

COST OF CAPITAL STUDY

YIELD CAPITALIZATION

2025 Assessment Year

APPENDIX C

NATURAL GAS DISTRIBUTION

EQUITY RATE						9.50%	
CAPITAL ASSET PRICING MODEL							PAGE
	CAPM Ex Ante		8.66%				4
DIVIDEND GROWTH MODELS							
	Value Line, based on Dividends Growth		8.50%				5
	Value Line, based on Earnings Growth		10.00%				6
	Value Line, based on Return on Equity		8.90%				7
	FCFE GROWTH MODEL Multi Stage		8.00%				8
				RANGE	8% - 10%		
DEBT RATE						5.75%	9
SECURED DEBT (LEASE) RATE						5.25%	9
MARKET CAPITAL STRUCTURE							
	Equity	60%	x	9.50%	=	5.70%	3
	Debt	40%	x	5.75%	=	2.30%	3
	Marginal Tax Rate	24%	=	(1-.24)	x	2.30%	<u>1.75%</u>
WEIGHTED AVERAGE COST OF CAPITAL						7.45%	

SUPPORT FOR GUIDELINE COMPANIES

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Capital Structure at Book Value

Company	Ticker	Beta	Fin'l Strength	P/E Ratio	Div'd Yield	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
Atmos Energy Corp	ato	0.90	A	20.30	2.3%	12,158,410,600	58.9%		0.0%	8,490,200,000	41.1%	20,648,610,600
Chesapeake Util	cpk	0.85	A	24.80	2.0%	1,377,700,000	54.0%		0.0%	1,173,000,000	46.0%	2,550,700,000
New Jersey Resources	njr	1.00	A	13.80	3.7%	2,200,055,200	39.2%		0.0%	3,418,100,000	60.8%	5,618,155,200
NiSource Inc	ni	0.95	A	21.30	2.9%	10,504,500,000	44.8%	880,000,000	3.7%	12,086,300,000	51.5%	23,470,800,000
Northwest Natural Gas	nwn	0.90	A	18.90	5.0%	1,496,500,000	49.0%		0.0%	1,555,000,000	51.0%	3,051,500,000
Southwest Gas	swx	0.95	A	30.70	3.5%	3,722,400,000	45.9%		0.0%	4,382,100,000	54.1%	8,104,500,000
Spire Inc	sr	0.90	B++	17.40	4.5%	2,990,591,000	41.7%	242,000,000	3.4%	3,939,700,000	54.9%	7,172,291,000
ONE Gas Inc	ogs	0.85	B++	18.30	4.1%	2,923,875,000	55.1%		0.0%	2,384,900,000	44.9%	5,308,775,000
UGI Corp	ugi	1.15	B++	9.80	6.2%	4,344,012,000	39.7%		0.0%	6,596,000,000	60.3%	10,940,012,000
	Mean	0.94		19.48	3.80%	4,635,338,200	47.6%		0.8%	4,891,700,000	51.6%	9,651,704,867
	Harmonic Mean	0.93		17.69	3.39%		46.7%				50.8%	
	Median	0.90		18.90	3.67%		45.9%		0.0%		51.5%	
	Weighted Mean					41,718,043,800	48.0%		0.0%	44,025,300,000	50.7%	86,865,343,800
	Say	0.94										

SUPPORT FOR CAPITAL STRUCTURE MARKET VALUE

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Capital Structure at Market Value

Company	Ticker	Stock Price	Common Shares	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
Atmos Energy Corp	ato	139.270	155,260,000	21,623,060,200	74.7%	-	0.0%	7,337,936,000	25.3%	28,960,996,200
Chesapeake Util	cpk	121.350	23,000,000	2,791,050,000	69.9%	-	0.0%	1,200,000,000	30.1%	3,991,050,000
New Jersey Resources	njr	46.650	99,460,000	4,639,809,000	64.8%	-	0.0%	2,525,804,000	35.2%	7,165,613,000
NiSource Inc	ni	36.480	470,000,000	17,145,600,000	56.2%	880,000,000	2.9%	12,505,200,000	41.0%	30,530,800,000
Northwest Natural Gas	nwn	39.080	41,000,000	1,602,280,000	57.4%	-	0.0%	1,191,194,000	42.6%	2,793,474,000
Southwest Gas	swx	70.140	72,000,000	5,050,080,000	61.8%	-	0.0%	3,121,449,000	38.2%	8,171,529,000
Spire Inc	sr	67.830	57,700,000	3,913,791,000	50.5%	242,000,000	3.1%	3,600,300,000	46.4%	7,756,091,000
ONE Gas Inc	ogs	63.720	56,500,000	3,600,180,000	62.1%	-	0.0%	2,200,000,000	37.9%	5,800,180,000
UGI Corp	ugi	24.600	216,120,000	5,316,552,000	44.4%	-	0.0%	6,663,000,000	55.6%	11,979,552,000
Mean					60.2%				39.2%	
Harmonic Mean					58.8%				37.3%	
Median					61.8%				38.2%	
Weighted Mean				65,682,402,200	61.3%	1,122,000,000	1.0%	40,344,883,000	37.7%	107,149,285,200
Std Dev					9.4%				8.9%	
Coefficient of Variation					15.5%				22.7%	
Say					60%				40%	100%

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT CAPITAL ASSET PRICING MODEL

Washington State Department of Revenue
2025 Assessment Year - Natural Gas Distribution

$$\text{Ex Ante} \\ \text{Ke} = \text{Rf} + \text{B} (\text{Rp})$$

Ke =	Cost of Equity	8.66%
		to page 1
	Rm = rate of return	8.91%
	Rf = risk free rate	4.78%
	Rp = risk premium	4.13%
	B = Beta	0.94
		page 2
Rp =	Risk Premium	4.13%
		to above
	Shannon Pratt and Roger Grabowski	3.50%-6.00%
	Cost of Capital, App and Exam, 5th Ed, 2014	
	Dr. Aswath Damodaran	4.33%
	http://pages.stern.nyu.edu/~adamodar/	4.13%
	2024 Implied Premium	chart page 15 adjusted for Rf
Rf =	Risk Free Rate	4.78%
		to above
	Value Line Investment Survey, Selected Yields January 10, 2025, page 206	
	as of 12-30-24	
	US Treasury Securities year end data	
	5 year	4.37%
	10 year	4.55%
	30 year	4.77%
	Federal Reserve Statistical Release (http://www.federalreserve.gov/Releases/H15/Current/)	
	As of 12-31-24	
	Treasury Constant Maturities	
	5 year	4.38%
	10 year	4.58%
	20 year	4.86%
	30 year	4.78%
	20 year TIPS	2.41%
	30 year TIPS	2.48%
		2.45%
		2.30%
		TIPS inflation indication
Inflation		2.30%
		to appraisal template
	The Livingston Survey December 20, 2024, page 2, 8	
	Inflation median (measured by the Consumer Price Index) over next 10 years	2.28%
Gross Domestic Product (GDP) Nominal		4.10%
		real GDP + inflation est
	Federal Reserve Projected Long Run Real GDP Growth	
	Median Projection Value From Dec 18, 2024 Report, Table 1	1.80%
	https://www.federalreserve.gov/monetarypolicy/files/fomcproptabl20241218.pdf	
	Congressional Budget Office Real GDP Economic Projections	
	The Budget and Economic Outlook 2025-2035	Table C-3, pg 29
	Average Percentage Change Year To Year	2025-2029
	https://www.cbo.gov/system/files/2025-01/60870-Outlo	2.20%
		2030-2035
		1.90%
	Federal Reserve Bank of Philadelphia	
	The Livingston Survey, December 20, 2024, page 8	
	Average Real GDP Growth Rate for Next 10 Years	2.11%
	https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey	

**SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL**

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Based on Dividend Growth

$$K_e = (D1 / P_o) + G$$

Ke = Cost of Equity
 D1 = Expected Dividends
 Po = Current Price
 G = Sustainable Growth

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Dividend Short Term Growth (G)	Ke Short Term Growth
Atmos Energy Corp	ato	139.27	3.48	2.50%	7.00%	9.50%
Cheapeake Util	cpk	121.35	2.64	2.18%	7.50%	9.68%
New Jersey Resources	njr	46.65	1.80	3.86%	5.00%	8.86%
NiSource Inc	ni	36.48	1.12	3.07%	4.50%	7.57%
Northwest Natural Gas	nwn	39.08	1.96	5.02%	0.50%	5.52%
Southwest Gas	swx	70.14	2.48	3.54%	5.50%	9.04%
Spire Inc	sr	67.83	3.14	4.63%	4.00%	8.63%
ONE Gas Inc	ogs	63.72	2.68	4.21%	2.50%	6.71%
UGI Corp	ugi	24.60	1.53	6.22%	3.50%	9.72%
Mean						8.36%
Harmonic Mean						8.08%
Median						8.86%
Max						9.72%
Min						5.52%
Std Dev						1.46%
Coefficient of Variation						17.50%
Say						8.50%

**SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL**

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Based on Earnings Growth

$$K_e = (D1 / P_o) + G$$

Ke = Cost of Equity
 D1 = Expected Dividends
 Po = Current Price
 G = Sustainable Growth

Company	Ticker	Stock Price (Po)	Expected Dividends (D1)	Yield (D1/Po)	Earnings Short Term Growth (G)	Ke Short Term Growth
Atmos Energy Corp	ato	139.27	3.48	2.50%	6.0%	8.50%
Chesapeake Util	cpk	121.35	2.64	2.18%	5.0%	7.18%
New Jersey Resources	njr	46.65	1.80	3.86%	5.0%	8.86%
NiSource Inc	ni	36.48	1.12	3.07%	9.5%	12.57%
Northwest Natural Gas	nwn	39.08	1.96	5.02%	6.5%	11.52%
Southwest Gas	swx	70.14	2.48	3.54%	10.0%	13.54%
Spire Inc	sr	67.83	3.14	4.63%	4.5%	9.13%
ONE Gas Inc	ogs	63.72	2.68	4.21%	4.0%	8.21%
UGI Corp	ugi	24.60	1.53	6.22%	6.5%	12.72%
Mean						10.25%
Harmonic Mean						9.78%
Median						9.13%
Max						13.54%
Min						7.18%
Std Dev						2.34%
Coefficient of Variation						22.83%
Say						10.00%

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT DIVIDEND GROWTH MODEL

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Based on Return on Equity

$K_e = (D1 / P_o) + G$

K_e = Cost of Equity
 $D1$ = Expected Dividends
 $E1$ = Expected Earnings
 P_o = Current Price
 G = Sustainable Growth
 b = Retained Earnings % = (1 - Payout Ratio)
 ROE = Return on Equity = (E1 / P_o)

Company	Ticker	Stock Price (P _o)	Expected Dividend (D1)	Expected Earnings (E1)	Dividend Yield (D1/P _o)	Retained Earnings (b)	ROE (E1/P _o)	Growth (b*ROE)	K _e Dividends	K _e Earnings
Atmos Energy Corp	ato	139.270	3.48	7.20	2.5%	53.0%	5.17%	2.74%	5.24%	7.91%
Chesapeake Util	cpk	121.350	2.64	5.30	2.2%	51.0%	4.37%	2.23%		6.59%
New Jersey Resources	njr	46.650	1.80	3.10	3.9%	42.0%	6.65%	2.79%	6.65%	9.44%
NiSource Inc	ni	36.480	1.12	1.85	3.1%	39.0%	5.07%	1.98%	5.05%	7.05%
Northwest Natural Gas	nwn	39.080	1.96	3.00	5.0%	15.0%	7.68%	1.15%	6.17%	8.83%
Southwest Gas	swx	70.140	2.48	3.60	3.5%	11.0%	5.13%	0.56%		5.70%
Spire Inc	sr	67.830	3.14	3.95	4.6%	28.0%	5.82%	1.63%	6.26%	7.45%
ONE Gas Inc	ogs	63.720	2.68	4.25	4.2%	32.0%	6.67%	2.13%	6.34%	8.80%
UGI Corp	ugi	24.600	1.53	3.00	6.2%	52.0%	12.20%	6.34%	12.56%	18.54%
Mean									6.89%	8.92%
Harmonic Mean									6.37%	8.06%
Median									6.26%	7.91%
Max									12.56%	18.54%
Min									5.05%	5.70%
Std Dev									2.57%	3.80%
Coefficient of Variation									37.24%	42.53%
say										8.90%

**SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
FREE CASH FLOW TO EQUITY MODEL MULTI STAGE**

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Company	Ticker	Stock Price	Expected Earnings	P/E	Payout Ratio	ROE	Ke
Atmos Energy Corp	ato	139.27	7.20	19.34	49.00%	8.50%	4.90%
Chesapeake Util	cpk	121.35	5.30	22.90	51.00%	8.50%	NMF
New Jersey Resources	njr	46.65	3.10	15.05	58.00%	13.50%	8.10%
NiSource Inc	ni	36.48	1.85	19.72	61.00%	8.00%	5.44%
Northwest Natural Gas	nwn	39.08	3.00	13.03	65.00%	8.00%	9.60%
Southwest Gas	swx	70.14	3.60	19.48	70.00%	6.50%	5.45%
Spire Inc	sr	67.83	3.95	17.17	86.00%	7.50%	6.79%
UGI Corp	ugi	24.60	3.00	8.20	51.00%	15.00%	16.03%
ONE Gas Inc	ogs	63.72	4.25	14.99	63.00%	7.50%	8.07%
Mean				16.65	61.56%	9.22%	8.05%
Harmonic Mean				15.32	59.83%	8.60%	7.06%
Median				17.17	61.00%	8.00%	7.43%
Industry Summary				15.50	60.00%	8.75%	
						Say	8.00%

SUPPORT FOR DEBT RATING AND DEBT YIELD RATE

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Company	Ticker	Moody's Ratings	S&P Ratings
Atmos Energy Corp	ato	A1	A-
Chesapeake Util	cpk		
New Jersey Resources	njr	A1	
NiSource Inc	ni	Baa2	BBB+
Northwest Natural Gas	nwn	A2	AA-
Southwest Gas	swx	Baa1	BBB
Spire Inc	sr	Baa2	BBB
UGI Corp	ugi	A3	
ONE Gas Inc	ogs	A3	A-
Overall Average Debt Rating		A3	A-

Merger's Bond Record February 2025

Corporate	Aaa	Aa	A	Baa
October	4.95%	5.17%	5.33%	5.63%
November	5.14%	5.33%	5.49%	5.78%
December	5.20%	5.37%	5.53%	5.80%
4th Qtr Average	5.10%	5.29%	5.45%	5.74%
Public Utilities	Aaa	Aa	A	Baa
October		5.29%	5.41%	5.61%
November		5.43%	5.55%	5.75%
December		5.45%	5.58%	5.77%
4th Qtr Average		5.39%	5.51%	5.71%
Industrials	Aaa	Aa	A	Baa
October	4.95%	5.05%	5.24%	5.65%
November	5.14%	5.23%	5.43%	5.80%
December	5.20%	5.28%	5.47%	5.83%
4th Qtr Average	5.10%	5.19%	5.38%	5.76%

		20Y	25Y	30Y
Bloomberg S&P Bond Yields				
December 2024	A-	5.77%	5.72%	5.73%

Debt Yield Rate	5.75%
Cost of Secured Debt (Operating Lease) Rate	5.25%

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Company	Ticker	Stock Price	2024		2025		2024		2025	
			Actual Earnings Ratio (EPS/P)		Projected Earnings Ratio (PEPS/P)		Cash Flow Ratio (CF/P)		Projected Cash Flow Ratio	
Atmos Energy Corp	ato	139.27	6.83	4.9%	7.20	5.2%	11.03	7.9%	11.55	8.3%
Chesapeake Util	cpk	121.35	5.05	4.2%	5.30	4.4%	8.00	6.6%	8.35	6.9%
New Jersey Resources	njr	46.65	2.95	6.3%	3.10	6.6%	4.59	9.8%	4.90	10.5%
NiSource Inc	ni	36.48	1.75	4.8%	1.85	5.1%	3.90	10.7%	4.00	11.0%
Northwest Natural Gas	nwn	39.08	2.30	5.9%	3.00	7.7%	5.45	13.9%	6.50	16.6%
Southwest Gas	swx	70.14	2.80	4.0%	3.95	5.6%	8.75	12.5%	8.90	12.7%
Spire Inc	sr	67.83	4.19	6.2%	3.00	4.4%	8.92	13.2%	5.75	8.5%
UGI Corp	ugi	24.60	3.06	12.4%	3.00	12.2%	5.59	22.7%	5.75	23.4%
ONE Gas Inc	ogs	63.72	3.85	6.0%	4.25	6.7%	9.75	15.3%	11.00	17.3%
Mean			6.1%		6.4%		12.5%		12.8%	
Harmonic Mean			5.5%		5.9%		11.1%		11.1%	
Median			5.9%		5.6%		12.5%		11.0%	
Max			12.4%		12.2%		22.7%		23.4%	
Min			4.0%		4.4%		6.6%		6.9%	
Std Dev			2.5%		2.4%		4.8%		5.4%	
Coefficient of Variation			41.8%		37.8%		38.0%		41.9%	

