



STATE TAX COMMISSION OF MISSOURI  
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## Cost of Capital Study January 1, 2026 Staff Recommendation

<b>Electric Industry (SIC 4911)</b>			<b>Reference</b>
<b>Equity:</b>			
<b>Risk Adjusted Models</b>	CAPM	10.33%	Page 5
<b>Dividend Growth Models</b>			
	DGM or DCF Model (Dividend Growth)	9.25%	Page 7
	DGM or DCF Model (Earnings Growth)	9.35%	Page 7
	DGM or DCF Model (b * ROE = Growth)	7.50%	Page 7
	Multi Stage DCF	NM	Page 8
	<b>Average</b>	<b>9.11%</b>	
<b>Estimated Cost of Equity Capital</b>		<b>9.61%</b>	1
<b>Debt:</b>			
<b>Estimated Cost of Debt Capital</b>		<b>5.88%</b>	Page 3
<b>Cost of Capital Summary</b>			
<b>Capital Component</b>	<b>Market Capital Structure</b>	<b>Cost of Capital</b>	<b>Before-Tax Weighted Average Cost of Capital</b>
Debt	40.00%	5.88%	2.35%
Equity	60.00%	9.61%	5.77%
<b>Total</b>	<b>100.00%</b>		<b>8.12%</b>
		Rounded	<b>8.00%</b>

<sup>1</sup> Average 2025 COE (9.20%) – Average 2026 COE (9.11%) = 0.09%. 2025 Estimated COE (9.70%) – 0.09% = **9.61%**



## Cost of Capital Study

### January 1, 2026

### Staff Recommendation

Electric Industry (SIC 4911)				Reference
<b>Direct Rate</b>				
<b>Equity:</b>				
<u>Estimated Cost of Equity Capital</u>			<b>5.09%</b>	Page 9
<b>Debt:</b>				
<u>Estimated Cost of Debt Capital</u>			<b>3.20%</b>	Page 10
<b>Cost of Capital Summary</b>				
<u>Capital Component</u>	<u>Market Capital Structure</u>	<u>Cost of Capital</u>	<u>Before-Tax Weighted Average Cost of Capital</u>	
Debt	40.00%	3.20%	1.28%	
Equity	<u>60.00%</u>	5.09%	<u>3.05%</u>	
<b>Total</b>	<u><b>100.00%</b></u>		<u><b>4.33%</b></u>	
		Rounded	<u><b>4.25%</b></u>	

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of Debt Capital**

Electric Industry (SIC 4911)				
Ratings				
Company	Ticker		Moody's	S&P
Alliant Energy Corporation	LNT		Baa2	BBB+
Ameren Corporation	AEE		Baa1	BBB+
American Electric Power Company, Inc.	AEP		Baa2	BBB+
CenterPoint Energy, Inc.	CNP		Baa2	BBB+
CMS Energy Corporation	CMS		Baa2	BBB+
Entergy Corporation	ETR		Baa2	BBB+
Evergy, Inc.	EVRG		Baa2	BBB+
Fortis, Inc.	FTS.TO		Baa3	A-
MGE Energy, Inc.	MGEE		NR	NR
OGE Energy Corporation	OGE		Baa1	BBB+
Otter Tail Corporation	OTTR		Baa2	BBB
WEC Energy Group, Inc.	WEC		Baa1	A-
<b>Average Rating</b>			<b>Baa2</b>	<b>BBB+</b>
NR = Not Rated RW = Rating Withdrawn				
Mergent Bond Record, January 2026				
Corporate	Aaa	Aa	A	Baa
October	5.13%	5.29%	5.45%	5.74%
November	5.26%	5.42%	5.58%	5.78%
December	5.31%	5.49%	5.63%	5.90%
<b>Average</b>	<b>5.23%</b>	<b>5.40%</b>	<b>5.55%</b>	<b>5.81%</b>
Public Utilities	Aaa	Aa	A	Baa
October	-	5.37%	5.51%	5.71%
November	-	5.49%	5.62%	5.83%
December	-	5.57%	5.68%	5.88%
<b>Average</b>	<b>-</b>	<b>5.48%</b>	<b>5.60%</b>	<b>5.81%</b>
Industrials	Aaa	Aa	A	Baa
October	5.13%	5.21%	5.40%	5.75%
November	5.26%	5.34%	5.53%	5.88%
December	5.31%	5.41%	5.58%	5.91%
<b>Average</b>	<b>5.23%</b>	<b>5.32%</b>	<b>5.50%</b>	<b>5.85%</b>
<b>Debt Yield Rate Estimate</b>				<b>5.88%</b>
<b>Data Source:</b> <a href="https://www.moodys.com">https://www.moodys.com</a> <a href="https://standardandpoors.com">https://standardandpoors.com</a> Mergent Bond Record, January 2026				

Ratings			
Dispersions & Averages			
Agency	# of Companies		
<b>S&amp;P</b>			
AAA	1		
AA	2		
A	3	2	6
BBB	4	9	36
BB	5		
B	6		
CCC	7		
C	9		
D	10		
<b>Total</b>	<b>11</b>	<b>42</b>	
<b>Average Rating:</b>			<b>3.82</b>
Agency	# of Companies		
<b>Moody's</b>			
Aaa	1		
Aa	2		
A	3		
Baa	4	11	44
Ba	5		
B	6		
Caa	7		
Ca	8		
C	9		
<b>Total</b>	<b>11</b>	<b>44</b>	
<b>Average Rating:</b>			<b>4.00</b>

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of the Market Capital Structure**

Electric Industry (SIC 4911)								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ticker	Debt	Debt	Stock	Shares (mil)	Equity	Equity	Total Capital
Company Name	Symbol	(\$ mil)	%	Price	Outstanding	(\$ mil)	%	(\$ mil)
Alliant Energy Corporation	LNT	11,924	41.48%	65.45	257.05	16,824	58.52%	28,748
Ameren Corporation	AEE	20,075	42.72%	99.50	270.49	26,914	57.28%	46,989
American Electric Power Company, Inc.	AEP	45,397	42.25%	115.94	535.27	62,059	57.75%	107,456
CenterPoint Energy, Inc.	CNP	21,802	46.67%	38.16	652.87	24,914	53.33%	46,716
CMS Energy Corporation	CMS	18,073	45.70%	70.56	304.30	21,471	54.30%	39,544
DTE Energy	DTE	22,750	45.74%	129.96	207.68	26,990	54.26%	49,740
Entergy Corporation	ETR	30,447	42.29%	93.02	446.60	41,543	57.71%	71,990
Evergy, Inc.	EVRG	13,063	43.59%	73.42	230.21	16,902	56.41%	29,965
Fortis, Inc.	FTS.TO	33,589	56.57%	51.30	502.60	25,783	43.43%	59,372
MGE Energy, Inc.	MGEE	765	20.89%	79.29	36.54	2,897	79.11%	3,662
OGE Energy Corporation	OGE	5,835	40.14%	43.20	201.46	8,703	59.86%	14,538
Otter Tail Corporation	OTTR	1,043	23.09%	82.88	41.91	3,474	76.91%	4,517
WEC Energy Group, Inc.	WEC	20,825	37.79%	105.41	325.29	34,289	62.21%	55,114
<b>Mean:</b>		<b>18,891</b>	<b>40.69%</b>			<b>24,059</b>	<b>59.31%</b>	<b>42,950</b>
<b>Median:</b>		<b>20,075</b>	<b>42.29%</b>			<b>24,914</b>	<b>57.71%</b>	<b>46,716</b>
<b>Market Capital Structure Estimate:</b>		<b>Debt:</b>	<b>40.00%</b>			<b>Equity:</b>	<b>60.00%</b>	
<b>Data Source:</b>								
Columns (1) & (4), Value Line Industry Summary & Index, 12-05-2025								
Column (2) = Column (1) / Column (7)								
Column (3), NASDAQ, 12-31-2025 - 30-Day Average								
Column (5) = Column (3) * Column (4)								
Column (6) = Column (5) / Column (7)								
Column (7) = Column (1) + Column (5)								

