)	EBITDA (in %)	EBIT (in %)
[1]		[2]	[3]	[4]	[5]
Natural Gas Pipeline Systems	[a]	\$340	\$254	100.0%	100.0%
Total	[b]	\$340	\$254	100.0%	100.0%

Sources & Notes:

TC Pipelines, LP's 2014 Form 10-K.

[4]=[2]/([2],[b])

[5]=[3]/([3],[b])

TC Pipeline LP's 2014 Form 10-K
Consolidated Statements of Income
For the Year Ended December 31, 2014
(\$ millions)

Income Statement Accounts	Values
Net Income	[a] \$204
Add: Depreciation	[b] \$86
Add: Financial charges and other	[c] \$50
EBITDA	[d] \$340
EBIT	[e] \$254

Sources & Notes:

TC Pipelines, LP's 2014 Form 10-K.

[d] = [a] + [b] + [c]

[e] = [a] + [c]

[c] Includes items such as Interest expense, Amortization of debt issue costs, Net realized loss related to the interest rate swaps and options, and Other.

Selected Information from Kinder Morgan Inc.'s 2014 Form 10-K
Note 15 Reportable Segments
For the Year Ended December 31, 2014
(\$ millions)

Component		Total Assets (in \$)	Total Assets (in %)
[1]		[2]	[3]
Natural Gas Pipelines	[a]	\$52,523	69.7%
CO2	[b]	\$5,227	6.9%
Terminals	[c]	\$8,850	11.7%
Products Pipelines	[d]	\$7,179	9.5%
Kinder Morgan Canada	[e]	\$1,593	2.1%
Total	[f]	\$75,372	100.0%

Sources & Notes:

Kinder Morgan Inc.'s 2014 SEC Form 10-K, Note 15 to Consolidated Financial Statements

[3]=[2]/([2],[f])

[f]=sum([a]-[e])

Selected Information from Kinder Morgan Inc.'s 2014 Form 10-K
Note 15 Reportable Segments
For the Year Ended December 31, 2014
(\$ millions)

Component		EBITDA (in \$)	EBIT (in \$)	EBITDA (in %)	EBIT (in %)
[1]		[2]	[3]	[4]	[5]
Natural Gas Pipelines	[a]	\$3,922	\$3,025	55.3%	59.7%
CO2	[b]	\$1,223	\$653	17.3%	12.9%
Terminals	[c]	\$943	\$606	13.3%	12.0%
Products Pipeline	[d]	\$813	\$647	11.5%	12.8%
Kinder Morgan Canada	[e]	\$185	\$134	2.6%	2.6%
Total	[f]	\$7,086	\$5,065	100.0%	100.0%

Sources & Notes:

Kinder Morgan Inc.'s 2014 Form 10-K.

[4]=[2]/([2],[f])

[5]=[3]/([3],[f])

Kinder Morgan Inc.'s 2014 Form 10-K
Note 15 Reportable Segments
For the Year Ended December 31, 2014
(\$ millions)

Statement Accounts		Natural Gas Pipelines Values	CO2 Values	Terminals Values	Products Pipelines Values	Kinder Morgan Canada Values
Revenues	[a]	\$10,168	\$1,960	\$1,718	\$2,068	\$291
Operating Expenses	[b]	\$6,241	\$494	\$746	\$1,258	\$106
Other expense (income)	[c]	\$5	\$243	\$29	-\$3	\$0
DD&A	[d]	\$897	\$570	\$337	\$166	\$51
EBITDA	[e]	\$3,922	\$1,223	\$943	\$813	\$185
EBIT	[f]	\$3,025	\$653	\$606	\$647	\$134

Sources & Notes:

Kinder Morgan Inc.'s 2014 Form 10-K.

[e] = [a] - [b] - [c]

[f] = [a] - [b] - [c] - [d]

Selected Information from Spectra Energy Partners LP's 2014 Form 10-K
Note 11 Property Plant and Equipment
For the Year Ended December 31, 2014
(\$ millions)

Component		Gross PP&E (in \$)	Total Assets %
[1]		[2]	[3]
Natural gas transmission	[a]	\$11,516	80.9%
Natural gas storage	[b]	\$1,546	10.9%
Gathering and processing facilities	[c]	\$12	0.1%
Crude oil transportation and storage	[d]	\$1,169	8.2%
Total	[e]	\$14,243	100.0%

Sources & Notes:

Spectra Energy Partners, LP's 2014 SEC Form 10-K, Note 11 to Consolidated Financial Statements

[3]=[2]/([2],[e])

[e]=sum([a]-[d])

Selected Information from Spectra Energy Partners LP's 2014 Form 10-K
Note 4 Business Segments
For the Year Ended December 31, 2014
(\$ millions)

Component [1]		EBITDA (in \$) [2]	EBIT (in \$) [3]	EBITDA (in %) [4]	EBIT (in %) [5]
US Transmission	[a]	\$1,415	\$1,159	85.5%	84.8%
Liquids	[b]	\$240	\$208	14.5%	15.2%
Total	[c]	\$1,655	\$1,367	100.0%	100.0%

Sources & Notes:

Spectra Energy's 2014 Form 10-K.

[4]=[2]/([2],[c])

[5]=[3]/([3],[c])

Spectra Energy Partners LP's 2014 Form 10-K
Note 4 Business Segments
For the Year Ended December 31, 2014
(\$ millions)

Statement Accounts		US Transmission Values	Liquids Values
Segment EBITDA/Consolidated Earnings Before Income Taxes	[a]	\$1,415	\$240
Less: Depreciation and Amortization	[b]	\$256	\$32
EBITDA	[c]	\$1,415	\$240
EBIT	[d]	\$1,159	\$208

Sources & Notes:

Spectra Energy's 2014 Form 10-K.

[c] = [a]

[d] = [a] - [b]