Source:

Say

6.0%

6.2%

12.5%

12.8%

Actual earnings: Value Line / Q4 average stock price

Estimated Earnings: Value Line / Q4 average stock price

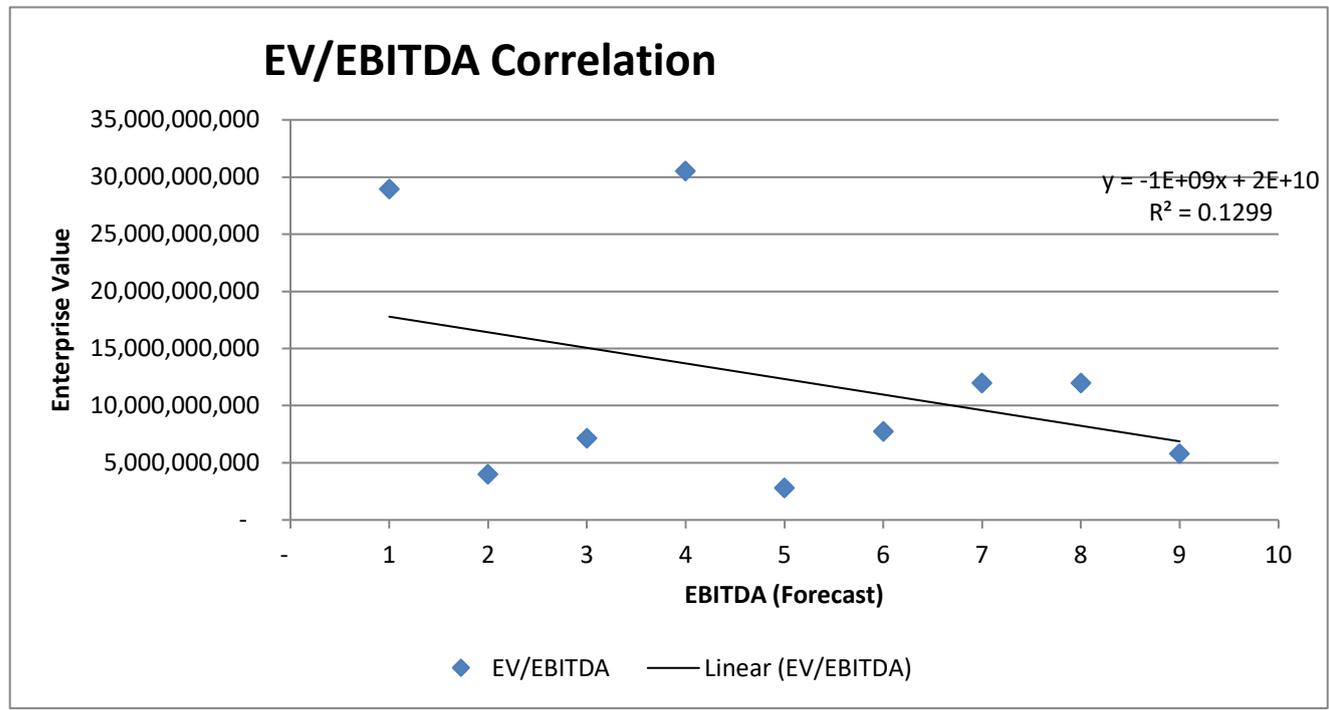
Actual Cash Flow: Value Line / Q4 average stock price

Estimated Cash Flow: Value Line / Q4 average stock price

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

Washington State Department of Revenue
 2025 Assessment Year
 Natural Gas Distribution

Company	Ticker	Stock Price	Enterprise Value	EBITDA Historical	Annual Change VL	EBITDA Forecast	EV / EBITDA Forecast	Revenue Forecast	EV / Sales Forecast	Cash Flow Forecast	Debt Service	EV / CF Forecast
Atmos Energy Corp	ato	139.27	28,960,996,200	2,025,334,000	4.71%	2,120,816,655	13.66	4,083,338,000	7.09	1,793,253,000	421,931,320	13.07
Chesapeake Util	cpk	121.35	3,991,050,000	313,700,000	4.38%	327,424,375	12.19	845,250,000	4.72	192,050,000	69,000,000	15.29
New Jersey Resources	njr	46.65	7,165,613,000	624,671,000	6.75%	666,860,109	10.75	1,820,118,000	3.94	487,354,000	145,233,730	11.33
NiSource Inc	ni	36.48	30,530,800,000	2,494,200,000	2.56%	2,558,153,846	11.93	6,110,000,000	5.00	1,880,000,000	719,049,000	11.75
Northwest Natural Gas	nwn	39.08	2,793,474,000	349,202,000	19.27%	416,479,450	6.71	1,197,200,000	2.33	266,500,000	68,493,655	8.34
Southwest Gas	swx	70.14	7,756,091,000	922,127,000	12.57%	1,038,051,537	7.47	5,324,400,000	1.46	709,200,000	179,483,318	8.73
Spire Inc	sr	67.83	11,979,552,000	766,700,000	-0.22%	764,980,942	15.66	2,408,975,000	4.97	513,530,000	207,017,250	16.63
UGI Corp	ugi	24.60	11,979,552,000	NMF	2.86%	NMF	NMF	7,434,528,000	1.61	1,242,690,000	383,122,500	7.37
ONE Gas Inc	ogs	63.72	5,800,180,000	695,743,000	12.82%	784,940,821	7.39	2,200,675,000	2.64	621,500,000	126,500,000	7.75
Mean							10.72		3.75			11.14
Harmonic Mean							9.83		2.88			10.29
Median							11.34		3.94			11.33
Std Dev							3.26		1.88			3.37
Coefficient of Variation							0.30		0.50			0.30
Say							10.00		3.00			10.50



Forecast EV/EBITDA By Rank

Guideline Companies	EV/EBITDA forecast	
Northwest Natural Gas	6.71	8.40 Harmonic Mean
ONE Gas Inc	7.39	8.85 Low Average
Southwest Gas	7.47	7.47 Low Median
New Jersey Resources	10.75	7.50 Say
NiSource Inc	11.93	
Chesapeake Util	12.19	13.20 High Harmonic Mean
Atmos Energy Corp	13.66	13.36 High Average
Spire Inc	15.66	12.92 High Median
#N/A	#N/A	13.00 Say

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

2025 Assessment Year

Natural Gas Distribution

Company	Ticker	Stock Price	Revenues	Multiple	Cash Flow	Multiple	Earnings	Multiple	Book Value	Multiple
Atmos Energy Corp	ato	139.27	26.83	5.19	11.03	12.63	6.83	20.39	78.31	1.78
Chesapeake Util	cpk	121.35	33.25	3.65	8.00	15.17	5.05	24.03	59.90	2.03
New Jersey Resources	njr	46.65	18.06	2.58	4.59	10.16	2.95	15.81	22.12	2.11
NiSource Inc	ni	36.48	12.45	2.93	3.90	9.35	1.75	20.85	22.35	1.63
Northwest Natural Gas	nwn	39.08	28.05	1.39	5.45	7.17	2.30	16.99	36.50	1.07
Southwest Gas	swx	70.14	71.55	0.98	8.75	8.02	2.80	25.05	51.70	1.36
Spire Inc	sr	67.83	44.94	1.51	8.92	7.60	4.19	16.19	51.83	1.31
UGI Corp	ugi	24.60	33.36	0.74	5.59	4.40	3.06	8.04	20.10	1.22
ONE Gas Inc	ogs	63.72	36.65	1.74	9.75	6.54	3.85	16.55	51.75	1.23
Mean				2.30	9.00		18.21		1.53	
Harmonic Mean				1.63	7.99		16.45		1.45	
Median				1.74	8.02		16.99		1.36	
Max				5.19	15.17		25.05		2.11	
Min				0.74	4.40		8.04		1.07	
Say				2.30	9.00		18.00		1.50	

DATA INPUT

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Historic Figures (2024)