**Cost of Capital Study**  
**January 1, 2026**  
**Capital Asset Pricing Model (CAPM)**

CAPM ==>  $K_e = R_f + (\beta * ERP)$

<b>Electric Industry (SIC 4911)</b>	
Risk-Free Rate ( $R_f$ )	4.80%
Beta ( $\beta$ )	0.80
Equity Risk Premium (ERP): $(R_m - R_f)^*$	6.91%
Adjusted Equity Risk Premium: $(\beta * ERP)$	5.53%
<b>Cost of Equity Capital - CAPM</b>	<b>10.33%</b>
<b>U.S. Department of the Treasury, Daily Treasury Yield Curve Rates, Selected Yields</b>	
<b>U.S. Treasury Securities:</b>	
2025 December - 30 Day Average	4.80%
2025 November - December - 60 Day Average	4.75%
2025 October - December - 90 Day Average	4.71%
<b>Risk-Free Rate of Return <math>R_f</math>, 30-year Treasury Rate. 2025 December - 30 Day Average.</b>	<b>4.80%</b>
* Equity Risk Premium = Average of 6.78% (historical) and 7.03% (Damodaran Implied ERP) - From Business Valuation Resources	

## Cost of Capital Study

January 1, 2026

### Beta ( $\beta$ ) Analysis

Electric Industry (SIC 4911)		
Company Name	Ticker Symbol	Beta " $\beta$ "
Alliant Energy Corporation	LNT	0.80
Ameren Corporation	AEE	0.80
American Electric Power Company, Inc.	AEP	0.70
CenterPoint Energy, Inc.	CNP	0.80
CMS Energy Corporation	CMS	0.70
DTE Energy	DTE	0.80
Entergy Corporation	ETR	0.75
Evergy, Inc.	EVRG	0.75
Fortis, Inc.	FTS.TO	0.50
MGE Energy, Inc.	MGEE	0.80
OGE Energy Corporation	OGE	0.85
Otter Tail Corporation	OTTR	0.90
WEC Energy Group, Inc.	WEC	0.65
<b>Mean:</b>		0.75
<b>Median:</b>		0.80
<b>Beta (<math>\beta</math>) Estimate:</b>		<b>0.80</b>
<b>Data Source:</b>		
Value Line Industry Summary & Index, 12-05-2025		

**Cost of Capital Study**  
**January 1, 2026**  
**Dividend Growth Model (DGM or DCF)**

DGM or DCF Model  $\implies K_e = \frac{D_1}{P_0} + g$  where

$K_e$  = Cost of Equity  
 $D_1$  = Expected Dividends  
 $P_0$  = Current Price  
 $g$  = Sustainable Growth

Electric Industry (SIC 4911)												
	(1)	(2)		(3)	(4)	(5)	(6)					
	Stock	Expected	Dividend	Dividend	Earnings							
	Price	Dividend	Yield	Growth	Growth					(Dividends)	(Earnings)	$g=(b * ROE)$
Company Name	Symbol	$P_0$	$D_1$	$(D_1 / P_0)$	$g$	$g$	$b$	ROE	$g=(b * ROE)$	$K_e$	$K_e$	$K_e$
Alliant Energy Corporation	LNT	65.45	2.15	3.28%	6.00%	6.00%	37.00%	11.50%	4.26%	9.28%	9.28%	7.54%
Ameren Corporation	AEE	99.50	3.03	3.05%	6.50%	6.50%	44.00%	11.00%	4.84%	9.55%	9.55%	7.89%
American Electric Power Company, Inc.	AEP	115.94	3.98	3.43%	5.50%	6.50%	37.00%	10.00%	3.70%	8.93%	9.93%	7.13%
CenterPoint Energy, Inc.	CNP	38.16	0.95	2.49%	5.50%	7.00%	52.00%	10.00%	5.20%	7.99%	9.49%	7.69%
CMS Energy Corporation	CMS	70.56	2.30	3.26%	7.50%	8.50%	40.00%	12.50%	5.00%	10.76%	11.76%	8.26%
DTE Energy	DTE	129.96	4.71	3.62%	3.00%	4.50%	40.00%	11.50%	4.60%	6.62%	8.12%	8.22%
Entergy Corporation	ETR	93.02	2.60	2.80%	5.50%	3.00%	40.00%	11.00%	4.40%	8.30%	5.80%	7.20%
Evergy, Inc.	EVRG	73.42	2.84	3.87%	7.00%	7.50%	32.00%	9.00%	2.88%	10.87%	11.37%	6.75%
Fortis, Inc.	FTS.TO	51.30	2.59	5.05%	6.00%	5.00%	18.00%	7.00%	1.26%	11.05%	10.05%	6.31%
MGE Energy, Inc.	MGEE	79.29	1.95	2.46%	7.00%	6.50%	49.00%	10.00%	4.90%	9.46%	8.96%	7.36%
OGE Energy Corporation	OGE	43.20	1.73	4.00%	3.00%	6.50%	25.00%	12.50%	3.13%	7.00%	10.50%	7.13%
Otter Tail Corporation	OTTR	82.88	2.18	2.63%	7.00%	4.50%	48.00%	12.50%	6.00%	9.63%	7.13%	8.63%
WEC Energy Group, Inc.	WEC	105.41	3.81	3.61%	7.00%	6.00%	32.00%	12.50%	4.00%	10.61%	9.61%	7.61%
<b>Mean:</b>				<b>3.35%</b>	<b>5.88%</b>	<b>6.00%</b>	<b>38.00%</b>	<b>10.85%</b>	<b>4.17%</b>	<b>9.23%</b>	<b>9.35%</b>	<b>7.52%</b>
<b>Median:</b>				<b>3.28%</b>	<b>6.00%</b>	<b>6.50%</b>	<b>40.00%</b>	<b>11.00%</b>	<b>4.40%</b>	<b>9.46%</b>	<b>9.55%</b>	<b>7.54%</b>
<b>Cost of Equity Capital - DCF <math>K_e</math> Estimate:</b>										<b>9.25%</b>	<b>9.35%</b>	<b>7.50%</b>

$b = (1 - \text{payout ratio}) = \text{Retention Ratio}$   
 $ROE = \text{Return on Book Equity}$   
**Data Source:**  
Column (1), NASDAQ, 12-31-2025, 30-day average  
Columns (2) - (6), Value Line Industry Summary & Index, 12-05-2025

**Cost of Capital Study**  
**January 1, 2026**  
**Support for Market Multiples**

<b>Electric Industry (SIC 4911)</b>				
	(1)	(2)		
<b>Company Name</b>	<b>Ticker Symbol</b>	<b>Stock Price</b>	<b>Earnings (Trailing)</b>	<b>P/E Current</b>
Alliant Energy Corporation	LNT	65.45	3.25	20.14
Ameren Corporation	AEE	99.50	5.00	19.90
American Electric Power Company, Inc.	AEP	115.94	5.90	19.65
CenterPoint Energy, Inc.	CNP	38.16	1.75	21.81
CMS Energy Corporation	CMS	70.56	3.60	19.60
DTE Energy	DTE	129.96	7.20	18.05
Entergy Corporation	ETR	93.02	4.10	22.69
Evergy, Inc.	EVRG	73.42	4.00	18.36
Fortis, Inc.	FTS.TO	51.30	3.50	14.66
MGE Energy, Inc.	MGEE	79.29	3.65	21.72
OGE Energy Corporation	OGE	43.20	2.30	18.78
Otter Tail Corporation	OTTR	82.88	6.55	12.65
WEC Energy Group, Inc.	WEC	105.41	5.25	20.08
<b>Mean</b>				<b>19.17</b>
<b>Median</b>				<b>19.65</b>
<b>P/E Estimate</b>				<b>19.65</b>
<b>Equity Rate</b>				<b>5.09%</b>
<b>Data Source:</b>				
Column (1) NASDAQ, 12-31-2025 NASDAQ, 30-day average				
Column (2) Value Line Industry Summary & Index, 12-05-2025				