Workpaper 4: Pipeline Selection Database

Company Name	Pipeline Name	Ownership %	Net Utility Plant 000s	Net Utility Operating Income 000s	Net Utility Plant (Weighted) 000s	Net Utility Operating Income (Weighted) 000s
[1]	[2]	[3]	[4]	[5]	[6]	[7]
Kinder Morgan Inc	Tennessee Gas Pipeline Company, L.L.C.	100%	\$4,381,284	\$458,008	\$4,381,284	\$458,008
Spectra Energy	Texas Eastern Transmission, LP	100%	\$5,878,191	\$378,579	\$5,878,191	\$378,579
Kinder Morgan Inc	Southern Natural Gas Company, L.L.C.	100%	\$2,344,535	\$214,763	\$2,344,535	\$214,763
Columbia Pipeline Partners LP	Columbia Gas Transmission, LLC	100%	\$3,672,548	\$213,453	\$3,672,548	\$213,453
Kinder Morgan Inc	El Paso Natural Gas Company, L.L.C.	100%	\$2,073,824	\$191,817	\$2,073,824	\$191,817
Kinder Morgan Inc	Florida Gas Transmission Company, LLC	50%	\$4,456,562	\$324,852	\$2,228,281	\$162,426
Boardwalk Pipeline	Texas Gas Transmission, LLC	100%	\$1,616,612	\$137,104	\$1,616,612	\$137,104
Kinder Morgan Inc	Kinder Morgan Louisiana Pipeline LLC	100%	\$866,937	\$131,750	\$866,937	\$131,750
Kinder Morgan Inc	Colorado Interstate Gas Company, L.L.C.	100%	\$1,251,430	\$123,851	\$1,251,430	\$123,851
EQT Midstream Partners LP	Equitrans, L.P.	100%	\$1,375,210	\$112,210	\$1,375,210	\$112,210
Enable Midstream Partners LP	Enable Gas Transmission, LLC	100%	\$1,764,239	\$106,747	\$1,764,239	\$106,747
Boardwalk Pipeline	Gulf South Pipeline Company, LP	100%	\$2,495,136	\$104,482	\$2,495,136	\$104,482
Spectra Energy	Algonquin Gas Transmission, LLC	100%	\$1,436,204	\$92,143	\$1,436,204	\$92,143
Kinder Morgan Inc	Ruby Pipeline, L.L.C.	50%	\$3,366,349	\$155,938	\$1,683,175	\$77,969
Spectra Energy	Gulfstream Natural Gas System, L.L.C.	50%	\$1,693,143	\$153,485	\$846,572	\$76,743
TC PipeLines LP	Gas Transmission Northwest LLC	100%	\$721,563	\$72,372	\$721,563	\$72,372
Boardwalk Pipeline	Gulf Crossing Pipeline Company LLC	100%	\$1,426,582	\$58,392	\$1,426,582	\$58,392
Spectra Energy	Maritimes & Northeast Pipeline, L.L.C.	78%	\$784,821	\$72,153	\$608,472	\$55,940
TC PipeLines LP	Northern Border Pipeline Company	50%	\$1,143,425	\$109,317	\$571,713	\$54,659
Enable Midstream Partners LP & Spectra Energy	Southeast Supply Header, LLC.	100%	\$1,135,249	\$50,332	\$1,135,249	\$50,332
Kinder Morgan Inc	Wyoming Interstate Company, L.L.C.	100%	\$553,102	\$50,196	\$553,102	\$50,196
Kinder Morgan Inc	Midcontinent Express Pipeline LLC	50%	\$1,950,145	\$100,096	\$975,073	\$50,048
Spectra Energy	East Tennessee Natural Gas, LLC	100%	\$795,880	\$49,609	\$795,880	\$49,609
Columbia Pipeline Partners LP	Millennium Pipeline Company, LLC	48%	\$1,009,731	\$99,211	\$479,622	\$47,125
Kinder Morgan Inc	Cheyenne Plains Gas Pipeline Company, LLC	100%	\$312,004	\$43,606	\$312,004	\$43,606
Kinder Morgan Inc	Elba Express Company, L.L.C.	100%	\$574,598	\$41,268	\$574,598	\$41,268
Kinder Morgan Inc	Fayetteville Express Pipeline LLC	50%	\$854,881	\$77,557	\$427,441	\$38,779
Columbia Pipeline Partners LP	Columbia Gulf Transmission, LLC	100%	\$455,732	\$35,360	\$455,732	\$35,360
TC PipeLines LP	Bison Pipeline LLC	100%	\$600,237	\$28,855	\$600,237	\$28,855
TC PipeLines LP	Great Lakes Gas Transmission Limited Partnership	46%	\$747,553	\$49,856	\$347,238	\$23,158
Kinder Morgan Inc	Natural Gas Pipeline Company of America LLC	20%	\$1,453,682	\$103,213	\$290,736	\$20,643
TC PipeLines LP	North Baja Pipeline, LLC	100%	\$142,319	\$14,657	\$142,319	\$14,657
TC PipeLines LP	Tuscarora Gas Transmission Company	100%	\$105,663	\$10,968	\$105,663	\$10,968
Kinder Morgan Inc	TransColorado Gas Transmission Company LLC	100%	\$211,643	\$10,519	\$211,643	\$10,519
Tallgrass Energy Partners LP	Tallgrass Interstate Gas Transmission LLC	100%	\$398,325	\$9,883	\$398,325	\$9,883
Enable Midstream Partners LP	Enable Mississippi River Transmission, LLC	100%	\$319,126	\$7,692	\$319,126	\$7,692
Tallgrass Energy Partners LP	Trailblazer Pipeline Company LLC	100%	\$64,869	\$7,647	\$64,869	\$7,647
Kinder Morgan Inc	Mojave Pipeline Company, L.L.C.	100%	\$75,558	\$5,684	\$75,558	\$5,684
Kinder Morgan Inc	Horizon Pipeline Company, L.L.C.	100%	\$65,176	\$4,032	\$65,176	\$4,032

Company Name	Pipeline Name	Ownership %	Net Utility Plant 000s	Net Utility Operating Income 000s	Net Utility Plant (Weighted) 000s	Net Utility Operating Income (Weighted) 000s
[1]	[2]	[3]	[4]	[5]	[6]	[7]
Kinder Morgan Inc	Tennessee Gas Pipeline Company, L.L.C.	100%	\$4,381,284	\$458,008	\$4,381,284	\$458,008
Spectra Energy	Ozark Gas Transmission, L.L.C.	100%	\$122,888	\$1,268	\$122,888	\$1,268
Kinder Morgan Inc	Sierrita Gas Pipeline LLC	35%	\$170,989	\$2,886	\$59,846	\$1,010
Kinder Morgan Inc	Kinder Morgan Illinois Pipeline LLC	100%	\$13,001	\$442	\$13,001	\$442
Columbia Pipeline Partners LP	Crossroads Pipeline Company	100%	\$20,524	\$70	\$20,524	\$70

Sources and Notes:

[3]: 2014 company annual reports and company websites.

[4]-[5]: 'Net Utility Plant' and 'Net Utility Operating Income', 2014 FERC Form 2, pulled from SNL Energy.

[6]: [3] X [4].

[7]: [3] X [5].