Guideline Companies		Stock Price 12/31/24	Beta Levered	Fin'l Strength	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Dividends Per Share	Bk Value Per Share	Common Shares	Mkt/Bk	LTD (BV)	Trailing P/E Ratio	Div Yield	Calculated Debt
Name	Ticker	Yahoo	VL	VL	VL	VL	VL	VL	VL	VL	Formula	V L	V L	V L	Formula
Atmos Energy Corp	ato	139.27	0.90	A	26.83	11.03	6.83	3.22	78.31	155,260,000	1.78	8,490,200,000	20.30	2.5%	94.26%
Chesapeake Util	cpk	121.35	0.85	A	33.25	8.00	5.05	2.46	59.90	23,000,000	2.03	1,173,000,000	24.80	2.2%	92.31%
New Jersey Resources	njr	46.65	1.00	A	18.06	4.59	2.95	1.71	22.12	99,460,000	2.11	3,418,100,000	13.80	3.9%	91.26%
NiSource Inc	ni	36.48	0.95	A	12.45	3.90	1.75	1.06	22.35	470,000,000	1.63	12,086,300,000	21.30	2.9%	93.63%
Northwest Natural Gas	nwn	39.08	0.90	A	28.05	5.45	2.30	1.95	36.50	41,000,000	1.07	1,555,000,000	18.90	4.9%	87.24%
Southwest Gas	swx	70.14	0.95	A	71.55	8.75	2.80	2.48	51.70	72,000,000	1.36	4,382,100,000	30.70	3.2%	89.07%
Spire Inc	sr	67.83	0.90	B++	44.94	8.92	4.19	3.02	51.83	57,700,000	1.31	3,939,700,000	17.40	4.4%	96.10%
ONE Gas Inc	ogs	63.72	0.85	B++	36.65	9.75	3.85	2.64	51.75	56,500,000	1.23	2,384,900,000	18.30	3.8%	91.13%
UGI Corp	ugi	24.60	1.15	B++	33.36	5.59	3.06	1.52	20.10	216,120,000	1.22	6,596,000,000	9.80	4.9%	98.96%

Average	19.48
Harmonic Mean	17.69
Median	18.90

Value Line 250221

			Projected (Next Year) 2025									Longer Term Forecasts		Income Statement	
Payout Ratio	All Div'ds to Net Profits	Rtn on Shrhldrs Equity	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Dividends Per Share	Bk Value Per Share	All Div'ds to Net Profits	Rtn on Shrhldrs Equity	CF Projection 28-30	Earnings Projection 28-30	Earnings Growth 28-30	Dividend Growth 28-30	Operating Income	Current Assets
Formula	V L	V L	V L	V L	V L	V L	V L	VL	V L	V L	V L	VL	VL	Yahoo	Yahoo
47%	47%	8.6%	26.30	11.55	7.20	3.48	83.50	49.0%	8.5%	13.90	8.65	6.0%	7.0%	1,355,362,000	1,132,314,000
49%	49%	8.5%	36.75	8.35	5.30	2.64	62.20	51.0%	8.5%	10.80	6.80	5.0%	7.5%	232,200,000	204,300,000
58%	58%	13.2%	18.30	4.90	3.10	1.80	23.05	58.0%	13.5%	6.05	3.90	5.0%	5.0%	458,104,000	554,595,000
61%	61%	8.0%	13.00	4.00	1.85	1.12	23.20	61.0%	8.0%	5.30	2.55	9.5%	4.5%	1,451,000,000	2,080,200,000
85%	85%	6.5%	29.20	6.50	3.00	1.96	37.60	65.0%	8.0%	7.45	3.45	6.5%	0.5%	191,142,000	557,774,000
89%	89%	5.5%	73.95	9.85	3.60	2.48	54.25	70.0%	6.5%	11.85	4.85	10.0%	5.5%	483,687,000	1,464,475,000
71%	72%	7.8%	41.75	8.90	3.95	3.14	53.05	86.0%	7.5%	10.85	5.25	4.5%	4.0%	488,300,000	771,300,000
69%	68%	7.5%	38.95	11.00	4.25	2.68	55.95	63.0%	7.5%	15.55	5.25	4.0%	2.5%	399,044,000	929,881,000
50%	48%	15.1%	34.40	5.75	3.00	1.53	20.75	51.0%	15.0%	6.65	3.45	6.5%	3.5%	1,009,000,000	1,651,000,000

64.1%

9.0%

61.6%

9.2%

9.82

60.9%

8.2%

59.8%

8.6%

8.62

61.0%

8.0%

61.0%

8.0%

10.80

Balance Sheet				Cash Flow Statement	Other Financials	
Gross PPE	Intangibles (excl. GW)	Current Liabilities	Long Term Debt Less Current Maturities	Depreciation & Amortization	Carrying Value Debt	Fair Value Debt
Yahoo	Yahoo	Yahoo	Yahoo	Yahoo	10-K	10-K
26,097,639,000	82,844,000	1,205,875,000	7,860,517,000	669,972,000	7,785,000,000	7,337,936,000
3,314,000,000	15,000,000	419,400,000	1,261,700,000	81,500,000	1,300,000,000	1,200,000,000
6,681,000,000	10,522,000	887,774,000	2,879,464,000	166,567,000	2,767,845,000	2,525,804,000
34,152,900,000	-	4,113,400,000	12,074,500,000	1,043,200,000	13,355,700,000	12,505,200,000
5,113,198,000	-	649,017,000	1,679,355,000	158,060,000	1,365,399,000	1,191,194,000
12,955,259,000		1,832,097,000	4,348,340,000	438,440,000	3,504,477,000	3,121,449,000
9,831,200,000	-	1,703,900,000	3,704,400,000	278,400,000	3,746,400,000	3,600,300,000
9,124,134,000	265,951,000	1,458,276,000	2,385,286,000	296,699,000	2,414,256,000	2,200,000,000
13,673,000,000	391,000,000	2,060,000,000	6,443,000,000	551,000,000	6,733,000,000	6,663,000,000

STOCK PRICE

Washington State Department of Revenue

2025 Assessment Year

Natural Gas Distribution

Atmos Energy Corp ato							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/31/2024		139.5	139.89	138.5	139.3	139.27	474,200
Chesapeake Util cpk							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/31/2024		120.5	122	120	121.4	121.35	50,200
New Jersey Resources njr							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/31/2024		46.73	46.97	46.36	46.65	46.65	429,500
Nisource Inc ni							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/31/2024		36.75	36.98	36.56	36.76	36.48	1,947,400
NW Natural Gas nwn							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/31/2024		39.48	40	39.26	39.56	39.08	159,900
Southwest Gas Corp swx							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/31/2024		70.65	71.07	69.93	70.71	70.14	339,200
Spire Inc sr							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/31/2024		67.76	68.02	66.98	67.83	67.83	324,100
UGI Corp ugi							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/29/2023		24.64	24.74	24.39	24.6	24.60	1,291,000
One Gas Inc ogs							
	Date	Open	High	Low	Close	Adj Close*	Volume
12/29/2023		64	64.22	63.48	63.75	63.72	349,600