**Cost of Capital Study**  
**January 1, 2026**  
**Direct Debt Rate Calculation**

<b>Electric Industry (SIC 4911)</b>	
<b>Direct Capitalization Debt Rate</b>	
Interest Expense (\$ mil)	7,379
Total Value of LT Debt (TVLTD) (\$ mil)	230,250
<b>Current Yield = Interest Expense/TVLTD</b>	<b>3.20%</b>
<b>Data Source:</b> Value Line Investment Survey, 12-05-2025	



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## Cost of Capital Study January 1, 2026 Staff Recommendation

Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)			Reference
<b>Equity:</b>			
<b>Risk Adjusted Models</b>			Page 5
	CAPM	12.12%	
<b>Dividend Growth Models</b>			Page 7 Page 7 Page 7 Page 8
	DGM or DCF Model (Dividend Growth)	11.10%	
	DGM or DCF Model (Earnings Growth)	8.89%	
	DGM or DCF Model (b * ROE = Growth)	9.81%	
	Multi Stage DCF	NM	
	<b>Average</b>	<b>10.48%</b>	
<b>Estimated Cost of Equity Capital</b>		<b>13.29%</b>	1
<b>Debt:</b>			Page 3
<b>Estimated Cost of Debt Capital</b>		<b>5.83%</b>	
<b>Cost of Capital Summary</b>			
<b>Capital Component</b>	<b>Market Capital Structure</b>	<b>Cost of Capital</b>	<b>Before-Tax Weighted Average Cost of Capital</b>
Debt	30.00%	5.83%	1.75%
Equity	70.00%	13.29%	9.30%
<b>TOTAL</b>	<b>100.00%</b>		<b>11.05%</b>
		Rounded	<b>11.00%</b>

<sup>1</sup> Average 2025 COE (10.90%) – Average 2026 COE (10.48%) = 0.42%. 2025 Estimated COE (13.71%) – 0.42% = **13.29%**



## Cost of Capital Study January 1, 2026 Staff Recommendation

Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)				Reference
<b>Direct Rate</b>				
<b>Equity:</b>				
	<u>Estimated Cost of Equity Capital</u>	<b>5.88%</b>		Page 9
<b>Debt:</b>				
	<u>Estimated Cost of Debt Capital</u>	<b>3.60%</b>		Page 10
<b>Cost of Capital Summary</b>				
<u>Capital Component</u>	<u>Market Capital Structure</u>	<u>Cost of Capital</u>	<u>Before-Tax Weighted Average Cost of Capital</u>	
Debt	30.00%	3.60%	1.08%	
Equity	<u>70.00%</u>	5.88%	<u>4.12%</u>	
<b>Total</b>	<b><u>100.00%</u></b>		<b><u>5.20%</u></b>	
		Rounded	<b><u>5.25%</u></b>	

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of Debt Capital**

Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)				
Ratings				
Company	Ticker		Moody's	S&P
Cheniere Energy PTRS	CQP		Baa3	BBB
Devon Energy	DVN		Baa2	BBB
Enbridge, Inc.	ENB.TO		Baa2	BBB+
Enterprise Products	EPD		A3	A-
EOG Resources	EOG		A3	A-
Exxon Mobil Corp.	XOM		Aa2	AA-
Hess Midstream	HESM		Ba1	BB+
Kinder Morgan, Inc.	KMI		Baa2	BBB
Marathon Petroleum	MPC		Baa2	BBB
National Fuel Gas	NFG		Baa3	BBB-
Oneok, Inc	OKE		Baa2	BBB
Ovintiv	OVV		Baa3	BBB-
Phillips 66	PSX		A3	BBB+
Valero Energy	VLO		Baa2	BBB
Western Midstream	WES		Baa3	BBB-
Williams Co, Inc.	WMB		Baa2	BBB

Average Rating	Baa	BBB		
NR = Not Rated				
RW = Rating Withdrawn				
<b>Mergent Bond Record, January 2026</b>				
<b>Corporate</b>	<b>Aaa</b>	<b>Aa</b>	<b>A</b>	<b>Baa</b>
October	5.13%	5.29%	5.45%	5.74%
November	5.26%	5.42%	5.58%	5.78%
December	5.31%	5.49%	5.63%	5.90%
<b>Average</b>	<b>5.23%</b>	<b>5.40%</b>	<b>5.55%</b>	<b>5.81%</b>
<b>Public Utilities</b>	<b>Aaa</b>	<b>Aa</b>	<b>A</b>	<b>Baa</b>
October	-	5.37%	5.51%	5.71%
November	-	5.49%	5.62%	5.83%
December	-	5.57%	5.68%	5.88%
<b>Average</b>	<b>-</b>	<b>5.48%</b>	<b>5.60%</b>	<b>5.81%</b>
<b>Industrials</b>	<b>Aaa</b>	<b>Aa</b>	<b>A</b>	<b>Baa</b>
October	5.13%	5.21%	5.40%	5.75%
November	5.26%	5.34%	5.53%	5.88%
December	5.31%	5.41%	5.58%	5.91%
<b>Average</b>	<b>5.23%</b>	<b>5.32%</b>	<b>5.50%</b>	<b>5.85%</b>
<b>Debt Yield Rate Estimate</b>				<b>5.83%</b>
<b>Data Source:</b>				
<a href="https://www.moodys.com">https://www.moodys.com</a>				
<a href="https://standardandpoors.com">https://standardandpoors.com</a>				
Mergent Bond Record, January 2026				

Ratings				
Dispersions & Averages				
Agency	# of Companies			
<b>S&amp;P</b>				
AAA	1			
AA	2	1	2	
A	3	2	6	
BBB	4	12	48	
BB	5	1	5	
B	6			
CCC	7			
C	9			
D	10			
<b>Total</b>		<b>16</b>	<b>61</b>	
<b>Average Rating:</b>				<b>3.81</b>
<b>Moody's</b>				
	# of Companies			
Aaa	1			
Aa	2	1	2	
A	3	3	9	
Baa	4	11	44	
Ba	5	1	5	
B	6			
Caa	7			
Ca	8			
C	9			
<b>Total</b>		<b>16</b>	<b>60</b>	
<b>Average Rating:</b>				<b>3.75</b>

<sup>1</sup> - 'A' (5.68%) and 'Baa' (5.88%) Ratings - 3.75 Assigned Value. Debt Cost lies at the 75 percentile of the range 5.68 and 5.88 which is 5.83%.