Workpaper 5: NPV Calculations

Period (Years)	Algonquin Gas Transmission, LLC	Colorado Interstate Gas Company, LLC	Columbia Gas Transmission, LLC	El Paso Natural Gas Company, LLC	Enable Gas Transmission, LLC	Equitrans, LP	Florida Gas Transmission Company, LLC	Gas Transmission Northwest, LLC	Gulf Crossing Pipeline Company, LLC
Contracted Capacity									
5	3,941,993,494	4,310,020,677	11,316,459,214	4,832,342,760	4,076,993,041	3,191,321,251	4,768,848,080	1,951,118,974	1,868,871,608
10	5,222,270,753	5,796,263,952	14,029,738,943	6,481,078,106	4,261,326,021	4,769,692,839	6,626,059,963	2,636,125,027	1,976,315,848
25	5,824,813,910	6,146,424,212	14,715,128,466	7,113,498,754	4,276,207,304	5,220,067,344	7,465,896,207	2,676,845,034	2,073,306,553
Maximum Capacity									
5	5,563,878,138	6,667,865,805	15,002,475,490	7,382,780,971	7,208,399,430	3,288,423,675	5,078,459,298	3,104,831,875	2,333,025,502
10	9,018,608,713	10,808,085,863	24,317,832,421	11,966,907,100	11,684,248,342	5,330,276,054	8,231,782,965	5,032,688,191	3,781,650,783
25	13,322,707,814	15,966,206,604	35,923,431,910	17,678,071,176	17,260,514,525	7,874,131,443	12,160,372,262	7,434,520,825	5,586,430,240
Contracted Share of Maximum Capacity									
5	71%	65%	75%	65%	57%	97%	94%	63%	80%
10	58%	54%	58%	54%	36%	89%	80%	52%	52%
25	44%	38%	41%	40%	25%	66%	61%	36%	37%

Period (Years)	Gulf South Pipeline Company, LP	Gulfstream Natural Gas System, LLC	Kinder Morgan Louisiana Pipeline, LLC	Ruby Pipeline, LLC	Southern Natural Gas Company, LLC	Tennessee Gas Pipeline Company, LLC	Texas Eastern Transmission, LP	Texas Gas Transmission, LLC	ANR Pipeline Company
5	4,726,994,524	1,796,465,269	2,351,321,293	1,490,927,218	2,710,699,763	9,299,267,962	8,960,097,236	677,477,666	5,953,292,938
10	6,129,908,830	2,777,799,567	3,810,414,073	1,893,328,128	3,512,148,196	12,250,977,930	12,392,842,457	677,477,666	8,507,252,765
25	6,355,383,271	3,395,233,622	4,481,397,339	1,933,284,433	3,892,014,562	13,508,218,787	13,736,631,468	677,477,666	11,026,605,083
5	7,063,769,849	1,799,960,328	2,350,332,813	1,803,916,087	5,187,032,905	13,098,884,523	12,718,163,838	1,346,310,788	8,597,205,897
10	11,449,815,169	2,917,594,076	3,809,704,572	2,924,006,050	8,407,772,240	21,232,261,232	20,615,142,955	2,182,263,864	13,935,394,357
25	16,914,198,950	4,310,005,527	5,627,872,601	4,319,477,593	12,420,351,796	31,365,282,788	30,453,646,996	3,223,741,572	20,586,012,013
5	67%	100%	100%	83%	52%	71%	70%	50%	69%
10	54%	95%	100%	65%	42%	58%	60%	31%	61%
25	38%	79%	80%	45%	31%	43%	45%	21%	54%

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Units are Dth. Ratios calculated as discounted contracted capacity (excluding shale producers) divided by discounted maximum capacity, calculated as the contracted capacity on the pipeline on October 1, 2015, multiplied by 365.25 days per year. A discount rate of ten percent is used.

Workpaper 6: NPV Calculations, Excluding Shale Producers

Period (Years)	Algonquin Gas Transmission, LLC	Colorado Interstate Gas Company, LLC	Columbia Gas Transmission, LLC	El Paso Natural Gas Company, LLC	Enable Gas Transmission, LLC	Equitrans, LP	Florida Gas Transmission Company, LLC	Gas Transmission Northwest, LLC	Gulf Crossing Pipeline Company, LLC
Contracted Capacity									
5	3,941,993,494	4,006,889,209	9,452,379,455	4,637,443,865	3,279,252,643	2,615,920,851	4,768,848,080	1,951,118,974	1,745,622,764
10	5,222,270,753	5,395,636,269	11,500,185,252	6,213,117,128	3,392,656,552	3,957,715,395	6,626,059,963	2,636,125,027	1,853,067,004
25	5,824,813,910	5,732,919,384	12,049,814,826	6,813,752,238	3,392,689,639	4,408,089,900	7,465,896,207	2,676,845,034	1,950,057,709
Maximum Capacity									
5	5,563,878,138	6,667,865,805	15,002,475,490	7,382,780,971	7,208,399,430	3,288,423,675	5,078,459,298	3,104,831,875	2,333,025,502
10	9,018,608,713	10,808,085,863	24,317,832,421	11,966,907,100	11,684,248,342	5,330,276,054	8,231,782,965	5,032,688,191	3,781,650,783
25	13,322,707,814	15,966,206,604	35,923,431,910	17,678,071,176	17,260,514,525	7,874,131,443	12,160,372,262	7,434,520,825	5,586,430,240
Contracted Share of Maximum Capacity									
5	71%	60%	63%	63%	45%	80%	94%	63%	75%
10	58%	50%	47%	52%	29%	74%	80%	52%	49%
25	44%	36%	34%	39%	20%	56%	61%	36%	35%

Period (Years)	Gulf South Pipeline Company, LP	Gulfstream Natural Gas System, LLC	Kinder Morgan Louisiana Pipeline, LLC	Ruby Pipeline, LLC	Southern Natural Gas Company, LLC	Tennessee Gas Pipeline Company, LLC	Texas Eastern Transmission, LP	Texas Gas Transmission, LLC	ANR Pipeline Company
5	3,501,015,207	1,796,465,269	2,351,321,293	1,387,039,679	2,710,699,763	6,422,651,940	6,511,022,022	677,477,666	3,193,503,066
10	4,405,434,302	2,777,799,567	3,810,414,073	1,780,465,454	3,512,148,196	7,917,301,277	8,443,598,952	677,477,666	4,105,399,581
25	4,595,446,565	3,395,233,622	4,481,397,339	1,820,421,759	3,892,014,562	8,362,972,754	9,073,398,508	677,477,666	5,080,297,986
5	7,063,769,849	1,799,960,328	2,350,332,813	1,803,916,087	5,187,032,905	13,098,884,523	12,718,163,838	1,346,310,788	8,597,205,897
10	11,449,815,169	2,917,594,076	3,809,704,572	2,924,006,050	8,407,772,240	21,232,261,232	20,615,142,955	2,182,263,864	13,935,394,357
25	16,914,198,950	4,310,005,527	5,627,872,601	4,319,477,593	12,420,351,796	31,365,282,788	30,453,646,996	3,223,741,572	20,586,012,013
5	50%	100%	100%	77%	52%	49%	51%	50%	37%
10	38%	95%	100%	61%	42%	37%	41%	31%	29%
25	27%	79%	80%	42%	31%	27%	30%	21%	25%

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Units are Dth. Ratios calculated as discounted contracted capacity (excluding shale producers) divided by discounted maximum capacity, calculated as the contracted capacity on the pipeline on October 1, 2015, multiplied by 365.25 days per year. A discount rate of ten percent is used.