Source:
finance.yahoo.com
Historical Stock Quotes

IMPLIED PREMIUMS FOR US MARKET																	
These implied premiums are calculated using the S&P 500.																	
Year	Earnings Yield	Dividend Yield	S&P 500	Earnings*	Dividends*	Tends + Buyback	Change in Earnings	Change in Dividend	T.Bill Rate	T.Bond Rate	Bond-Bill	Boothed Growth	Premium	Net Growth Est	Implied Premium (FCFE)	Implied Premium (FCFE with Buyback)	ERP/Riskfree Rate
1960	5.34%	3.41%	58.11	3.10	1.98				2.66%	2.76%	0.10%	2.45%					
1961	4.71%	2.85%	71.55	3.37	2.04				8.60%	2.91%	2.13%	2.35%	0.22%	2.41%	2.92%		1.24
1962	5.81%	3.40%	63.1	3.67	2.15				8.79%	5.21%	2.73%	3.85%	1.12%	4.05%	3.56%		0.92
1963	5.51%	3.13%	75.02	4.13	2.35				12.75%	9.45%	3.12%	4.14%	1.02%	4.96%	3.38%		0.82
1964	5.62%	3.05%	84.75	4.76	2.58				15.23%	10.08%	3.54%	4.21%	0.67%	5.13%	3.31%		0.79
1965	5.73%	3.06%	92.43	5.30	2.83				11.20%	9.42%	3.93%	4.65%	0.72%	5.46%	3.32%		0.71
1966	6.74%	3.59%	80.33	5.41	2.88				2.23%	1.96%	4.76%	4.64%	-0.12%	4.19%	3.68%		0.79
1967	5.66%	3.09%	96.47	5.46	2.98				0.85%	3.37%	4.21%	5.70%	1.49%	5.25%	3.20%		0.56
1968	5.51%	2.93%	103.86	5.72	3.04				4.81%	2.09%	5.21%	6.16%	0.95%	5.32%	3.00%		0.49
1969	6.63%	3.52%	92.06	6.10	3.24				6.66%	6.49%	6.58%	7.88%	1.30%	7.55%	3.74%		0.47
1970	5.98%	3.46%	92.15	5.51	3.19				-9.72%	-1.61%	6.53%	6.50%	-0.03%	4.78%	3.41%		0.52
1971	5.46%	3.10%	102.09	5.57	3.16				1.15%	-0.74%	4.39%	5.89%	1.50%	4.57%	3.09%		0.52
1972	5.23%	2.70%	118.05	6.17	3.19				10.76%	0.71%	3.84%	6.41%	2.57%	5.21%	2.72%		0.42
1973	8.16%	3.70%	97.55	7.96	3.61				28.93%	13.24%	6.93%	6.90%	-0.03%	8.30%	4.30%		0.62
1974	13.64%	5.43%	68.56	9.35	3.72				17.48%	3.14%	8.00%	7.40%	-0.60%	6.42%	5.59%		0.76
1975	8.55%	4.14%	90.19	7.71	3.73				-17.54%	0.30%	5.80%	7.76%	1.96%	5.99%	4.13%		0.53
1976	9.07%	3.93%	107.46	9.75	4.22				26.39%	13.10%	5.08%	6.81%	1.73%	8.19%	4.55%		0.67
1977	11.43%	5.11%	95.1	10.87	4.86				11.53%	15.07%	5.12%	7.78%	2.66%	9.52%	5.92%		0.76
1978	12.11%	5.39%	96.11	11.64	5.18				7.07%	6.60%	7.18%	9.15%	1.97%	8.48%	5.72%		0.63
1979	13.48%	5.53%	107.94	14.55	5.97				25.01%	15.23%	10.38%	10.33%	-0.05%	11.70%	6.45%		0.62
1980	11.04%	4.74%	135.76	14.99	6.44				3.01%	7.81%	11.24%	12.43%	1.19%	11.01%	5.03%		0.40
1981	12.39%	5.57%	122.55	15.18	6.83				1.31%	6.08%	14.71%	13.98%	-0.73%	11.42%	5.73%		0.41
1982	9.83%	4.93%	140.64	13.82	6.93				-8.95%	1.58%	10.54%	10.47%	-0.07%	7.96%	4.90%		0.47
1983	8.06%	4.32%	164.93	13.29	7.12				-3.84%	2.76%	8.80%	11.80%	3.00%	9.09%	4.31%		0.37
1984	10.07%	4.68%	167.24	16.84	7.83				26.69%	9.85%	9.85%	11.51%	1.66%	11.02%	5.11%		0.44
1985	7.42%	3.88%	211.28	15.68	8.20				-6.91%	4.74%	7.72%	8.99%	1.27%	7.89%	4.03%	6.75%	0.43
1986	5.96%	3.38%	242.17	14.43	8.19				-7.93%	-0.15%	6.16%	7.22%	1.06%	5.54%	3.36%	6.96%	0.50
1987	6.49%	3.71%	247.08	16.04	9.17				11.10%	11.99%	5.47%	8.86%	3.39%	9.66%	4.18%	8.58%	0.45
1988	8.20%	3.68%	277.72	24.12	10.22				50.42%	11.49%	6.35%	9.14%	2.79%	9.76%	4.12%	7.67%	0.41
1989	6.80%	3.32%	353.4	24.32	11.73				0.83%	14.80%	8.37%	7.93%	-0.44%	9.58%	3.85%	7.46%	0.44
1990	6.58%	3.74%	330.22	22.65	12.35				-6.87%	5.26%	7.81%	8.07%	0.26%	7.39%	3.92%	7.19%	0.48
1991	4.58%	3.11%	417.09	19.30	12.97				-14.79%	5.03%	7.00%	6.70%	-0.30%	6.34%	3.27%	7.81%	0.52
1992	4.16%	2.90%	435.71	20.87	12.64				8.13%	-2.59%	5.30%	6.68%	1.38%	4.67%	2.83%	9.83%	0.53
1993	4.25%	2.72%	466.45	26.90	12.69				28.89%	0.41%	3.50%	5.79%	2.29%	4.73%	2.74%	8.00%	0.55
1994	5.89%	2.91%	459.27	31.75	13.36				18.03%	5.34%	5.00%	7.82%	2.82%	7.23%	3.06%	7.17%	0.45
1995	5.74%	2.30%	615.93	37.70	14.17				18.74%	6.00%	3.50%	5.57%	2.07%	5.65%	2.44%	6.50%	0.59
1996	4.83%	2.01%	740.74	40.63	14.89				7.77%	5.10%	5.00%	6.41%	1.41%	6.13%	2.11%	7.92%	0.50
1997	4.08%	1.60%	970.43	44.09	15.52				8.52%	4.25%	5.35%	5.74%	0.39%	5.45%	1.67%	8.00%	0.48
1998	3.11%	1.32%	1229.23	44.27	16.20				0.41%	4.37%	4.33%	4.65%	0.32%	4.60%	1.38%	7.20%	0.49
1999	3.07%	1.14%	1469.25	51.68	16.71				16.74%	3.16%	5.37%	6.44%	1.07%	5.75%	1.20%	12.50%	0.32
2000	3.94%	1.23%	1320.28	56.13	16.27				8.61%	-2.65%	5.73%	5.11%	-0.62%	3.71%	1.65%	12.00%	0.56
2001	3.85%	1.37%	1148.09	38.85	15.74	30.08	-30.79%	-3.24%	1.80%	5.05%	3.25%	3.56%	1.73%	10.30%	3.62%	2.91%	0.72
2002	5.23%	1.83%	879.82	46.04	16.08	29.83	18.51%	2.15%	1.20%	3.81%	2.61%	3.57%	2.29%	8.00%	4.10%	4.73%	1.08
2003	4.87%	1.61%	1111.91	54.69	17.88	31.58	18.79%	11.19%	1.00%	4.25%	3.25%	5.35%	2.12%	11.00%	3.69%	4.74%	0.87
2004	5.58%	1.60%	1211.92	67.68	19.407	40.60	23.75%	8.54%	2.18%	4.22%	2.04%	4.90%	2.02%	8.50%	3.65%	4.86%	0.86
2005	5.47%	1.79%	1248.29	76.45	22.38	61.17	12.96%	15.32%	4.31%	4.39%	0.08%	6.16%	2.20%	8.00%	4.08%	5.22%	0.93
2006	6.18%	1.77%	1418.3	87.72	25.05	73.16	14.74%	11.93%	4.88%	4.70%	-0.18%	5.93%	1.97%	12.50%	4.16%	6.12%	0.89
2007	5.62%	1.89%	1468.36	82.54	27.73	95.36	-5.91%	10.70%	3.31%	4.02%	0.71%	5.03%	2.06%	5.00%	4.37%	4.59%	1.09
2008	7.24%	3.11%	903.25	65.39	28.05	67.52	-20.78%	1.15%	1.59%	2.21%	0.62%	2.11%	4.05%	4.00%	6.43%	6.92%	2.91
2009	5.35%	2.00%	1115.10	59.65	22.31	37.43	-8.78%	-20.46%	0.14%	3.84%	3.70%	0.28%	2.60%	7.20%	4.36%	4.64%	1.14
2010	6.65%	1.84%	1257.64	83.66	23.12	55.53	40.25%	3.63%	0.13%	3.29%	3.16%	3.33%	2.24%	6.95%	5.20%	6.09%	1.58
2011	7.72%	2.07%	1257.60	97.05	26.02	71.28	16.01%	12.54%	0.03%	1.88%	1.85%	2.75%	2.71%	7.18%	6.01%	8.34%	3.20
2012	7.18%	2.13%	1426.19	102.47	30.44	75.90	5.58%	16.99%	0.05%	1.76%	1.71%	2.93%	2.47%	5.27%	5.78%	7.30%	3.28
2013	5.81%	1.96%	1848.36	107.45	36.28	88.13	4.86%	19.19%	0.07%	3.04%	2.97%	5.01%	2.03%	4.28%	4.96%	4.99%	1.63
2014	5.49%	1.92%	2058.90	113.01	39.44	101.98	5.17%	8.71%	0.05%	2.17%	2.12%	2.24%	2.24%	5.58%	5.78%	5.48%	2.66
2015	5.20%	2.11%	2043.94	106.32	43.16	106.10	-5.92%	9.43%	0.21%	2.27%	2.06%	2.96%	2.46%	5.51%	6.12%	5.16%	2.70
2016	4.86%	2.01%	2238.83	108.86	45.03	108.67	2.39%	4.33%	0.51%	2.45%	1.94%	2.64%	2.41%	5.54%	5.69%	4.50%	2.32
2017	4.67%	1.86%	2673.61	124.94	49.73	108.28	14.77%	10.44%	1.39%	2.41%	1.02%	3.22%	2.36%	7.05%	5.08%	4.75%	2.11
2018	5.92%	2.14%	2506.85	148.34	53.61	136.65	18.73%	7.80%	2.37%	2.68%	0.31%	3.24%	2.50%	4.12%	5.96%	5.55%	2.22
2019	5.03%	1.82%	3230.78	162.35	58.80	150.50	9.44%	9.68%	1.55%	1.92%	0.37%	2.57%		3.96%	5.20%	5.06%	2.71
2020	3.68%	1.51%	3756.07	138.12	56.70	127.78	-14.92%	-3.57%	0.09%	0.93%	0.84%	0.74%	1.65%	5.42%	4.72%	4.94%	5.08
2021	4.33%	1.24%	4766.18	206.38	59.20	147.24	47.67%	4.41%	0.06%	1.51%	1.45%	1.71%	1.72%	6.47%	4.24%	4.90%	2.81
2022	5.72%	1.78%	3839.5	219.49	68.34	181.99	6.35%	15.44%	4.42%	3.88%	-0.54%	5.59%	2.16%	6.41%	5.94%	5.11%	1.53
2023	4.61%	1.47%	4769.83	219.7	70.3	164.25	0.10%	2.87%	5.20%	3.88%	-1.32%	3.73%	1.97%	8.74%	4.60%	4.57%	1.19
2024	4.14%	1.25%	5881.63	243.32	73.4	182.8	9.92%	4.75%	5.07%	4.58%	-0.49%	4.61%	1.76%	9.57%	4.33%	4.00%	0.9454148