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of the Market Capital Structure**

<b>Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)</b>								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
<b>Company Name</b>	<b>Stock Symbol</b>	<b>Debt (\$ mil)</b>	<b>Debt %</b>	<b>Stock Price</b>	<b>Shares (mil) Outstanding</b>	<b>Equity (\$ mil)</b>	<b>Equity %</b>	<b>Total Capital (\$ mil)</b>
Cheniere Energy PTRS	CQP	14,761	36.11%	53.96	484.00	26,117	63.89%	40,878
Devon Energy	DVN	8,391	26.65%	36.84	627.00	23,099	73.35%	31,490
Enbridge, Inc.	ENB.TO	102,400	49.67%	47.57	2,181.00	103,750	50.33%	206,150
Enterprise Products	EPD	33,578	99.79%	32.17	2.16	70	0.21%	33,648
EOG Resources	EOG	7,694	11.72%	106.85	542.60	57,977	88.28%	65,671
Exxon Mobil Corp.	XOM	42,036	7.79%	118.02	4,217.00	497,690	92.21%	539,726
Hess Midstream	HESM	3,795	46.12%	34.26	129.39	4,433	53.88%	8,228
Kinder Morgan, Inc.	KMI	32,600	35.14%	27.05	2,224.00	60,159	64.86%	92,759
Marathon Petroleum	MPC	32,844	37.97%	178.52	300.60	53,663	62.03%	86,507
National Fuel Gas	NFG	2,833	27.72%	81.74	90.38	7,388	72.28%	10,221
Oneok, Inc	OKE	33,727	42.12%	73.58	629.76	46,338	57.88%	80,065
Ovintiv	OVV	5,212	34.12%	39.74	253.26	10,065	65.88%	15,277
Phillips 66	PSX	21,755	28.58%	134.92	402.92	54,362	71.42%	76,117
Valero Energy	VLO	10,581	17.03%	169.03	305.01	51,556	82.97%	62,137
Western Midstream	WES	6,937	30.20%	39.30	408.00	16,034	69.80%	22,971
Williams Co, Inc.	WMB	27,987	27.55%	60.26	1,221.22	73,591	72.45%	101,578
<b>Mean:</b>		<b>24,196</b>	<b>34.89%</b>			<b>67,893</b>	<b>65.11%</b>	<b>92,089</b>
<b>Median:</b>		<b>18,258</b>	<b>32.16%</b>			<b>48,947</b>	<b>67.84%</b>	<b>63,904</b>
<b>Market Capital Structure Estimate:</b>		<b>Debt:</b>	<b>30.00%</b>			<b>Equity:</b>	<b>70.00%</b>	

**Data Source:**

Columns (1) & (4), Value Line Industry Summary & Index, 11-21-2025  
Column (2) = Column (1) / Column (7)  
Column (3), NASDAQ, 11-31-2025  
Column (5) = Column (3) \* Column (4)  
Column (7) = Column (1) + Column (5)

**Cost of Capital Study**  
**January 1, 2026**  
**Capital Asset Pricing Model (CAPM)**

CAPM ==>  $K_e = R_f + \beta (ERP)$

<b>Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)</b>	
Risk-Free Rate	4.80%
Beta ( $\beta$ )	1.06
Equity Risk Premium (ERP): $(R_m - R_f)^*$	6.91%
Adjusted Equity Risk Premium: $(\beta * ERP)$	7.32%
<b>Cost of Equity Capital - CAPM</b>	<b>12.12%</b>
<b>U.S. Department of the Treasury, Daily Treasury Yield Curve Rates, Selected Yields</b>	
<b>U.S. Treasury Securities:</b>	
2025 December - 30 Day Average	4.80%
2025 November - December - 60 Day Average	4.75%
2025 October - December - 90 Day Average	4.71%
<b>Risk-Free Rate of Return <math>R_f</math>, 30-year Treasury Rate. 2025 December - 30 Day Average.</b>	<b>4.80%</b>

\* Equity Risk Premium = Average of 6.78% (historical) and 7.03% (Damodaran Implied ERP) - From Business Valuation Resources

## Cost of Capital Study

January 1, 2026

### Beta ( $\beta$ ) Analysis

Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)			
Company Name	Stock Symbol		Beta " $\beta$ "
Cheniere Energy PTRS	CQP		0.95
Chevron Corp.	CVX		0.95
Devon Energy	DVN		1.40
Enbridge, Inc.	ENB.TO		0.70
Enterprise Products	EPD		0.90
EOG Resources	EOG		1.15
Exxon Mobil Corp.	XOM		0.90
Hess Midstream	HESM		0.95
Kinder Morgan, Inc.	KMI		1.00
Marathon Petroleum	MPC		1.15
National Fuel Gas	NFG		0.85
Oneok, Inc	OKE		1.30
Ovintiv	OVV		1.45
Phillips 66	PSX		1.20
Valero Energy	VLO		1.15
Western Midstream	WES		1.15
Williams Co, Inc.	WMB		0.95
<b>Mean:</b>			<b>1.06</b>
<b>Median:</b>			<b>1.00</b>
<b>Beta (<math>\beta</math>) Estimate:</b>			<b>1.06</b>
<b>Data Source:</b>			
Value Line Industry Summary & Index, 11-21-2025			

**Cost of Capital Study**  
**January 1, 2026**  
**Dividend Growth Model (DGM or DCF)**

DGM or DCF Model ==>  $K_e =$

$$\frac{D_1}{P_0} + g$$

where

$K_e$  = Cost of Equity  
 $D_1$  = Expected Dividends  
 $P_0$  = Current Price  
 $g$  = Sustainable Growth

Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)													
Company Name	Stock Symbol	(1)	(2)	Dividend Yield ( $D_1 / P_0$ )	(3)	(4)	(5)			(6)	(Dividends) $K_e$	(Earnings) $K_e$	$g=(b * ROE)$ $K_e$
		Stock Price $P_0$	Expected Dividend $D_1$		Dividend Growth $g$	Earnings Growth $g$	b	ROE	$g=(b * ROE)$				
Cheniere Energy PTRS	CQP	53.96	3.28	6.08%	6.00%	2.00%	37.00%	NMF	NMF	12.08%	8.08%	NMF	
Devon Energy	DVN	36.84	1.04	2.82%	8.00%	-1.50%	76.00%	16.00%	12.16%	10.82%	1.32%	14.98%	
Enbridge, Inc.	ENB.TO	47.57	3.90	8.20%	2.50%	5.00%	NMF	9.50%	NMF	10.70%	13.20%	NMF	
Enterprise Products	EPD	32.17	2.24	6.96%	10.50%	6.00%	17.00%	19.00%	3.23%	17.46%	12.96%	10.19%	
EOG Resources	EOG	106.85	4.15	3.88%	8.50%	3.50%	61.00%	18.50%	11.29%	12.38%	7.38%	15.17%	
Exxon Mobil Corp.	XOM	118.02	4.20	3.56%	3.50%	-3.00%	42.00%	10.50%	4.41%	7.06%	0.56%	7.97%	
Hess Midstream	HESM	34.26	3.10	9.05%	9.00%	10.50%	-7.00%	85.00%	-5.95%	18.05%	19.55%	3.10%	
Kinder Morgan, Inc.	KMI	27.05	1.19	4.40%	5.50%	8.50%	6.00%	8.50%	0.51%	9.90%	12.90%	4.91%	
Marathon Petroleum	MPC	178.52	4.00	2.24%	6.00%	-8.00%	64.00%	17.00%	10.88%	8.24%	-5.76%	13.12%	
National Fuel Gas	NFG	81.74	2.18	2.67%	4.50%	9.50%	70.00%	20.40%	14.28%	7.17%	12.17%	16.95%	
Oneok, Inc	OKE	73.58	4.28	5.82%	4.00%	10.50%	24.00%	16.00%	3.84%	9.82%	16.32%	9.66%	
Ovintiv	OVV	39.74	1.34	3.37%	8.00%	2.00%	74.00%	11.00%	8.14%	11.37%	5.37%	11.51%	
Phillips 66	PSX	134.92	4.95	3.67%	5.00%	NMF	NMF	6.00%	NMF	8.67%	NMF	NMF	
Valero Energy	VLO	169.03	4.72	2.79%	5.50%	-4.50%	30.00%	8.50%	2.55%	8.29%	-1.71%	5.34%	
Western Midstream	WES	39.30	3.75	9.54%	9.00%	8.50%	0.00%	42.50%	0.00%	18.54%	18.04%	9.54%	
Williams Co, Inc.	WMB	60.26	2.09	3.47%	3.50%	9.50%	7.00%	22.50%	1.58%	6.97%	12.97%	5.05%	
<b>Mean:</b>				<b>4.91%</b>	<b>6.19%</b>	<b>3.90%</b>	<b>35.79%</b>	<b>20.73%</b>	<b>5.15%</b>	<b>11.10%</b>	<b>8.89%</b>	<b>9.81%</b>	
<b>Median:</b>				<b>3.78%</b>	<b>5.75%</b>	<b>5.00%</b>	<b>33.50%</b>	<b>16.00%</b>	<b>3.84%</b>	<b>10.30%</b>	<b>12.17%</b>	<b>9.66%</b>	
<b>Cost of Equity Capital - DCF <math>K_e</math> Estimate:</b>										<b>11.10%</b>	<b>8.89%</b>	<b>9.81%</b>	