Workpaper 7: Storage Analysis

Pipeline System	Number of Storage Facilities			Working Gas Capacity (Mcf)	
	Total	Producer Area Storage	Market Area storage	Producer Area Storage	Market Area storage
[1]	[2]	[3]	[4]	[5]	[6]
Algonquin Gas Transmission, LLC	0	0	0	0	0
Colorado Interstate Gas Company, LLC	6	1	5	5,229,000	37,568,826
Columbia Gas Transmission, LLC	36	0	36	0	317,358,228
El Paso Natural Gas Company, LLC	1	1	0	44,037,872	0
Enable Gas Transmission, LLC	3	3	0	31,000,000	0
Equitrans, LP	18	0	18	0	53,009,230
Florida Gas Transmission Company, LLC	0	0	0	0	0
Gas Transmission Northwest, LLC	0	0	0	0	0
Gulf Crossing Pipeline Company, LLC	0	0	0	0	0
Gulf South Pipeline Company, LP	3	3	0	91,549,077	0
Gulfstream Natural Gas System, LLC	0	0	0	0	0
Kinder Morgan Louisiana Pipeline, LLC	0	0	0	0	0
Ruby Pipeline, LLC	0	0	0	0	0
Southern Natural Gas Company, LLC	1	1	0	36,000,000	0
Tennessee Gas Pipeline Company, LLC	1	0	1	0	17,300,000
Texas Eastern Transmission, LP	5	2	3	48,370,000	23,700,000
Texas Gas Transmission, LLC	9	0	9	0	84,255,079
ANR Pipeline Company	15	0	15	0	204,232,000

Source: 2014 191 Field Level Storage Data, Energy Information Association ('EIA'). Released Sept. 2015

Notes:

[1]: Enable Gas Transmission, LLC changed its name from CenterPoint Energy Gas Transmission in July 2013 (see announcement, http://www.gasnom.com/ip/enogexgpnofices/fileviewer.cfm?FromLoc=notices&file=073013_Enable%20Midstream%20Partners%20Name%20Announcement.pdf, p. 6). The EIA database still references it as CenterPoint Energy Gas Transmission.

[3]: The number of facilities located in 'producing' regions, as defined by the EIA.

[4]: The number of facilities located in 'consuming' regions, as defined by the EIA.

[5]: The sum of working capacity for storage facilities located in 'producing' regions.

[6]: The sum of working capacity for storage facilities located in 'consuming' regions.

Workpaper 8: Storage and Transportation Revenues

Pipeline	Total Operating Revenues from Storing Gas of Others	Total Operating Revenues from Transportation of Gas of Others
Colorado Interstate Gas Company, LLC	1,104,699	377,300,024
Columbia Gas Transmission, LLC	197,200,372	660,577,216
Equitrans, LP	28,229,184	226,497,241
Tennessee Gas Pipeline Company, LLC	44,176,536	1,148,013,012
Texas Eastern Transmission, LP	70,389,123	1,015,257,949
Texas Gas Transmission, LLC	17,536,518	384,931,960
El Paso Natural Gas Company, LLC	0	609,248,731
Enable Gas Transmission, LLC	12,423,315	338,391,825
Gulf South Pipeline Company, LP	5,707,134	386,127,979
Southern Natural Gas Company, LLC	33,966,151	541,800,335
ANR Pipeline Company	123,590,189	378,591,633

Source: 2014 FERC Form 2.

Note: Units are Dth.

Workpaper 9: Storage and Transmission Assets

Pipeline	Underground Storage Plant	Other Storage Plant	Total Transmission Plant
Colorado Interstate Gas Company, LLC	154,711	0	1,264,823
Columbia Gas Transmission, LLC	1,277,725	48,753	4,106,686
Equitrans, LP	210,132	0	757,764
Tennessee Gas Pipeline Company, LLC	130,313	0	7,053,378
Texas Eastern Transmission, LP	331,151	0	8,409,036
Texas Gas Transmission, LLC	260,559	0	2,524,432
El Paso Natural Gas Company, LLC	53,024	0	3,414,038
Enable Gas Transmission, LLC	149,242	0	2,201,070
Gulf South Pipeline Company, LP	117,534	0	3,456,081
Southern Natural Gas Company, LLC	102,506	0	3,395,575
ANR Pipeline Company	400,237	0	2,981,799

Source: 2014 FERC Form 2 via SNL Energy.

Note: Units are \$000s.

Workpaper 10: Average Time Left on Contract

Pipeline System	Weighted Average Remaining Life (years)
Algonquin Gas Transmission, LLC	5.9
Colorado Interstate Gas Company, LLC	5.5
Columbia Gas Transmission, LLC	5.8
El Paso Natural Gas Company, LLC	6.0
Enable Gas Transmission, LLC	2.7
Equitrans, LP	10.5
Florida Gas Transmission Company, LLC	10.2
Gas Transmission Northwest, LLC	4.9
Gulf Crossing Pipeline Company, LLC	4.8
Gulf South Pipeline Company, LP	5.0
Gulfstream Natural Gas System, LLC	14.1
Kinder Morgan Louisiana Pipeline, LLC	13.5
Ruby Pipeline, LLC	6.1
Southern Natural Gas Company, LLC	4.8
Tennessee Gas Pipeline Company, LLC	6.6
Texas Eastern Transmission, LP	5.9
Texas Gas Transmission, LLC	2.1
ANR Pipeline Company	12.3
Average of Proxy Group	6.7
Median of Proxy Group	5.9

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Calculated as the average remaining contract life weighted by volume, starting on January 1, 2016.

Workpaper 11: ANR Pipeline Company's Contract Portfolio

Year	Unidentified Shale Producers	American Energy LLC/Ascent	Other Identified Shale Producers	Identified Shippers that are not Shale Producers	Unidentified Shippers
2015	2,100,596,681	251,172,000	424,040,500	670,947,670	754,436,511
2016	1,968,497,696	277,586,000	459,289,200	650,536,028	581,086,468
2017	1,682,563,919	272,290,000	453,950,500	560,489,851	395,833,568
2018	1,481,346,355	272,290,000	453,950,500	468,573,195	286,532,660
2019	1,346,906,745	272,290,000	453,950,500	398,042,470	222,623,775
2020	1,198,902,902	273,036,000	455,194,200	380,640,000	90,032,702
2021	1,154,215,995	272,290,000	453,950,500	379,600,000	48,375,495
2022	1,124,215,645	272,290,000	453,950,500	358,200,000	39,775,145
2023	1,103,750,208	272,290,000	453,950,500	343,100,000	34,409,708
2024	1,028,351,115	248,536,000	416,358,100	344,040,000	19,417,015
2025	971,371,405	235,790,000	383,250,000	343,100,000	9,231,405
2026	933,632,405	235,790,000	346,750,000	343,100,000	7,992,405
2027	929,519,230	235,790,000	346,750,000	343,100,000	3,879,230
2028	918,466,040	236,436,000	347,700,000	331,790,000	2,540,040
2029	873,123,100	235,790,000	309,950,000	324,850,000	2,533,100
2030	836,923,100	235,790,000	273,750,000	324,850,000	2,533,100
2031	836,923,100	235,790,000	273,750,000	324,850,000	2,533,100
2032	839,112,340	236,436,000	274,500,000	325,740,000	2,436,340
2033	836,302,600	235,790,000	273,750,000	324,850,000	1,912,600
2034	835,982,960	235,790,000	273,750,000	324,850,000	1,592,960
2035	829,790,000	235,790,000	269,150,000	324,850,000	0
2036	790,876,000	236,436,000	228,700,000	325,740,000	0
2037	779,640,000	235,790,000	219,000,000	324,850,000	0
2038	779,640,000	235,790,000	219,000,000	324,850,000	0
2039	779,640,000	235,790,000	219,000,000	324,850,000	0
2040	781,776,000	236,436,000	219,600,000	325,740,000	0
2041	779,640,000	235,790,000	219,000,000	324,850,000	0
2042	779,640,000	235,790,000	219,000,000	324,850,000	0
2043	779,640,000	235,790,000	219,000,000	324,850,000	0
2044	781,776,000	236,436,000	219,600,000	325,740,000	0
2045	556,634,000	196,384,000	35,400,000	324,850,000	0
2046	324,850,000	0	0	324,850,000	0
2047	324,850,000	0	0	324,850,000	0
2048	325,740,000	0	0	325,740,000	0
2049	324,850,000	0	0	324,850,000	0
2050	182,500,000	0	0	182,500,000	0
2051	76,000,000	0	0	76,000,000	0
2052	0	0	0	0	0
2053	0	0	0	0	0
2054	0	0	0	0	0
2055	0	0	0	0	0