<http://pages.stern.nyu.edu/~adamodar/>
Updated January 2025

Three Stage Free Cash Flow to Equity Discount Model

Company [Atmos Energy Corp](#)

Ticker [ato](#)

4.10% GDP

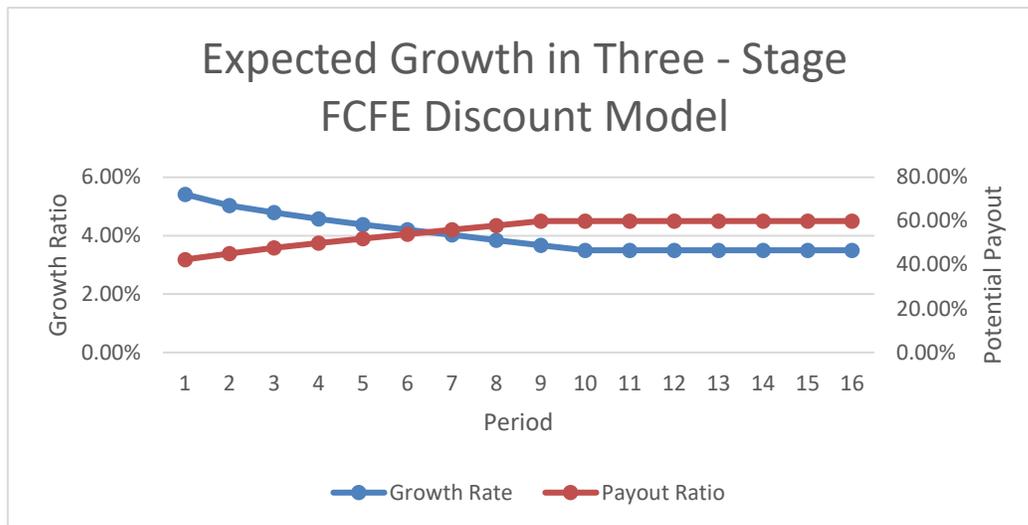
15.5 Industry P/E

60.0% Target Dividend Payout Ratio

8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		61.91%	38.09%	6.83			(139.27)
Stage 1	1	5.42%	57.54%	42.46%	7.20	3.06		3.06
	2	5.03%	54.78%	45.22%	7.56	3.42		3.42
	3	4.79%	52.28%	47.72%	7.93	3.78		3.78
	4	4.57%	49.99%	50.01%	8.29	4.14		4.14
	5	4.37%	47.99%	52.01%	8.65	4.50		4.50
Stage 2	6	4.20%	45.99%	54.01%	9.01	4.87		4.87
	7	4.02%	44.00%	56.00%	9.38	5.25		5.25
	8	3.85%	42.00%	58.00%	9.74	5.65		5.65
	9	3.67%	40.00%	60.00%	10.09	6.06		6.06
	10	3.50%	40.00%	60.00%	10.45	6.27	167.61	173.88
Stage 3	11+	3.50%	40.00%	60.00%	10.81	6.49		

Ke = 4.90%



Three Stage Free Cash Flow to Equity Discount Model

Company [Chesapeake Utilities](#)

Ticker [cpk](#)

4.10% GDP

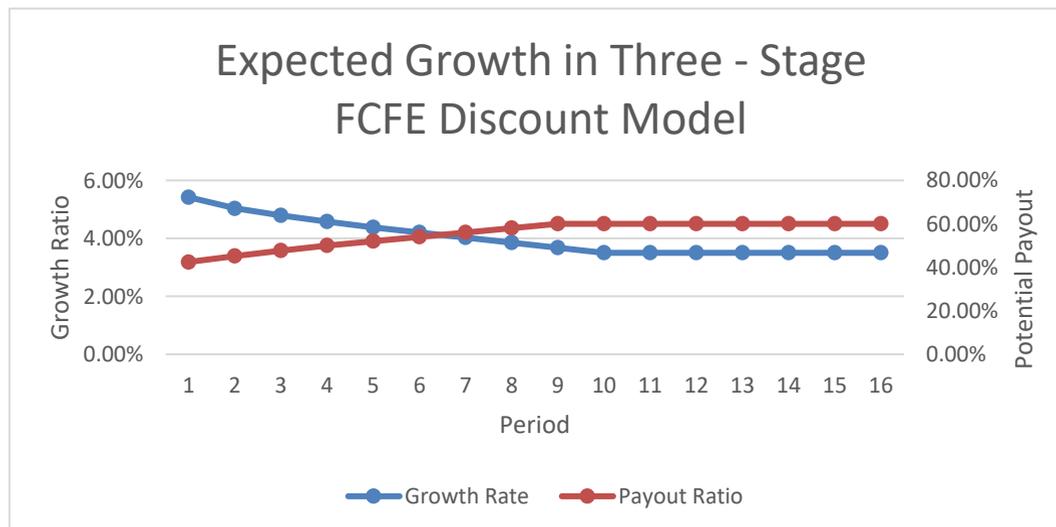
15.5 Industry P/E

60.0% Target Dividend Payout Ratio

8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		56.58%	43.42%	5.05			(121.35)
	1	4.95%	80.86%	19.14%	5.30	1.01		1.01
	2	7.08%	75.52%	24.48%	5.68	1.39		1.39
Stage 1	3	6.61%	70.84%	29.16%	6.05	1.76		1.76
	4	6.20%	66.70%	33.30%	6.43	2.14		2.14
	5	5.84%	61.36%	38.64%	6.80	2.63		2.63
	6	5.37%	56.02%	43.98%	7.17	3.15		3.15
	7	4.90%	50.68%	49.32%	7.52	3.71		3.71
Stage 2	8	4.43%	45.34%	54.66%	7.85	4.29		4.29
	9	3.97%	40.00%	60.00%	8.16	4.90		4.90
	10	3.50%	40.00%	60.00%	8.45	5.07	135.51	140.57
Stage 3	11+	3.50%	40.00%	60.00%	8.74	5.25		

$K_e = 3.37\%$



Three Stage Free Cash Flow to Equity Discount Model

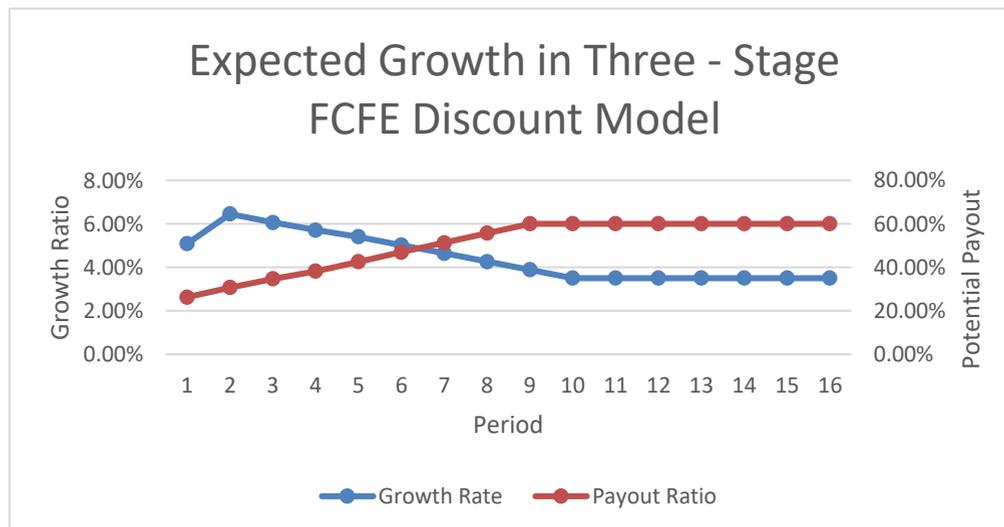
Company [New Jersey Resources](#)