**Notes:**  
 $b = (1 - \text{payout ratio}) = \text{Retention Ratio}$   
 $ROE = \text{Return on Book Equity}$   
 Not Meaningful (NMF)

**Data Source:**  
 Column (1), NASDAQ, 12-31-2025, 30-day average  
 Columns (2) - (6), Value Line Industry Summary & Index, 11-21-2025

**Cost of Capital Study**  
**January 1, 2026**  
**Support for Market Multiples**

<b>Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)</b>					
		<b>(1)</b>	<b>(2)</b>		
<b>Company Name</b>	<b>Ticker</b>	<b>Stock Price</b>	<b>Earnings</b>	<b>P/E Multiple</b>	
Cheniere Energy PTRS	CQP	53.96	3.90	13.84	
Devon Energy	DVN	36.84	4.00	9.21	
Enbridge, Inc.	ENB.TO	47.57	2.85	16.69	
Enterprise Products	EPD	32.17	2.60	12.37	
EOG Resources	EOG	106.85	10.20	10.48	
Exxon Mobil Corp.	XOM	118.02	7.00	16.86	
Hess Midstream	HESM	34.26	2.70	12.69	
Kinder Morgan, Inc.	KMI	27.05	1.25	21.64	
Marathon Petroleum	MPC	178.52	10.25	17.42	
National Fuel Gas	NFG	81.74	6.91	11.83	
Oneok, Inc	OKE	73.58	5.50	13.38	
Ovintiv	OVV	39.74	4.55	8.73	
Phillips 66	PSX	134.92	3.80	35.51	
Valero Energy	VLO	169.03	6.50	26.00	
Western Midstream	WES	39.30	3.55	11.07	
Williams Co, Inc.	WMB	60.26	2.15	28.03	
<b>Mean:</b>				<b>16.61</b>	
<b>Median:</b>				<b>13.61</b>	
<b>P/E Estimate:</b>				<b>17.00</b>	
<b>Equity Rate:</b>				<b>5.88%</b>	
<b>Data Source:</b>					
(1) NASDAQ, 12-30-2025 December, 2025 30-Day Average					
(2) Value Line Industry Summary & Index, 11-21-2025					

**Cost of Capital Study**  
**January 1, 2026**  
**Direct Debt Rate Calculation**

<b>Fluid/Natural Gas Pipeline Industries (SIC 4612/4922)</b>	
<b>Direct Capitalization Debt Rate</b>	
Interest Expense (\$ mil)	\$ 14,350
Total Value of Debt (TVD) (\$ mil)	\$ 398,364
<b>Current Yield = Interest Expense/TVD</b>	<b>3.60%</b>
<b>Data Source:</b>	
Value Line Investment Survey, 11-21-2025	



## Cost of Capital Study

### January 1, 2026

#### Staff Recommendation

Railroad Class I Industry (SIC 4011)			Reference
<b>Equity:</b>			
<b>Risk Adjusted Models</b>			
CAPM		11.36%	Page 5
<b>Dividend Growth Models</b>			
	DGM or DCF Model (Dividend Growth)	10.00%	Page 7
	DGM or DCF Model (Earnings Growth)	10.70%	Page 7
	DGM or DCF Model (b * ROE = Growth)	15.00%	Page 7
	Multi Stage DCF	NA	Page 8
	<b>Average</b>	<b>11.77%</b>	
<b>Estimated Cost of Equity Capital</b>		<b>12.33%</b>	1
<b>Debt:</b>			
<b>Estimated Cost of Debt Capital</b>		<b>5.71%</b>	Page 3
<b>Cost of Capital Summary</b>			
Capital Component	Market Capital Structure	Cost of Capital	Before-Tax Weighted Average Cost of Capital
Debt	20.00%	5.71%	1.14%
Equity	80.00%	12.33%	9.86%
<b>Total</b>	<b>100.00%</b>		<b>11.00%</b>
		Rounded	<b>11.00%</b>

<sup>1</sup> Average 2025 COE (11.87%) – Average 2026 COE (11.77%) = 0.10%. 2025 Estimated COE (12.43%) – 0.10% = **12.33%**.



## Cost of Capital Study January 1, 2026 Staff Recommendation

Railroad Non-Class I Industry (SIC 4013)				Reference
<b>Equity:</b>				
<b>Risk Adjusted Models</b>				
	CAPM		11.36%	Page 5
<b>Dividend Growth Models</b>				
		DGM or DCF Model (Dividend Growth)	10.00%	Page 7
		DGM or DCF Model (Earnings Growth)	10.70%	Page 7
		DGM or DCF Model (b * ROE = Growth)	15.00%	Page 7
		Multi Stage DCF	NA	Page 8
	<b>Average</b>		<b>11.77%</b>	
<b>Estimated Cost of Equity Capital</b>			<b>12.33%</b>	
<b>Debt:</b>				
<b>Estimated Cost of Debt Capital</b>			<b>5.71%</b>	Page 3
<b>Cost of Capital Summary</b>				
<b>Capital Component</b>	<b>Market Capital Structure</b>	<b>Cost of Capital</b>	<b>Before-Tax Weighted Average Cost of Capital</b>	
Debt	20.00%	5.71%	1.14%	
Equity	80.00%	12.33%	9.86%	
<b>Total</b>	<b>100.00%</b>		<b>11.00%</b>	
		Rounded	<b>11.25%</b>	



## Cost of Capital Study

### January 1, 2026

### Staff Recommendation

<b>Railroad Class I Industry (SIC 4011)</b>				<b>Reference</b>
<b>Direct Rate</b>				
<b>Equity:</b>				
	<u>Estimated Cost of Equity Capital</u>	<b>4.68%</b>		Page 9
<b>Debt:</b>				
	<u>Estimated Cost of Debt Capital</u>	<b>4.15%</b>		Page 10
<b>Cost of Capital Summary</b>				
<u>Capital Component</u>	<u>Market Capital Structure</u>	<u>Cost of Capital</u>	<u>Before-Tax Weighted Average Cost of Capital</u>	
Debt	20.00%	4.15%	0.83%	
Equity	<u>80.00%</u>	4.68%	<u>3.74%</u>	
<b>Total</b>	<b><u>100.00%</u></b>		<b><u>4.57%</u></b>	
		Rounded	<b><u>4.50%</u></b>	