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Units are Dth. "Unidentified Shippers" include any shipper that is not in the top 80% of one of the 18 pipelines analyzed. "Identified Shippers that are not Shale Producers" include shippers identified as utilities, conventional gas producers, power generators, marketers, and other. See Workpaper 12.

Workpaper 12: Top Shippers by Volume (80% Threshold)

Pipeline Name	Shipper Name (ranked)	Utility	Shale Producer	Conventional Producer	Powergen	Marketer or Other
Algonquin Gas Transmission, LLC	EXCELERATE GAS MARKETING					1
Algonquin Gas Transmission, LLC	Kleen Energy Systems				1	
Algonquin Gas Transmission, LLC	KeySpan Gas East Corp.	1				
Algonquin Gas Transmission, LLC	NSTAR Gas Co.	1				
Algonquin Gas Transmission, LLC	Excelerate Energy Ltd.					1
Algonquin Gas Transmission, LLC	GDF Suez Gas NA LLC					1
Algonquin Gas Transmission, LLC	Colonial Gas Co.	1				
Algonquin Gas Transmission, LLC	Lake Road Generating				1	
Algonquin Gas Transmission, LLC	ANP Bellingham Energy				1	
Algonquin Gas Transmission, LLC	Bay State Gas Company	1				
ANR Pipeline Company	Antero Resources Corp.		1			
ANR Pipeline Company	American Energy LLC		1			
ANR Pipeline Company	DTE Gas Co.	1				
ANR Pipeline Company	Gulfport Energy Corp.		1			
ANR Pipeline Company	ExxonMobil Gas & Power Mtrkg					1
ANR Pipeline Company	PXP Offshore LLC					1
ANR Pipeline Company	Chesapeake Energy Corporation		1			
ANR Pipeline Company	Tennessee Valley Authority	1				
ANR Pipeline Company	Wisconsin Public Service Corp.	1				
ANR Pipeline Company	Wisconsin Power and Light Co	1				
Colorado Interstate Gas Company, LLC	Public Service Co. of CO	1				
Colorado Interstate Gas Company, LLC	Anadarko Energy Services Compa			1		
Colorado Interstate Gas Company, LLC	DCP Midstream LLC			1		
Colorado Interstate Gas Company, LLC	Pioneer Natural Resources Comp		1			
Colorado Interstate Gas Company, LLC	Black Hills Utility Holdings	1				
Columbia Gas Transmission, LLC	Washington Gas Light Co.	1				
Columbia Gas Transmission, LLC	Columbia Gas of Ohio Inc	1				
Columbia Gas Transmission, LLC	Antero Resources Corp.		1			
Columbia Gas Transmission, LLC	Baltimore Gas and Electric Co.	1				
Columbia Gas Transmission, LLC	Columbia Gas of Pennsylvania	1				
Columbia Gas Transmission, LLC	Virginia Power Services Energy	1				
Columbia Gas Transmission, LLC	Columbia Gas of Virginia Inc	1				
Columbia Gas Transmission, LLC	UGI Utilities Inc.	1				
Columbia Gas Transmission, LLC	CNX Gas Corp.		1			
Columbia Gas Transmission, LLC	Mountaineer Gas Company	1				
Columbia Gas Transmission, LLC	Piedmont Natural Gas Co.	1				
Columbia Gas Transmission, LLC	Old Dominion Electric Coop	1				
Columbia Gas Transmission, LLC	EP Rock Springs				1	
Columbia Gas Transmission, LLC	Columbia Gas of Kentucky Inc	1				
Columbia Gas Transmission, LLC	Rice Energy Inc.		1			
Columbia Gas Transmission, LLC	Range Resources - Appalachia		1			
Columbia Gas Transmission, LLC	Duke Energy Ohio Inc.	1				
Columbia Gas Transmission, LLC	Virginia Natural Gas Inc.	1				
Columbia Gas Transmission, LLC	Richmond City of VA					1
Columbia Gas Transmission, LLC	Noble Energy Inc.		1			
Columbia Gas Transmission, LLC	Energy Corporation of America		1			
Columbia Gas Transmission, LLC	Calpine Energy Services L.P.				1	
El Paso Natural Gas Company, LLC	Comision Federal de Electricid					1
El Paso Natural Gas Company, LLC	ConocoPhillips Co.			1		
El Paso Natural Gas Company, LLC	Southern California Gas Co.	1				
El Paso Natural Gas Company, LLC	Salt River Project Agri	1				
El Paso Natural Gas Company, LLC	Mexicana De Cobre S. A. De C.					1
El Paso Natural Gas Company, LLC	El Paso Electric Co.	1				
El Paso Natural Gas Company, LLC	El Paso Marketing LP.					1
El Paso Natural Gas Company, LLC	Southwest Gas Corp.	1				
El Paso Natural Gas Company, LLC	Arizona Public Service Co.	1				
El Paso Natural Gas Company, LLC	Texas Gas Service Co.	1				
El Paso Natural Gas Company, LLC	Pioneer Natural Resources Comp		1			
El Paso Natural Gas Company, LLC	Southwestern Public Service Co	1				
Enable Gas Transmission, LLC	CenterPoint Energy Resources	1				
Enable Gas Transmission, LLC	Cross Timbers Energy Services			1		
Enable Gas Transmission, LLC	Shell Energy North America US			1		
Enable Gas Transmission, LLC	Chesapeake Energy Corporation		1			
Enable Gas Transmission, LLC	XTO Energy Inc.		1			
Enable Gas Transmission, LLC	Laclede Energy Resources Inc.					1
Enable Gas Transmission, LLC	Entergy Arkansas Inc.	1				
Enable Gas Transmission, LLC	Southwestern Electric Power Co	1				
Enable Gas Transmission, LLC	Petrohawk Energy Corp.		1			
Enable Gas Transmission, LLC	EOG Resources		1			
Equitrans, LP	Equitable Energy, L.L.C.	1				
Equitrans, LP	Peoples Natural Gas Co. LLC	1				
Equitrans, LP	Antero Resources Corp.		1			
Florida Gas Transmission Company, LLC	Florida Power & Light Co.	1				
Florida Gas Transmission Company, LLC	Angola Lng Supply Services					1
Florida Gas Transmission Company, LLC	Duke Energy Florida LLC	1				
Florida Gas Transmission Company, LLC	Peoples Gas System	1				
Florida Gas Transmission Company, LLC	Florida Gas Utility	1				
Florida Gas Transmission Company, LLC	Tampa Electric Co.	1				
Florida Gas Transmission Company, LLC	Orlando Utilities Commission	1				
Gas Transmission Northwest, LLC	Avista Corp.	1				
Gas Transmission Northwest, LLC	Iberdrola Renewables LLC				1	
Gas Transmission Northwest, LLC	Pacific Gas and Electric Co.	1				
Gas Transmission Northwest, LLC	Shell Energy North America US			1		
Gas Transmission Northwest, LLC	Puget Sound Energy Inc.	1				
Gas Transmission Northwest, LLC	IGI Resources Inc.					1
Gas Transmission Northwest, LLC	Encana Marketing (USA) Inc.			1		
Gas Transmission Northwest, LLC	Northwest Natural Gas Co.	1				
Gas Transmission Northwest, LLC	Southern California Gas Co.	1				