Ticker [njr](#)

4.10% GDP
 15.5 Industry P/E
 60.0% Target Dividend Payout Ratio
 8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		58.11%	41.89%	2.95			(46.65)
	1	5.08%	73.73%	26.27%	3.10	0.81		0.81
	2	6.45%	69.26%	30.74%	3.30	1.01		1.01
Stage 1	3	6.06%	65.31%	34.69%	3.50	1.21		1.21
	4	5.71%	61.78%	38.22%	3.70	1.41		1.41
	5	5.41%	57.42%	42.58%	3.90	1.66		1.66
	6	5.02%	53.07%	46.93%	4.10	1.92		1.92
	7	4.64%	48.71%	51.29%	4.29	2.20		2.20
Stage 2	8	4.26%	44.36%	55.64%	4.47	2.49		2.49
	9	3.88%	40.00%	60.00%	4.64	2.79		2.79
	10	3.50%	40.00%	60.00%	4.80	2.88	77.08	79.96
Stage 3	11+	3.50%	40.00%	60.00%	4.97	2.98		

K_e = 8.10%



Three Stage Free Cash Flow to Equity Discount Model

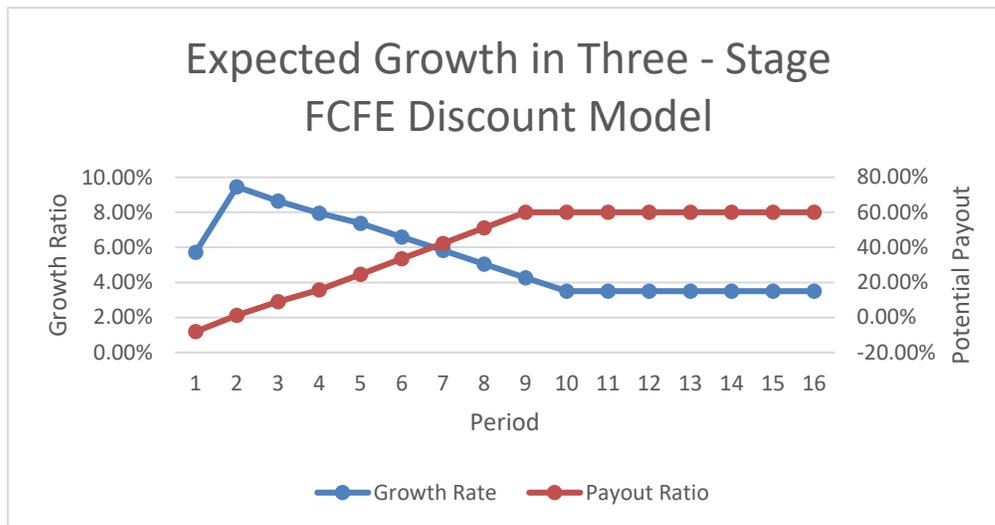
Company **Nisource Inc**

Ticker **ni**

4.10% GDP
 15.5 Industry P/E
 60.0% Target Dividend Payout Ratio
 8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		65.31%	34.69%	1.75			(36.48)
	1	5.71%	108.11%	-8.11%	1.85	(0.15)		-0.15
	2	9.46%	98.77%	1.23%	2.03	0.03		0.03
Stage 1	3	8.64%	90.91%	9.09%	2.20	0.20		0.20
	4	7.95%	84.21%	15.79%	2.38	0.37		0.37
	5	7.37%	75.37%	24.63%	2.55	0.63		0.63
	6	6.59%	66.53%	33.47%	2.72	0.91		0.91
	7	5.82%	57.68%	42.32%	2.88	1.22		1.22
Stage 2	8	5.05%	48.84%	51.16%	3.02	1.55		1.55
	9	4.27%	40.00%	60.00%	3.15	1.89		1.89
	10	3.50%	40.00%	60.00%	3.26	1.96	52.31	54.27
Stage 3	11+	3.50%	40.00%	60.00%	3.38	2.03		

Ke = 5.44%



Three Stage Free Cash Flow to Equity Discount Model

Company **NW Nat'l Gas**

Ticker **nwn**

4.10% GDP

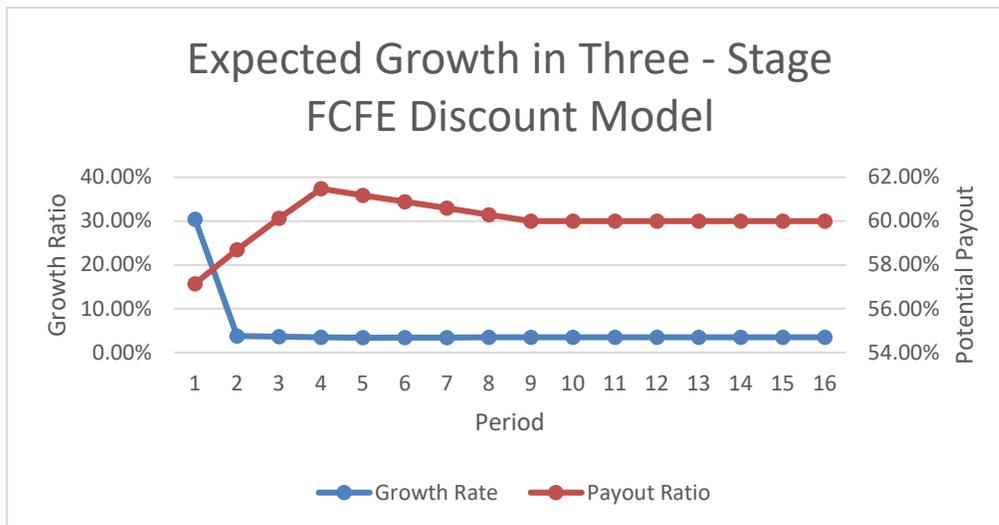
15.5 Industry P/E

60.0% Target Dividend Payout Ratio

8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		347.83%	-247.83%	2.30			(39.08)
Stage 1	1	30.43%	42.86%	57.14%	3.00	1.71		1.71
	2	3.75%	41.31%	58.69%	3.11	1.83		1.83
	3	3.61%	39.87%	60.13%	3.23	1.94		1.94
	4	3.49%	38.52%	61.48%	3.34	2.05		2.05
	5	3.37%	38.82%	61.18%	3.45	2.11		2.11
Stage 2	6	3.40%	39.11%	60.89%	3.57	2.17		2.17
	7	3.42%	39.41%	60.59%	3.69	2.24		2.24
	8	3.45%	39.70%	60.30%	3.82	2.30		2.30
	9	3.47%	40.00%	60.00%	3.95	2.37		2.37
	10	3.50%	40.00%	60.00%	4.09	2.45	65.57	68.02
Stage 3	11+	3.50%	40.00%	60.00%	4.23	2.54		