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of Debt Capital**

<b>Railroad Class I Industry (SIC 4011)</b>				
			<b>Ratings</b>	
<b>Company</b>	<b>Ticker</b>		<b>Moody's</b>	<b>S&amp;P</b>
Canadian National Railway	CNI		A2	A-
Canadian Pacific Kansas City	CP		Baa1	BBB+
CSX Corp.	CSX		A3	BBB+
Norfolk Southern Corp.	NSC		Baa1	BBB+
Union Pacific Corp.	UNP		A3	A-
<b>Average Rating</b>			<b>A</b>	<b>BBB</b>
NR = Not Rated				
RW = Rating Withdrawn				
<b>Mergent Bond Record, January 2026</b>				
<b>Corporate</b>	<b>Aaa</b>	<b>Aa</b>	<b>A</b>	<b>Baa</b>
October	5.13%	5.29%	5.45%	5.74%
November	5.26%	5.42%	5.58%	5.78%
December	5.31%	5.49%	5.63%	5.90%
<b>Average</b>	<b>5.23%</b>	<b>5.40%</b>	<b>5.55%</b>	<b>5.81%</b>
<b>Public Utilities</b>	<b>Aaa</b>	<b>Aa</b>	<b>A</b>	<b>Baa</b>
October	-	5.37%	5.51%	5.71%
November	-	5.49%	5.62%	5.83%
December	-	5.57%	5.68%	5.88%
<b>Average</b>	<b>-</b>	<b>5.48%</b>	<b>5.60%</b>	<b>5.81%</b>
<b>Industrials</b>	<b>Aaa</b>	<b>Aa</b>	<b>A</b>	<b>Baa</b>
October	5.13%	5.21%	5.40%	5.75%
November	5.26%	5.34%	5.53%	5.88%
December	5.31%	5.41%	5.58%	5.91%
<b>Average</b>	<b>5.23%</b>	<b>5.32%</b>	<b>5.50%</b>	<b>5.85%</b>
<b>Debt Yield Rate Estimate</b>				<b>5.71%</b>
<b>Data Sources:</b> <a href="https://www.moodys.com">https://www.moodys.com</a> <a href="https://standardandpoors.com">https://standardandpoors.com</a> Mergent Bond Record, January 2026				

<b>Ratings</b>				
<u>Dispersions &amp; Averages Number of Companies</u>				
<b>Agency</b>				
<b>S&amp;P</b>				
AAA	1			
AA	2			
A	3	2	6	
BBB	4	3	12	
BB	5			
B	6			
CCC	7			
C	9			
D	10			
<b>Total</b>		<b>5</b>	<b>18</b>	
<b>Average Rating:</b>			<b>3.60</b>	
<b>Agency</b>				
<b>Moody's</b>				
Aaa	1			
Aa	2			
<b>A</b>	<b>3</b>	<b>3</b>	<b>9</b>	
<b>Baa</b>	<b>4</b>	<b>2</b>	<b>8</b>	
Ba	5			
B	6			
Caa	7			
Ca	8			
C	9			
<b>Total</b>		<b>5</b>	<b>17</b>	
<b>Average Rating:</b>			<b>3.40</b>	

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of the Market Capital Structure**

Railroad Class I Industry (SIC 4011)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Company Name	Stock Symbol	Debt (\$ mil)	Debt %	Stock Price	Shares (mil) Outstanding	Equity (\$ mil)	Equity %	Total Capital (\$ mil)
Canadian National Railway	CNI	15,200	20.05%	98.15	617.70	60,627	79.95%	75,827
Canadian Pacific Kansas City	CP	17,200	20.50%	74.05	900.83	66,707	79.50%	83,907
CSX Corp.	CSX	19,200	22.05%	36.46	1,862.14	67,894	77.95%	87,094
Norfolk Southern Corp.	NSC	17,100	20.65%	292.82	224.39	65,706	79.35%	82,806
Union Pacific Corp.	UNP	31,800	18.58%	234.90	593.16	139,333	81.42%	171,133
<b>Mean:</b>		<b>20,100</b>	<b>20.37%</b>			<b>80,053.40</b>	<b>79.63%</b>	<b>100,153</b>
<b>Median:</b>		<b>17,200</b>	<b>20.50%</b>			<b>66,707.00</b>	<b>79.50%</b>	<b>83,907</b>
<b>Market Capital Structure Estimate:</b>		<b>Debt:</b>	<b>20.00%</b>			<b>Equity:</b>	<b>80.00%</b>	
<b>Data Source:</b>								
Columns (1) & (4), Value Line Industry Summary & Index, 11-14-2025								
Column (2) = Column (1) / Column (7)								
Column (3), NASDAQ, 12-30-2025								
Column (5) = Column (3) * Column (4)								
Column (7) = Column (1) + Column (5)								

**Cost of Capital Study**  
**January 1, 2026**  
**Capital Asset Pricing Model (CAPM)**

CAPM ==>  $K_e = R_f + \beta (ERP)$

<b>Railroad Class I Industry (SIC 4011)</b>	
Risk-Free Rate	4.80%
Beta ( $\beta$ )	0.95
Equity Risk Premium (ERP): $(R_m - R_f)^*$	6.91%
Adjusted Equity Risk Premium: $(\beta * ERP)$	6.56%
<b>Cost of Equity Capital - CAPM</b>	<b>11.36%</b>
<b>U.S. Department of the Treasury, Daily Treasury Yield Curve Rates, Selected Yields</b>	
<b>U.S. Treasury Securities:</b>	
2025 December - 30 Day Average	4.80%
2025 November - December - 60 Day Average	4.75%
2025 October - December - 90 Day Average	4.71%
<b>Risk-Free Rate of Return <math>R_f</math>, 30-year Treasury Rate. 2025 December - 30 Day Average.</b>	<b>4.80%</b>

\* Equity Risk Premium = Average of 6.78% (historical) and 7.03% (Damodaran Implied ERP) - From Business Valuation Resources

## Cost of Capital Study

January 1, 2026

Beta ( $\beta$ ) Analysis

Railroad Class I Industry (SIC 4011)			
Company Name	Stock Symbol		Beta " $\beta$ "
Canadian National Railway	CNI		0.95
Canadian Pacific Kansas City	CP		0.95
CSX Corp.	CSX		1.00
Norfolk Southern Corp.	NSC		1.00
Union Pacific Corp.	UNP		0.95
<b>Mean:</b>			0.97
<b>Median:</b>			0.95
<b>Beta (<math>\beta</math>) Estimate:</b>			<b>0.95</b>
<b>Data Source:</b>			
Value Line Industry Summary & Index, 11-14-2025			

**Cost of Capital Study**  
**January 1, 2026**  
**Dividend Growth Model (DGM or DCF)**

DGM or DCF Model ==>  $K_e = \frac{D_1}{P_0} + g$  where  
 $K_e$  = Cost of Equity  
 $D_1$  = Expected Dividends  
 $P_0$  = Current Price  
 $g$  = Sustainable Growth

Railroad Class I Industry (SIC 4011)												
		(1)	(2)			(3)	(4)	(5)	(6)			
Company Name	Stock Symbol	Stock Price $P_0$	Expected Dividend $D_1$	Dividend Yield $(D_1 / P_0)$	Dividend Growth $g$	Earnings Growth $g$				(Dividends) $K_e$	(Earnings) $K_e$	$g=(b * ROE)$ $K_e$
							b	ROE	$g=(b * ROE)$			
Canadian National Railway	CNI	98.15	2.80	2.85%	9.00%	8.00%	52.00%	22.50%	11.70%	11.85%	10.85%	14.55%
Canadian Pacific Kansas City	CP	74.05	0.64	0.86%	9.00%	10.00%	80.00%	8.00%	6.40%	9.86%	10.86%	7.26%
CSX Corp.	CSX	36.46	0.60	1.65%	12.50%	8.50%	68.00%	24.00%	16.32%	14.15%	10.15%	17.97%
Norfolk Southern Corp.	NSC	292.82	5.40	1.84%	4.50%	11.00%	56.00%	18.00%	10.08%	6.34%	12.84%	11.92%
Union Pacific Corp.	UNP	234.90	5.60	2.38%	5.00%	6.50%	54.00%	39.00%	21.06%	7.38%	8.88%	23.44%
<b>Mean:</b>				<b>1.92%</b>	<b>8.00%</b>	<b>8.80%</b>	<b>62.00%</b>	<b>22.30%</b>	<b>13.11%</b>	<b>9.92%</b>	<b>10.72%</b>	<b>15.03%</b>
<b>Median:</b>				<b>1.84%</b>	<b>9.00%</b>	<b>8.50%</b>	<b>56.00%</b>	<b>22.50%</b>	<b>11.70%</b>	<b>9.86%</b>	<b>10.85%</b>	<b>14.55%</b>
<b>Cost of Equity Capital - DCF <math>K_e</math> Estimate:</b>										<b>10.00%</b>	<b>10.70%</b>	<b>15.00%</b>