Pipeline Name	Shipper Name (ranked)	Utility	Shale Producer	Conventional Producer	Powergen	Marketer or Other
Gas Transmission Northwest, LLC	Suncor Energy Marketing Inc					1
Gas Transmission Northwest, LLC	ConocoPhillips Co.			1		
Gas Transmission Northwest, LLC	Cascade Natural Gas Corp.	1				
Gulf Crossing Pipeline Company, LLC	Devon Gas Services, LP					1
Gulf Crossing Pipeline Company, LLC	Newfield Exploration Mid-Conti			1		
Gulf Crossing Pipeline Company, LLC	Panda Energy International				1	
Gulf Crossing Pipeline Company, LLC	Enterprise Products Operating					1
Gulf Crossing Pipeline Company, LLC	Cross Timbers Energy Services			1		
Gulf South Pipeline Company, LP	Southern Co Services Inc	1				
Gulf South Pipeline Company, LP	Petrohawk Energy Corp.		1			
Gulf South Pipeline Company, LP	Florida Power & Light Co.	1				
Gulf South Pipeline Company, LP	QEP Energy Co.			1		
Gulf South Pipeline Company, LP	EOG Resources		1			
Gulf South Pipeline Company, LP	Chevron USA Prod Inc			1		
Gulf South Pipeline Company, LP	Encana Marketing (USA) Inc.			1		
Gulf South Pipeline Company, LP	Texas Eastern Transmission LP	1				
Gulfstream Natural Gas System, LLC	Florida Power & Light Co.	1				
Gulfstream Natural Gas System, LLC	Duke Energy Florida LLC	1				
Kinder Morgan Louisiana Pipeline, LLC	Total Gas & Power NA Inc.					1
Ruby Pipeline, LLC	Pacific Gas and Electric Co.	1				
Ruby Pipeline, LLC	Anadarko Energy Services Compa			1		
Ruby Pipeline, LLC	Shell Energy North America US			1		
Ruby Pipeline, LLC	BP Energy Co.			1		
Ruby Pipeline, LLC	Pioneer Natural Resources Comp		1			
Southern Natural Gas Company, LLC	Southern Co.	1				
Southern Natural Gas Company, LLC	BG Energy Merchants					1
Southern Natural Gas Company, LLC	Atlanta Gas Light Co.	1				
Southern Natural Gas Company, LLC	South Carolina Electric & Gas	1				
Southern Natural Gas Company, LLC	Alabama Gas Corp.	1				
Southern Natural Gas Company, LLC	Coral Energy Resources LP					1
Southern Natural Gas Company, LLC	Duke Energy Florida LLC	1				
Southern Natural Gas Company, LLC	Scana Energy Marketing					1
Southern Natural Gas Company, LLC	AGL Resources	1				
Southern Natural Gas Company, LLC	Peoples Gas System	1				
Tennessee Gas Pipeline Company, LLC	Chesapeake Energy Corporation		1			
Tennessee Gas Pipeline Company, LLC	Statoil Natural Gas LLC			1		
Tennessee Gas Pipeline Company, LLC	Talisman (U.S.) Inc		1			
Tennessee Gas Pipeline Company, LLC	Equitable Energy, L.L.C.	1				
Tennessee Gas Pipeline Company, LLC	Tennessee Valley Authority	1				
Tennessee Gas Pipeline Company, LLC	Boston Gas Co.	1				
Tennessee Gas Pipeline Company, LLC	Southwestern Energy Services		1			
Tennessee Gas Pipeline Company, LLC	Gulfport Energy Corp.		1			
Tennessee Gas Pipeline Company, LLC	Cabot Oil & Gas Corp.		1			
Tennessee Gas Pipeline Company, LLC	Range Resources - Appalachia		1			
Tennessee Gas Pipeline Company, LLC	Total Gas & Power NA Inc.					1
Tennessee Gas Pipeline Company, LLC	Entergy Louisiana LLC	1				
Tennessee Gas Pipeline Company, LLC	Atmos Energy Corp.	1				
Tennessee Gas Pipeline Company, LLC	MGI Supply Ltd.					1
Tennessee Gas Pipeline Company, LLC	Granite Ridge Energy LLC				1	
Tennessee Gas Pipeline Company, LLC	Liberty Utilities EnergyNorth	1				
Tennessee Gas Pipeline Company, LLC	National Fuel Gas Dist Corp.	1				
Tennessee Gas Pipeline Company, LLC	Anadarko Energy Services Compa			1		
Tennessee Gas Pipeline Company, LLC	Bay State Gas Company	1				
Tennessee Gas Pipeline Company, LLC	PSEG Energy Resources	1				
Tennessee Gas Pipeline Company, LLC	South Jersey Resources Group					1
Tennessee Gas Pipeline Company, LLC	CT Natural Gas Corp.	1				
Tennessee Gas Pipeline Company, LLC	Piedmont Natural Gas Co.	1				
Tennessee Gas Pipeline Company, LLC	Central Valle Hermoso S.A. De					1
Tennessee Gas Pipeline Company, LLC	Seneca Resources Corp.			1		
Tennessee Gas Pipeline Company, LLC	Kaiser Marketing Northeast					1
Tennessee Gas Pipeline Company, LLC	Direct Energy Business Mkt					1
Texas Eastern Transmission, LP	Range Resources - Appalachia		1			
Texas Eastern Transmission, LP	New Jersey Natural Gas Co.	1				
Texas Eastern Transmission, LP	Rice Energy Inc.		1			
Texas Eastern Transmission, LP	Chesapeake Energy Corporation		1			
Texas Eastern Transmission, LP	Equitable Energy, L.L.C.	1				
Texas Eastern Transmission, LP	Chevron USA Prod Inc			1		
Texas Eastern Transmission, LP	Duke Energy Hanging Rock	1				
Texas Eastern Transmission, LP	ConocoPhillips Co.			1		
Texas Eastern Transmission, LP	Entergy Arkansas Inc.	1				
Texas Eastern Transmission, LP	Statoil Natural Gas LLC			1		
Texas Eastern Transmission, LP	Consolidated Edison Co. of NY	1				
Texas Eastern Transmission, LP	NRG Power Marketing					1
Texas Eastern Transmission, LP	Dynergy Inc.				1	
Texas Eastern Transmission, LP	CNX Gas Corp.		1			
Texas Eastern Transmission, LP	RRI Energy Services Inc				1	
Texas Eastern Transmission, LP	Talen Energy Marketing, LLC				1	
Texas Gas Transmission, LLC	Cross Timbers Energy Services			1		
Texas Gas Transmission, LLC	BHP Billiton Petroleum			1		
Texas Gas Transmission, LLC	Atmos Energy Corp.	1				
Texas Gas Transmission, LLC	Anadarko Energy Services Compa			1		

