

COST OF CAPITAL STUDY

YIELD CAPITALIZATION

2024 Assessment Year

APPENDIX C

Electric Industry

EQUITY RATE						9.00%	
CAPITAL ASSET PRICING MODEL							PAGE
	CAPM Ex Ante		8.17%				4
DIVIDEND GROWTH MODELS Single Stage							
	Value Line, based on Dividends Growth		9.00%				5
	Value Line, based on Earnings Growth		8.95%				6
	Value Line, based on Return on Equity		8.65%				7
FCFE GROWTH MODEL Multi Stage							8
				RANGE	7.5% - 9%		
DEBT RATE						6.00%	9
SECURED DEBT (LEASE) RATE						5.00%	9
MARKET CAPITAL STRUCTURE							
	Equity	60%	x	9.00%	=	5.40%	3
	Debt	40%	x	6.00%	=	2.40%	3
	Marginal Tax Rate	24%	=	(1-.24)	x	2.40%	<u>1.82%</u>
WEIGHTED AVERAGE COST OF CAPITAL						7.22%	

SUPPORT FOR GUIDELINE COMPANIES

Washington State Department of Revenue

2024 Assessment Year

Electric Industry

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
Avista Corp	ava	0.90	B+	16.6	5.1%	2,517,900,000	49.0%			2,621,400,000	51.0%	5,139,300,000
Black Hills	bkh	1.00	B++	14.5	4.7%	3,179,000,000	45.6%			3,799,500,000	54.4%	6,978,500,000
Edison International	eix	1.00	B++	15.8	4.2%	1,242,562,500	4.0%	254,400,000	0.8%	29,532,000,000	95.2%	31,028,962,500
Idacorp Inc	ida	0.85	A	18.4	3.3%	2,899,350,000	50.6%			2,826,200,000	49.4%	5,725,550,000
NorthWestern Corp	nwe	0.95	B+	16.8	5.0%	2,929,500,000	53.5%			2,550,800,000	46.5%	5,480,300,000
Pinnacle West Capital Corp	pnw	0.95	B++	17.7	4.9%	6,140,350,000	42.9%			8,164,400,000	57.1%	14,304,750,000
PNM Resources Inc	pnm	0.90	B+	14.1	3.6%	2,296,487,500	36.9%	11,500,000	0.2%	3,914,200,000	62.9%	6,222,187,500
Portland General Electric	por	0.90	B++	18.4	4.3%	3,430,700,000	45.7%			4,077,000,000	54.3%	7,507,700,000
Sempra Energy	sre	1.00	A	16.5	3.2%	29,005,400,000	48.4%	2,278,000,000	3.8%	28,592,000,000	47.8%	59,875,400,000
Xcel Energy Inc	xel	0.85	A	19.9	3.4%	17,381,700,000	41.1%			24,910,000,000	58.9%	42,291,700,000
Mean		0.93		16.9	4.2%	7,102,295,000	41.8%			11,098,750,000	57.7%	
Harmonic Mean		0.93					22.3%				55.6%	
Weighted Mean						71,022,950,000	38.5%	2,543,900,000	1.4%	110,987,500,000	60.1%	184,554,350,000
Median		0.93			4.3%		45.6%				54.4%	