-  
 $b = (1 - \text{payout ratio}) = \text{Retention Ratio}$   
 $ROE = \text{Return on Book Equity}$   
 Not Meaningful (NMF)  
**Data Source:**  
 Column (1), NASDAQ, December Closing Average  
 Columns (2) - (6), Value Line Industry Summary & Index, 11-15-2025

**Cost of Capital Study**  
**January 1, 2026**  
**Support for Market Multiples**

<b>Railroad Class I Industry (SIC 4011)</b>				
		<b>(1)</b>	<b>(2)</b>	
<b>Company Name</b>	<b>Ticker</b>	<b>Stock Price</b>	<b>Earnings</b>	<b>P/E Multiple</b>
Canadian National Railway	CNI	98.15	5.50	17.85
Canadian Pacific Kansas City	CP	74.05	3.15	23.51
CSX Corp.	CSX	36.46	1.65	22.10
Norfolk Southern Corp.	NSC	292.82	12.40	23.61
Union Pacific Corp.	UNP	234.90	11.85	19.82
<b>Mean</b>				<b>21.38</b>
<b>Median</b>				<b>22.10</b>
<b>P/E Estimate</b>				<b>21.38</b>
<b>Equity Rate</b>				<b>4.68%</b>
<b>Data Source:</b>				
Column (1) NASDAQ, December Closing Average				
Column (2) Value Line Industry Summary & Index, 11-15-2025				

**Cost of Capital Study**  
**January 1, 2026**  
**Direct Debt Rate Calculation**

<b>Railroad Class I (SIC 4011)</b>	
<b>Direct Capitalization Debt Rate</b>	
Interest Expense (\$ mil)	\$ 3,944
Total Value of Debt (TVD) (\$ mil)	\$ 95,000
<b>Current Yield = Interest Expense/TVD</b>	<b>4.15%</b>
<b>Data Source:</b> Value Line Investment Survey, 11-14-2025	



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## Cost of Capital Study January 1, 2026 Staff Recommendation

Telecommunications Industry (SIC 4813)			Reference
<b>Equity:</b>			
<b>Risk Adjusted Models</b>			
CAPM	10.88%		Page 5
<b>Dividend Growth Models</b>			
DGM or DCF Model (Dividend Growth)	14.00%		Page 7
DGM or DCF Model (Earnings Growth)	13.75%		Page 7
DGM or DCF Model (b * ROE = Growth)	14.25%		Page 7
Multi Stage DCF	NA		Page 8
<b>Average</b>	<b>13.22%</b>		
<b>Estimated Cost of Equity Capital</b>		<b>16.16%</b>	1
<b>Debt:</b>			
<b>Estimated Cost of Debt Capital</b>		<b>6.02%</b>	Page 3
<b>Cost of Capital Summary</b>			
Capital Component	Market Capital Structure	Cost of Capital	Before-Tax Weighted Average Cost of Capital
Debt	55.00%	6.02%	3.31%
Equity	45.00%	16.16%	7.27%
<b>Total</b>	<b>100.00%</b>		<b>10.58%</b>
		Rounded	<b>10.50%</b>

<sup>1</sup> Average 2025 COE (12.09%) – Average 2026 COE (11.77%) = 0.10%. 2025 Estimated COE (15.03%) + 1.13% = **16.16%**.



## Cost of Capital Study

### January 1, 2026

### Staff Recommendation

Telecommunications Industry (SIC 4813)				Reference
<b>Direct Rate</b>				
<b>Equity:</b>				
<u>Estimated Cost of Equity Capital</u>			<b>11.66%</b>	Page 9
<b>Debt:</b>				
<u>Estimated Cost of Debt Capital</u>			<b>4.80%</b>	Page 10
<b>Cost of Capital Summary</b>				
<u>Capital Component</u>	<u>Market Capital Structure</u>	<u>Cost of Capital</u>	<u>Before-Tax Weighted Average Cost of Capital</u>	
Debt	55.00%	4.80%	2.64%	
Equity	<u>45.00%</u>	11.66%	<u>5.25%</u>	
<b>Total</b>	<b><u>100.00%</u></b>		<b><u>7.89%</u></b>	
		Rounded	<b><u>8.00%</u></b>	

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of Debt Capital**

Telecommunications Industry (SIC: 4813)					
Ratings					
Company	Ticker		Moody's	S&P	
AT&T	T		Baa2	BBB	
Cable One	CABO		Ba3	BB	
Comcast Corporation	CMCSA		A3	A-	
Deutsche Telekom	DTEGY		A3	BBB+	
Lumen Technologies	LUMN		B3	CCC+	
Shenandoah Telecommunications	SHEN		NPS	AA	
		<b>Average Rating</b>	<b>Baa</b>	<b>BBB</b>	
NR = Not Rated					
RW = Rating Withdrawn					
Mergent Bond Record, January 2026					
Corporate		Aaa	Aa	A	Baa
October		5.13%	5.29%	5.45%	5.74%
November		5.26%	5.42%	5.58%	5.78%
December		5.31%	5.49%	5.63%	5.90%
<b>Average</b>		<b>5.23%</b>	<b>5.40%</b>	<b>5.55%</b>	<b>5.81%</b>
Public Utilities		Aaa	Aa	A	Baa
October		-	5.37%	5.51%	5.71%
November		-	5.49%	5.62%	5.83%
December		-	5.57%	5.68%	5.88%
<b>Average</b>		<b>-</b>	<b>5.48%</b>	<b>5.60%</b>	<b>5.81%</b>
Industrials		Aaa	Aa	A	Baa
October		5.13%	5.21%	5.40%	5.75%
November		5.26%	5.34%	5.53%	5.88%
December		5.31%	5.41%	5.58%	5.91%
<b>Average</b>		<b>5.23%</b>	<b>5.32%</b>	<b>5.50%</b>	<b>5.85%</b>
<b>Debt Yield Rate Estimate</b>					
<b>6.02%</b>					
<b>Data Source:</b>					
<a href="https://www.moodys.com">https://www.moodys.com</a>					
<a href="https://standardandpoors.com">https://standardandpoors.com</a>					
Mergent Bond Record, January 2026					
<a href="#">ICE BofA Single-B US High Yield Index Option-Adjusted Spread   FRED   St. Louis Fed</a>					

Ratings				
Dispersions & Averages Number of Companies				
Agency				
S&P				
AAA	1			
AA	2	1		
A	3	1	3	
BBB	4	2	8	
BB	5	1	5	
B	6			
CC	8	1	8	
C	9			
D	10			
<b>Total</b>		<b>6</b>	<b>24</b>	
<b>Average Rating:</b>			<b>4.00</b>	
Agency				
Moody's				
Aaa	1			
Aa	2			
A	3	2	6	
Baa	4	1	4	
Ba	5	1	5	
B	6	1	6	
Caa	7			
Ca	8			
C	9			
<b>Total</b>		<b>5</b>	<b>21</b>	
<b>Average Rating:</b>			<b>4.20</b>	