Source: The Brattle Group. Data from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Shippers selected as the largest shippers for each pipeline that account at least for 80% of total forward contracted capacity discounted on a ten-year basis. A discount rate of 10 percent is used.

Workpaper 13: Share of Types of Shippers

Pipeline System	Utilities	Shale Producers	Conventional Producers	Power Generators	Marketers or Other
Algonquin Gas Transmission, LLC	27%	0%	0%	19%	54%
Colorado Interstate Gas Company, LLC	64%	8%	28%	0%	0%
Columbia Gas Transmission, LLC	69%	23%	0%	4%	4%
El Paso Natural Gas Company, LLC	46%	5%	16%	0%	34%
Enable Gas Transmission, LLC	38%	24%	32%	0%	6%
Equitrans, LP	80%	19%	1%	0%	0%
Florida Gas Transmission Company, LLC	86%	0%	0%	0%	14%
Gas Transmission Northwest, LLC	56%	0%	20%	14%	10%
Gulf Crossing Pipeline Company, LLC	0%	6%	34%	14%	45%
Gulf South Pipeline Company, LP	51%	32%	15%	0%	2%
Gulfstream Natural Gas System, LLC	95%	0%	0%	5%	0%
Kinder Morgan Louisiana Pipeline, LLC	0%	0%	0%	0%	100%
Ruby Pipeline, LLC	53%	7%	40%	0%	0%
Southern Natural Gas Company, LLC	73%	0%	0%	0%	27%
Tennessee Gas Pipeline Company, LLC	35%	42%	11%	2%	10%
Texas Eastern Transmission, LP	35%	37%	17%	8%	3%
Texas Gas Transmission, LLC	10%	0%	90%	0%	0%
ANR Pipeline Company	25%	62%	1%	0%	12%
Average (excluding ANR)	48%	12%	18%	4%	18%
Median (excluding ANR)	51%	6%	15%	0%	6%

Source: The Brattle Group. Data taken from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/15). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Calculated using forward contract commitments, discounted on a ten-year basis with a discount rate of 10 percent. See Workpaper 12.

Workpaper 14: Discounted Forward Commitment by Type of Shipper

Pipeline System	Utilities	Shale Producers	Conventional Producers	Power Generators	Marketers or Other
Algonquin Gas Transmission, LLC	1,216,227,261	0	937,395	835,231,968	2,446,276,457
Colorado Interstate Gas Company, LLC	3,176,868,500	400,683,253	1,410,200,794	0	0
Columbia Gas Transmission, LLC	8,192,182,968	2,717,554,578	29,009,261	509,238,908	419,229,422
El Paso Natural Gas Company, LLC	2,547,472,229	268,283,957	858,848,404	0	1,862,589,179
Enable Gas Transmission, LLC	1,399,054,431	870,412,057	1,167,487,586	0	219,065,616
Equitrans, LP	3,437,428,608	812,449,889	53,945,883	0	0
Florida Gas Transmission Company, LLC	4,857,948,981	0	179,721	0	769,637,764
Gas Transmission Northwest, LLC	1,237,845,269	0	450,992,444	299,157,635	218,507,570
Gulf Crossing Pipeline Company, LLC	0	123,572,853	681,753,923	280,537,892	892,347,087
Gulf South Pipeline Company, LP	2,760,950,566	1,725,562,662	782,472,710	0	117,860,221
Gulfstream Natural Gas System, LLC	2,517,830,897	0	0	130,644,484	0
Kinder Morgan Louisiana Pipeline, LLC	0	0	0	0	3,809,704,572
Ruby Pipeline, LLC	841,613,676	113,029,460	629,495,000	0	0
Southern Natural Gas Company, LLC	2,112,222,120	0	0	0	771,046,616
Tennessee Gas Pipeline Company, LLC	3,627,080,993	4,334,273,930	1,154,755,048	200,760,554	1,059,711,819
Texas Eastern Transmission, LP	3,686,750,977	3,949,353,964	1,781,317,821	817,064,659	364,597,697
Texas Gas Transmission, LLC	64,060,736	0	552,898,422	0	0
ANR Pipeline Company	1,822,750,607	4,401,717,337	37,871,978	0	891,912,984
Average (excluding ANR)	2,451,502,248	900,892,741	562,017,318	180,743,300	761,798,472
Median (excluding ANR)	2,517,830,897	123,572,853	552,898,422	0	364,597,697

Source: The Brattle Group. Data taken from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/15). Three contracts with American Energy LLC/Ascent beginning after 10/1/2015 (taken from the Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board) were added to the Q4 2015 Index of Customers dataset.

Note: Units are Dth. Calculated using forward contract commitments, discounted on a ten-year basis with a discount rate of 10 percent.

Workpaper 15: Customer Portfolio vs. Contract Cover

Pipeline Name	% of Top Commitment that is not by Shale Producers	% of Top Commitment that is by Shale Producers	Contract Cover (10 year NPV)
[1]	[2]	[3]	[4]
Algonquin Gas Transmission, LLC	100%	0%	58%
Colorado Interstate Gas Company, LLC	92%	8%	54%
Columbia Gas Transmission, LLC	77%	23%	58%
El Paso Natural Gas Company, LLC	95%	5%	54%
Enable Gas Transmission, LLC	76%	24%	36%
Equitrans, LP	81%	19%	89%
Florida Gas Transmission Company, LLC	100%	0%	80%
Gas Transmission Northwest, LLC	100%	0%	52%
Gulf Crossing Pipeline Company, LLC	94%	6%	52%
Gulf South Pipeline Company, LP	68%	32%	54%
Gulfstream Natural Gas System, LLC	100%	0%	95%
Kinder Morgan Louisiana Pipeline, LLC	100%	0%	100%
Ruby Pipeline, LLC	93%	7%	65%
Southern Natural Gas Company, LLC	100%	0%	42%
Tennessee Gas Pipeline Company, LLC	58%	42%	58%
Texas Eastern Transmission, LP	63%	37%	60%
Texas Gas Transmission, LLC	100%	0%	31%
ANR Pipeline Company	38%	62%	61%
ANR without Identified Shale Producers	100%	0%	29%

Source: The Brattle Group. Contract data taken from Q4 2015 Index of Customers via SNL Energy (accessed 12/10/2015). New contracts made with American Energy LLC/Ascent after 10/1/2015 were added to the Q4 2015 Index of Customers. Data from Q1 2016 Index of Customers on ANR Pipeline Company's Electronic Bulletin Board. [2]: Calculated as discounted forward commitment by identified shippers that are not shale producers, divided by the total commitment by identified shippers on the respective pipeline in column [1]. See Workpaper 11.