Ke = 9.60%



Three Stage Free Cash Flow to Equity Discount Model

Company **Southwest Gas**

Ticker **SWX**

4.10% GDP

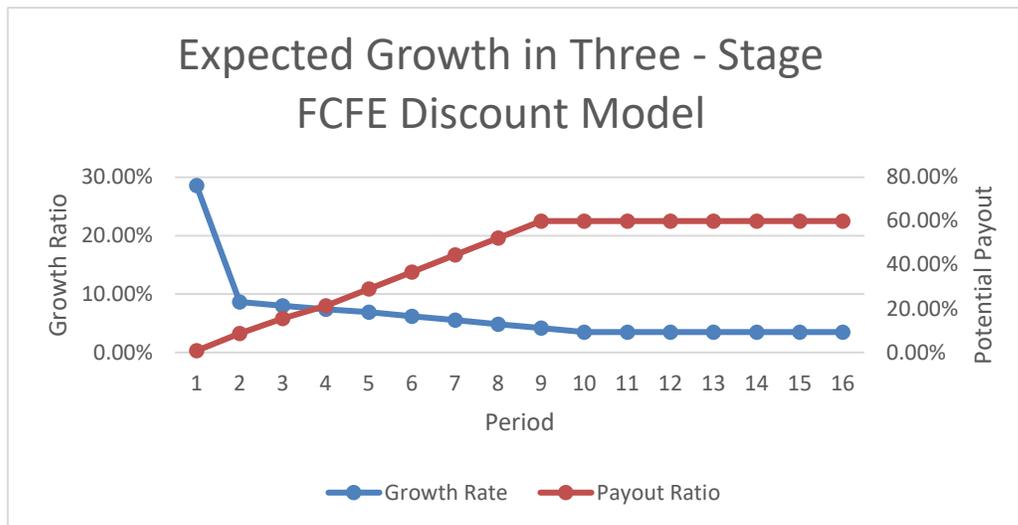
15.5 Industry P/E

60.0% Target Dividend Payout Ratio

8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		326.53%	-226.53%	2.80			(70.14)
Stage 1	1	28.57%	99.21%	0.79%	3.60	0.03		0.03
	2	8.68%	91.28%	8.72%	3.91	0.34		0.34
	3	7.99%	84.53%	15.47%	4.23	0.65		0.65
	4	7.40%	78.71%	21.29%	4.54	0.97		0.97
	5	6.89%	70.97%	29.03%	4.85	1.41		1.41
Stage 2	6	6.21%	63.23%	36.77%	5.15	1.89		1.89
	7	5.53%	55.48%	44.52%	5.44	2.42		2.42
	8	4.85%	47.74%	52.26%	5.70	2.98		2.98
	9	4.18%	40.00%	60.00%	5.94	3.56		3.56
	10	3.50%	40.00%	60.00%	6.15	3.69	98.60	102.28
Stage 3	11+	3.50%	40.00%	60.00%	6.36	3.82		

K_e = 5.45%



Three Stage Free Cash Flow to Equity Discount Model

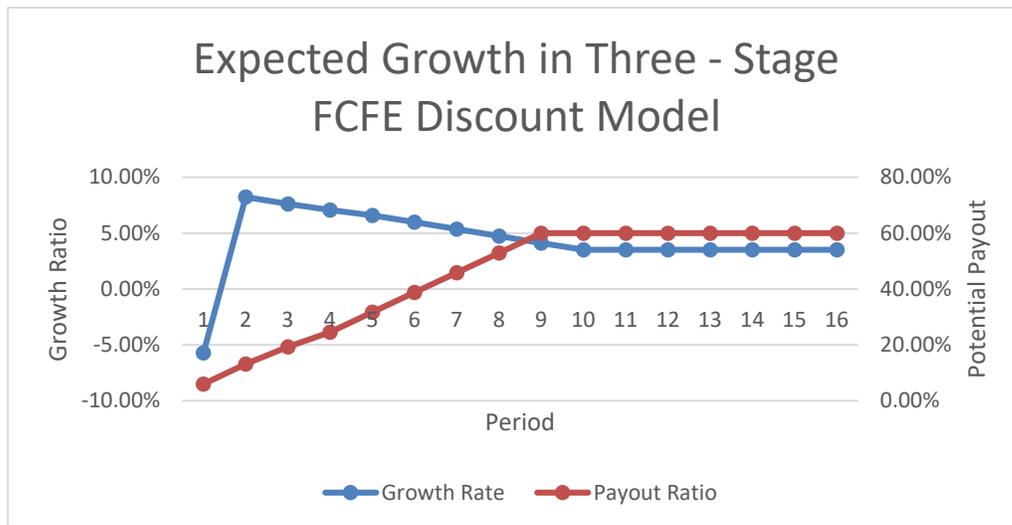
Company [Spire Inc](#)

Ticker [sr](#)

4.10% GDP
 15.5 Industry P/E
 60.0% Target Dividend Payout Ratio
 8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		-65.46%	165.46%	4.19			(67.83)
	1	-5.73%	94.03%	5.97%	3.95	0.24		0.24
	2	8.23%	86.88%	13.12%	4.28	0.56		0.56
Stage 1	3	7.60%	80.75%	19.25%	4.60	0.89		0.89
	4	7.07%	75.42%	24.58%	4.93	1.21		1.21
	5	6.60%	68.33%	31.67%	5.25	1.66		1.66
	6	5.98%	61.25%	38.75%	5.56	2.16		2.16
	7	5.36%	54.17%	45.83%	5.86	2.69		2.69
Stage 2	8	4.74%	47.08%	52.92%	6.14	3.25		3.25
	9	4.12%	40.00%	60.00%	6.39	3.84		3.84
	10	3.50%	40.00%	60.00%	6.62	3.97	106.15	110.12
Stage 3	11+	3.50%	40.00%	60.00%	6.85	4.11		

K_e = 6.79%



Three Stage Free Cash Flow to Equity Discount Model

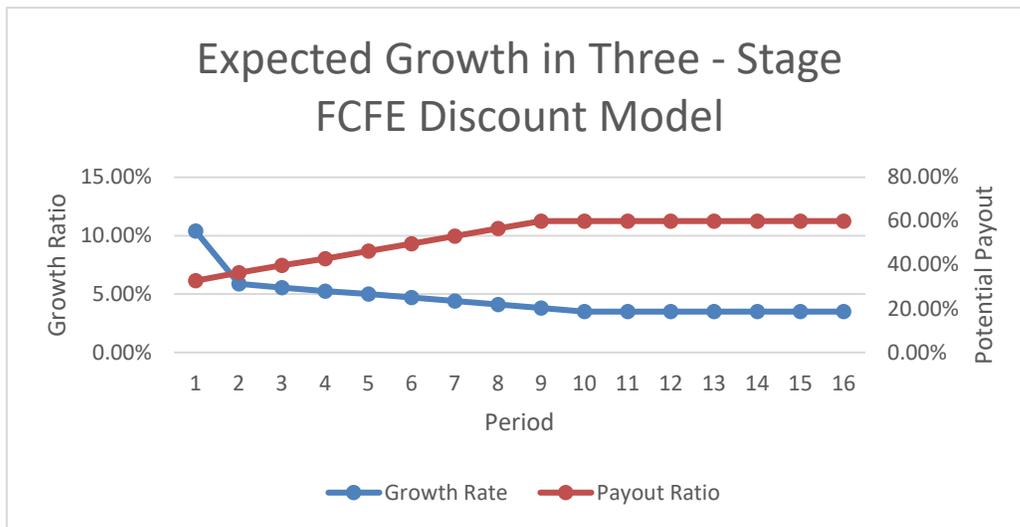
Company **ONE Gas Inc**

Ticker **ogs**

4.10% GDP
 15.5 Industry P/E
 60.0% Target Dividend Payout Ratio
 8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		118.74%	-18.74%	3.85			(63.72)
Stage 1	1	10.39%	67.23%	32.77%	4.25	1.39		1.39
	2	5.88%	63.49%	36.51%	4.50	1.64		1.64
	3	5.56%	60.15%	39.85%	4.75	1.89		1.89
	4	5.26%	57.14%	42.86%	5.00	2.14		2.14
	5	5.00%	53.71%	46.29%	5.25	2.43		2.43
Stage 2	6	4.70%	50.29%	49.71%	5.50	2.73		2.73
	7	4.40%	46.86%	53.14%	5.74	3.05		3.05
	8	4.10%	43.43%	56.57%	5.97	3.38		3.38
	9	3.80%	40.00%	60.00%	6.20	3.72		3.72
	10	3.50%	40.00%	60.00%	6.42	3.85	102.96	106.81
Stage 3	11+	3.50%	40.00%	60.00%	6.64	3.99		

K_e = 8.07%



Three Stage Free Cash Flow to Equity Discount Model

Company **UGI Corp**

Ticker **ugi**

4.10% GDP
 15.5 Industry P/E
 60.0% Target Dividend Payout Ratio
 8.8% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		-22.41%	122.41%	3.06			(24.60)
	1	-1.96%	42.86%	57.14%	3.00	1.71		1.71
	2	3.75%	41.31%	58.69%	3.11	1.83		1.83
Stage 1	3	3.61%	39.87%	60.13%	3.23	1.94		1.94
	4	3.49%	38.52%	61.48%	3.34	2.05		2.05
	5	3.37%	38.82%	61.18%	3.45	2.11		2.11
	6	3.40%	39.11%	60.89%	3.57	2.17		2.17
	7	3.42%	39.41%	60.59%	3.69	2.24		2.24
Stage 2	8	3.45%	39.70%	60.30%	3.82	2.30		2.30
	9	3.47%	40.00%	60.00%	3.95	2.37		2.37
	10	3.50%	40.00%	60.00%	4.09	2.45	65.57	68.02
Stage 3	11+	3.50%	40.00%	60.00%	4.23	2.54		

$K_e = 16.03\%$