**Cost of Capital Study**  
**January 1, 2026**  
**Analysis of the Market Capital Structure**

Telecommunications Industry (SIC 4813)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Company Name	Ticker Symbol	Debt (\$ mil)	Debt %	Stock Price	Shares (mil) Outstanding	Equity (\$ mil)	Equity %	Total Capital (\$ mil)
AT&T	T	139,468	44.33%	24.71	7,089	175,169	55.67%	314,637
Cable One	CABO	3,281	82.38%	124.44	5.64	702	17.62%	3,983
Comcast Corporation	CMCSA	99,063	55.29%	21.99	3,643	80,110	44.71%	179,173
Deutsche Telekom	DTEGY	166,300	51.57%	32.00	4,881	156,192	48.43%	322,492
Lumen Technologies	LUMN	17,672	67.74%	8.21	1,025	8,415	32.26%	26,087
Shenandoah Telecommunications	SHEN	534.10	46.08%	11.36	55	625	53.93%	1,159
<b>Mean:</b>		<b>71,053</b>	<b>57.90%</b>			<b>70,202</b>	<b>42.10%</b>	<b>141,255</b>
<b>Median:</b>		<b>58,368</b>	<b>53.43%</b>			<b>44,263</b>	<b>46.57%</b>	<b>102,630</b>
<b>Market Capital Structure Estimate:</b>		<b>Debt:</b>	<b>55.00%</b>			<b>Equity:</b>	<b>45.00%</b>	
<b>Data Source:</b>								
Columns (1) & (4), Value Line Industry Summary & Index, 12-05-2025								
Column (2) = Column (1) / Column (7)								
Column (3), NASDAQ, 12-30-2024								
Column (5) = Column (3) * Column (4)								
Column (7) = Column (1) + Column (5)								

**Cost of Capital Study**  
**January 1, 2026**  
**Capital Asset Pricing Model (CAPM)**

CAPM ==>  $K_e = R_f + (\beta * ERP)$

<b>Telecommunications Industry (SIC 4813)</b>	
Risk-Free Rate ( $R_f$ )	4.80%
Beta ( $\beta$ )	0.88
Equity Risk Premium (ERP): ( $R_m - R_f$ )	6.91%
Adjusted Equity Risk Premium: ( $\beta * ERP$ )	6.08%
<b>Cost of Equity Capital - CAPM</b>	<b>10.88%</b>
<b>U.S. Department of the Treasury, Daily Treasury Yield Curve Rates, Selected Yields</b>	
<b>U.S. Treasury Securities:</b>	
2025 December - 30 Day Average	4.80%
2025 November - December - 60 Day Average	4.75%
2025 October - December - 90 Day Average	4.71%
<b>Risk-Free Rate of Return <math>R_f</math>, 30-year Treasury Rate. 2025 December - 30 Day Average.</b>	<b>4.80%</b>
* Equity Risk Premium = Average of 6.78% (historical) and 7.03% (Damodaran Implied ERP) - From Business Valuation Resources	

# Cost of Capital Study

January 1, 2026

Beta ( $\beta$ ) Analysis

Telecommunications Industry (SIC 4813)		
Company Name	Ticker Symbol	Beta " $\beta$ "
AT&T	T	0.70
Cable One	CABO	0.95
Comcast Corporation	CMCSA	0.90
Deutsche Telekom	DTEGY	0.80
Lumen Technologies	LUMN	1.45
Shenandoah Telecommunications	SHEN	0.85
	<b>Mean:</b>	0.99
	<b>Median:</b>	0.88
	<b>Beta (<math>\beta</math>) Estimate:</b>	<b>0.88</b>
<b>Data Source:</b> Value Line Industry Summary & Index, 12-05-2025		

**Cost of Capital Study**  
**January 1, 2026**  
**Dividend Growth Model (DGM or DCF)**

DGM or DCF Model ==>  $K_e =$

$$\frac{D_1}{P_0} + g$$

where

- $K_e =$  Cost of Equity
- $D_1 =$  Expected Dividends
- $P_0 =$  Current Price
- $g =$  Sustainable Growth

Telecommunications Industry (SIC 4813)													
Company Name	Ticker Symbol	(1)	(2)	Dividend Yield ( $D_1 / P_0$ )	(3)	(4)	(5)			(6)	(Dividends) $K_e$	(Earnings) $K_e$	$g=(b * ROE)$ $K_e$
		Stock Price $P_0$	Expected Dividend $D_1$		Dividend Growth $g$	EPS Growth $g$	b	ROE	$g=(b * ROE)$				
AT&T	T	24.71	1.11	4.49%	0.50%	6.50%	57.00%	17.00%	9.69%	NMF	10.99%	14.18%	
Cable One	CABO	124.44	NMF	NMF	NMF	2.00%	NMF	NMF	NMF	NMF	NMF	NMF	
Comcast Corporation	CMCSA	21.99	1.38	6.28%	7.00%	7.50%	70.00%	18.50%	12.95%	13.28%	13.78%	19.23%	
Deutsche Telekom	DTEGY	32.00	0.90	2.81%	12.00%	12.50%	57.00%	18.00%	10.26%	14.81%	15.31%	13.07%	
Lumen Technologies	LUMN	8.21	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	
Shenandoah Telecommunications	SHEN	11.36	0.12	1.06%	9.00%	NMF	NMF	NMF	NMF	NMF	NMF	NMF	
<b>Mean:</b>				<b>1.73%</b>	<b>7.13%</b>	<b>7.13%</b>	<b>61.33%</b>	<b>17.83%</b>	<b>10.97%</b>	<b>14.05%</b>	<b>13.36%</b>	<b>15.49%</b>	
<b>Median:</b>				<b>3.65%</b>	<b>8.00%</b>	<b>7.00%</b>	<b>57.00%</b>	<b>18.00%</b>	<b>10.26%</b>	<b>14.05%</b>	<b>13.78%</b>	<b>14.18%</b>	
<b>Cost of Equity Capital - DCF <math>K_e</math> Estimate:</b>										<b>14.00%</b>	<b>13.75%</b>	<b>14.25%</b>	

**Notes:**  
b = (1 - payout ratio) = Retention Ratio  
ROE = Return on Book Equity  
Not Meaningful (NMF)  
**Data Source:**  
Column (1), NASDAQ, 12-31-2025 - 30-Day Average  
Columns (2) - (6), Value Line Industry Summary & Index, 12-05-2025

## Cost of Capital Study

January 1, 2026

Market Multiples

<b>Telecommunications Industry (SIC 4813)</b>				
		(1)	(2)	
Company Name	Ticker	Stock Price	EPS	P/E Multiple
AT&T	T	24.71	2.05	12.05
Cable One	CABO	124.44	56.00	2.22
Comcast Corporation	CMCSA	21.99	4.30	5.11
Deutsche Telekom	DTEGY	32.00	2.30	13.91
Lumen Technologies	LUMN	8.21	2.00	4.11
Shenandoah Telecommunications	SHEN	11.36	0.75	15.15
<b>Mean:</b>				<b>8.76</b>
<b>Median:</b>				<b>8.58</b>
<b>P/E Estimate:</b>				<b>8.58</b>
<b>Equity Rate:</b>				<b>11.66%</b>
<b>Data Source:</b>				
Column (1) NASDAQ, 12-31-2025 - December 30 Day Average				
Column (2) Value Line Industry Summary & Index, 12-05-2025				

**Cost of Capital Study**  
**January 1, 2026**  
**Direct Debt Rate Calculation**

<b>Telecommunications Industry (SIC 4813)</b>	
<b>Direct Capitalization Debt Rate</b>	
Interest Expense (\$ mil)	\$ 19,602
Total Value of Debt (TVD) (\$ mil)	\$ 408,390
<b>Current Yield = Interest Expense/TVD</b>	<b>4.80%</b>
<b>Data Source:</b>	
Value Line Investment Survey, 12-05-2025	