SUPPORT FOR CAPITAL STRUCTURE Market Value

Washington State Department of Revenue

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Electric Industry

Company	Ticker	Stock Price	Common Shares	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
Avista Corp	ava	35.74	77,000,000	2,751,980,000	55.3%	-		2,221,103,000	44.7%	4,973,083,000
Black Hills	bkh	53.27	68,000,000	3,622,360,000	46.2%	-		4,215,600,000	53.8%	7,837,960,000
(1)										
Idacorp Inc	ida	97.46	51,000,000	4,970,460,000	64.9%	-		2,684,278,000	35.1%	7,654,738,000
NorthWestern Corp	nwe	50.89	62,000,000	3,155,180,000	55.6%	-		2,521,030,000	44.4%	5,676,210,000
Pinnacle West Capit	pnw	70.94	113,500,000	8,051,690,000	51.6%	-		7,555,653,000	48.4%	15,607,343,000
PNM Resources Inc	pnm	41.15	85,850,000	3,532,727,500	62.5%	11,500,000	0.2%	2,107,588,000	37.3%	5,651,815,500
Portland General El	por	43.34	101,500,000	4,399,010,000	54.3%	-		3,705,000,000	45.7%	8,104,010,000
Sempra Energy	sre	74.73	646,000,000	48,275,580,000	63.4%	2,278,000,000	3.0%	25,617,000,000	33.6%	76,170,580,000
Xcel Energy Inc	xel	61.91	551,800,000	34,161,938,000	59.8%	-		22,927,000,000	40.2%	57,088,938,000
Mean					57.1%				1.6%	42.6%
Harmonic Mean					56.5%				0.4%	41.7%
Weighted Mean				112,920,925,500	59.8%	2,289,500,000	1.2%	73,554,252,000	39.0%	188,764,677,500
Median					55.6%				1.6%	44.4%
Std Dev					6.1%				2.0%	6.6%
Coefficient of Variation					10.7%				123.4%	15.5%
Target					60%				40%	100%

(1) EIX was an outlier and removed from consideration.

Edison International	eix	71.49	35,250,000	2,520,022,500	7.4%	254,400,000	0.7%	31,315,000,000	91.9%	34,089,422,500
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SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT CAPITAL ASSET PRICING MODEL

2024 Assessment Year

Ex Ante
Ke = Rf + B (Rp)

Ke = Cost of Equity				8.17%
				to page 1
	Rm =	rate of return	8.48%	
	Rf =	risk free rate	4.03%	
	Rp =	risk premium	4.45%	
	B =	Beta	0.93	page 7
Rp = Risk Premium				4.45%
				to above
	Shannon Pratt and Roger Grabowski		3.50% - 6.00%	
	Cost of Capital, App and Exam, 5th Ed, 2014			
	Dr. Aswath Damodaran		4.60%	chart page 13
	http://pages.stern.nyu.edu/~adamodar/		4.45%	adjusted for Rf
	2023 Implied Premium			
Rf = Risk Free Rate				4.03%
	Value Line Investment Survey, Selected Yields January 12, 2024, page 829			
	as of 12-29-23			
	US Treasury Securities year end data			
	5 year		3.84%	
	10 year		3.88%	
	30 year		4.03%	
	30 year Zero		4.00%	
	Federal Reserve Statistical Release (http://www.federalreserve.gov/Releases/H15/Current/)			
	As of 12-29-23			
	Treasury Constant Maturities			
	5 year		3.84%	
	10 year		3.88%	
	20 year		4.20%	
	30 year		4.03%	
	20 year TIPS		<u>1.82%</u>	2.38%
	30 year TIPS		<u>1.90%</u>	2.13%
				TIPS inflation indication
Inflation				2.13%
				to appraisal template
	The Livingston Survey December 15, 2023, page 2, 8			
	Inflation median (measured by the Consumer Price Index) over next 10 years			2.26%
Gross Domestic Product (GDP) Nominal				3.93%
				real GDP + inflation est
	Federal Reserve Projected Long Run Real GDP Growth			
	Median Projection Value From Dec 13, 2023 Report			1.80%
	https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20231213.pdf			
	Congressional Budget Office Real GDP Economic Projections			
	The Budget and Economic Outlook 2024-2034			Table 2.3, pg 55
	Average Percentage Change Year To Year	2024-2028		2.20%
	https://www.cbo.gov/system/files/2024-02/59710-Outl	2029-2034		1.90%
	Federal Reserve Bank of Philadelphia			
	The Livingston Survey, December 15, 2023, page 8			
	Average Real GDP Growth Rate for Next 10 Years			2.00%
	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
2024 Assessment Year
Electric Industry