[3]: Calculated as discounted forward commitment by identified shippers that are shale producers, divided by the total commitment by identified shippers on the respective pipeline in column [1]. See Workpaper 11.

[4]: See Workpaper 5 and Workpaper 6 for the last row of this table.

Workpaper 16: Maintenance Capex

Historical

Pipeline System	Total, \$m (2011-2014)		2010 Net	2011-14 Average Additions less Expansions/2010 Net Utility Plant
	Expansion Costs	Additions	Utility Plant, \$m	
	[1]	[2]	[3]	
Equitrans, LP	294	511	536	10%
Ruby Pipeline, LLC	2,960	3,703	3,663	5%
Texas Eastern Transmission, LP	2,407	2,591	3,454	1%
Tennessee Gas Pipeline Company, LLC	1,605	1,878	3,488	2%
Algonquin Gas Transmission, LLC	0	156	1,336	3%
El Paso Natural Gas Company, LLC	23	211	2,222	2%
Gas Transmission Northwest, LLC	0	54	814	2%
Florida Gas Transmission Company, LLC	2,489	2,837	4,232	2%
Southern Natural Gas Company, LLC	231	503	2,342	3%
Colorado Interstate Gas Company, LLC	25	73	1,303	1%
Gulf Crossing Pipeline Company, LLC	26	21	1,601	0%
Columbia Gas Transmission, LLC	247	1,173	2,331	10%
Gulfstream Natural Gas System, LLC	51	58	1,808	0%
Enable Gas Transmission, LLC	0	208	1,647	3%
Gulf South Pipeline Company, LP	287	560	2,227	3%
Texas Gas Transmission, LLC	0	73	1,789	1%
Kinder Morgan Louisiana Pipeline, LLC	0	-29	1,020	-1%
ANR Pipeline Company	25	354	1,499	5%

Forecast	GPMC Plan, \$m (2015-18)		2014 Net Utility Plant	2015-18 GPMC Plan/2014 Net Utility Plant
			Plant	Utility Plant
	[5]		[6]	[7]
ANR Pipeline Company - 2015-18 GPMC Plan	1,160		1,752	17%

Sources and Notes:

[1]: Source - 'U.S. Natural Gas Pipeline Projects', EIA. Release date 12/31/15.

[2]: Source - 'Total Transmission Plant: Additions', 2011-14 FERC Form 2s via SNL Energy (accessed 01/08/16).

[3]: Source - 'Net Utility Plant: Gas', 2010 FERC Form 2 via SNL Energy (accessed 01/08/16). 2011 Net Utility Plant is used for Ruby Pipeline, LLC, since its construction began in 2010 and thus 2010 Net Utility Plant is unavailable.

[4]: $(([2] - [1])/4)/[3]$.

[5]: Source - ANR Witness Hampton's testimony.

[6]: Source - 'Net Utility Plant: Gas', 2014 FERC Form 2 via SNL Energy (accessed 01/08/16).

[7]: $([5])/4/[6]$.

Workpaper 17: Winter-Summer Forward Differentials

Delivery Season	Average Forward		Delivery Season	Average Forward		Winter-Summer Differential	
	Henry Hub	Michcon		Henry Hub	Michcon	Henry Hub	Michcon
Summer 2007	7.53	7.60	Winter 2007-08	9.09	8.87	1.56	1.27
Summer 2008	9.79	9.98	Winter 2008-09	10.53	10.62	0.74	0.64
Summer 2009	4.33	4.31	Winter 2009-10	5.68	5.64	1.35	1.33
Summer 2010	4.55	4.69	Winter 2010-11	5.52	5.61	0.97	0.92
Summer 2011	4.24	4.37	Winter 2011-12	4.81	4.89	0.57	0.52
Summer 2012	2.55	2.68	Winter 2012-13	3.29	3.42	0.74	0.74
Summer 2013	3.88	3.97	Winter 2013-14	4.18	4.30	0.30	0.33
Summer 2014	4.49	4.73	Winter 2014-15	4.63	4.82	0.14	0.09
Summer 2015	2.84	2.88	Winter 2015-16	3.18	3.32	0.34	0.44

Source: The Brattle Group. Data from NYMEX via Bloomberg (accessed 11/10/15).

Note: Units are \$/Dth. Winter-Summer Differential calculated as the difference between winter contracts (November to March) and summer contracts (April to October) using average forward prices as of March in each year. Seasonal contracts data used when available, else an average over winter and summer months was used.

Workpaper 18: Average Yield for E&P Companies

Rating	Weight	Average Yield
[1]	[2]	[3]
A	6.2%	3.8%
BBB	25.3%	5.8%
BB	19.7%	6.3%
B	36.1%	6.9%
CCC	2.1%	6.9%
SD	4.5%	6.9%
D	0.1%	6.9%
Weighted Average Yield:		6.3%

Sources and Notes:

[2]: Source - Bloomberg. Calculated as the sum of index weights for each company with the corresponding rating in column [1].

Companies with 'NA' ratings excluded from this analysis.

[3]: The average yield during the month of November 2015 for a set of bond indexes with ten year terms. For A and BBB ratings, US energy-specific bond indexes were used. For BB and B ratings, US corporations-specific indexes were used. Data from Bloomberg (accessed 01/14/16). See Workpaper 19.

Workpaper 19: Average Yields for November 2015

E&P Companies

USD US Energy A+, A, A- BVAL Yield Curve	USD US Energy BBB+, BBB, BBB- BVAL Yield Curve	USD US Corporate BB+ BB BB- BVAL Curve	USD US Corporate B+ B B- BVAL Curve
A	BBB	BB	B
3.84%	5.78%	6.27%	6.92%

Utilities

USD US Utilities A+, A, A- BVAL Yield Curve	USD US Utilities BBB+, BBB, BBB- BVAL Yield Curve	Average of US Utilities A and BBB Yield Curves
A	BBB	
3.56%	3.97%	3.76%

Source: Bloomberg (accessed 01/14/16).

Note: For E&P companies rated CCC, D, and SD, the average yield for B ratings was used.