Based on Dividend Growth

$$K_e = (D_1 / P_0) + G$$

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

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Dividend Growth (G)	Ke with Short Term Growth
Avista Corp	ava	35.74	1.92	5.37%	4.50%	9.87%
Black Hills	bkh	53.27	2.58	4.84%	4.50%	9.34%
Edison International	eix	71.49	3.14	4.39%	5.00%	9.39%
Idacorp Inc	ida	97.46	3.40	3.49%	6.50%	9.99%
NorthWestern Corp	nwe	50.89	2.60	5.11%	2.00%	7.11%
Pinnacle West Capital	pnw	70.94	3.55	5.00%	2.00%	7.00%
PNM Resources Inc	pnm	41.15	1.58	3.84%	6.00%	9.84%
Portland General Elect	por	43.34	1.98	4.57%	5.50%	10.07%
Sempra Energy	sre	74.73	2.50	3.35%	5.50%	8.85%
Xcel Energy Inc	xel	61.91	2.22	3.59%	6.00%	9.59%
Mean						9.10%
Harmonic Mean						8.96%
Median						9.49%
Max						10.07%
Min						7.00%
Std Dev						1.14%
Coefficient of Variation						
Say						9.00%

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT DIVIDEND GROWTH MODEL

Washington State Department of Revenue

2024 Assessment Year

Electric Industry

Based on Earnings Growth

$$K_e = (D_1 / P_0) + G$$

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)	Earnings Growth (G)	Ke with Short Term Growth
Avista Corp	ava	35.74	1.92	5.37%	6.00%	11.37%
Black Hills	bkh	53.27	2.58	4.84%	3.00%	7.84%
Edison International	eix	71.49	3.14	4.39%	4.50%	8.89%
Idacorp Inc	ida	97.46	3.40	3.49%	4.00%	7.49%
NorthWestern Corp	nwe	50.89	2.60	5.11%	3.50%	8.61%
Pinnacle West Capital	pnw	70.94	3.55	5.00%	2.50%	7.50%
PNM Resources Inc	pnm	41.15	1.58	3.84%	5.00%	8.84%
Portland General Electric	por	43.34	1.98	4.57%	5.00%	9.57%
Sempra Energy	sre	74.73	2.50	3.35%	6.50%	9.85%
Xcel Energy Inc	xel	61.91	2.22	3.59%	6.00%	9.59%
Mean						8.95%
Harmonic Mean						8.82%
Median						8.87%
Max						11.37%
Min						7.49%
Std Dev						1.20%
Coefficient of Variation						13.44%
Say						8.95%

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT

DIVIDEND GROWTH MODEL

Washington State Department of Revenue

2024 Assessment Year

Electric Industry

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
Avista Corp	ava	35.74	1.92	2.45	5.37%	20.0%	6.86%	1.37%	6.74%	8.23%
Black Hills	bkh	53.27	2.58	3.90	4.84%	34.0%	7.32%	2.49%	7.33%	9.81%
Edison International	eix	71.49	3.14	5.10	4.39%	32.0%	7.13%	2.28%	6.68%	9.42%
Idacorp Inc	ida	97.46	3.40	5.45	3.49%	38.0%	5.59%	2.12%	5.61%	7.72%
NorthWestern Corp	nwe	50.89	2.60	3.55	5.11%	18.0%	6.98%	1.26%	6.36%	8.23%
Pinnacle West Capital	pnw	70.94	3.55	4.60	5.00%	18.0%	6.48%	1.17%	6.17%	7.65%
PNM Resources Inc	pnm	41.15	1.58	2.85	3.84%	45.0%	6.93%	3.12%	6.96%	10.04%
Portland General Electric	por	43.34	1.98	3.00	4.57%	28.0%	6.92%	1.94%	6.51%	8.86%
Sempra Energy	sre	74.73	2.50	4.80	3.35%	NMF	6.42%	NMF	NMF	NMF
Xcel Energy Inc	xel	61.91	2.22	3.55	3.59%	38.0%	5.73%	2.18%	5.76%	7.91%
Mean									6.46%	8.65%
Harmonic Mean									6.42%	8.57%
Median									6.51%	8.23%
Std Dev									0.55%	0.91%
Coefficient of Variation									8.53%	10.56%
say									8.65%	

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

Washington State Department of Revenue

2024 Assessment Year

Electric Industry

Company	Ticker	Stock Price	Expected Earnings	P/E	Payout Ratio	ROE	Ke
Avista Corp	ava	35.74	2.45	14.59	78.00%	7.50%	8.01%
Black Hills	bkh	53.27	3.90	13.66	66.00%	8.00%	8.76%
Edison International	eix	71.49	5.10	14.02	65.00%	12.50%	8.49%
Idacorp Inc	ida	97.46	5.45	17.88	62.00%	9.00%	5.20%
NorthWestern Corp	nwe	50.89	3.55	14.34	73.00%	7.50%	8.18%
Pinnacle West Capital	pnw	70.94	4.60	15.42	78.00%	8.50%	7.51%
PNM Resources Inc	pnm	41.15	2.85	14.44	55.00%	10.00%	8.11%
Portland General Electric	por	43.34	3.00	14.45	66.00%	8.50%	8.24%
Sempra Energy	sre	74.73	4.80	15.57	52.00%	10.50%	7.44%
Xcel Energy Inc	xel	61.91	3.55	17.44	62.00%	10.50%	5.87%
Mean				15.18	65.70%	9.25%	7.58%
Harmonic Mean				15.07	64.64%	9.02%	7.39%
Median				14.52	65.50%	8.75%	8.06%
Industry Summary				15.00	65.00%	9.00%	
						Say	7.50%

SUPPORT FOR DEBT RATING AND DEBT YIELD RATE

Washington State Department of Revenue

2024 Assessment Year

Electric Industry

Company	Ticker	Mergent's Ratings	S&P Ratings
Avista Corp	ava	Baa2	BBB
Black Hills	bkh	Baa2	BBB+
Edison International	eix	Baa2	BBB
Idacorp Inc	ida	Baa2	BBB
NorthWestern Corp	nwe	Baa2	BBB
Pinnacle West Capital Corp	pnw	Baa1	BBB+
PNM Resources Inc	pnm	Baa2	BBB
Portland General Electric	por	A3	BBB+
Sempra Energy	sre	Baa2	BBB+
Xcel Energy Inc	xel	Baa1	BBB+
Overall Average Debt Rating		Baa2	BBB

Mergent's Bond Record January 2024, page 101				
Corporate	Aaa	Aa	A	Baa
October	5.61%	5.97%	6.18%	6.63%
November	5.61%	5.57%	5.78%	6.19%
December	4.74%	5.05%	5.25%	5.64%
4th Qtr Average	5.32%	5.53%	5.74%	6.15%
Public Utilities	Aaa	Aa	A	Baa
October		6.19%	6.34%	6.61%
November		5.82%	5.96%	6.20%
December		5.27%	5.42%	5.68%
4th Qtr Average		5.76%	5.91%	6.16%
Industrials	Aaa	Aa	A	Baa
October	5.61%	5.76%	6.02%	6.64%
November	5.20%	5.32%	5.59%	6.18%
December	4.74%	4.82%	5.07%	5.60%
4th Qtr Average	5.18%	5.30%	5.56%	6.14%

	20Y	25Y	30Y
Bloomberg S&P Bond Yields			
December 2023: BBB+	6.03%	5.91%	5.79%
December 2023: BBB	6.33%	6.29%	6.28%

Debt Yield Rate

Cost of Secured Debt (Operating Lease) Rate

6.00%

5.00%

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

2024 Assessment Year

Electric Industry

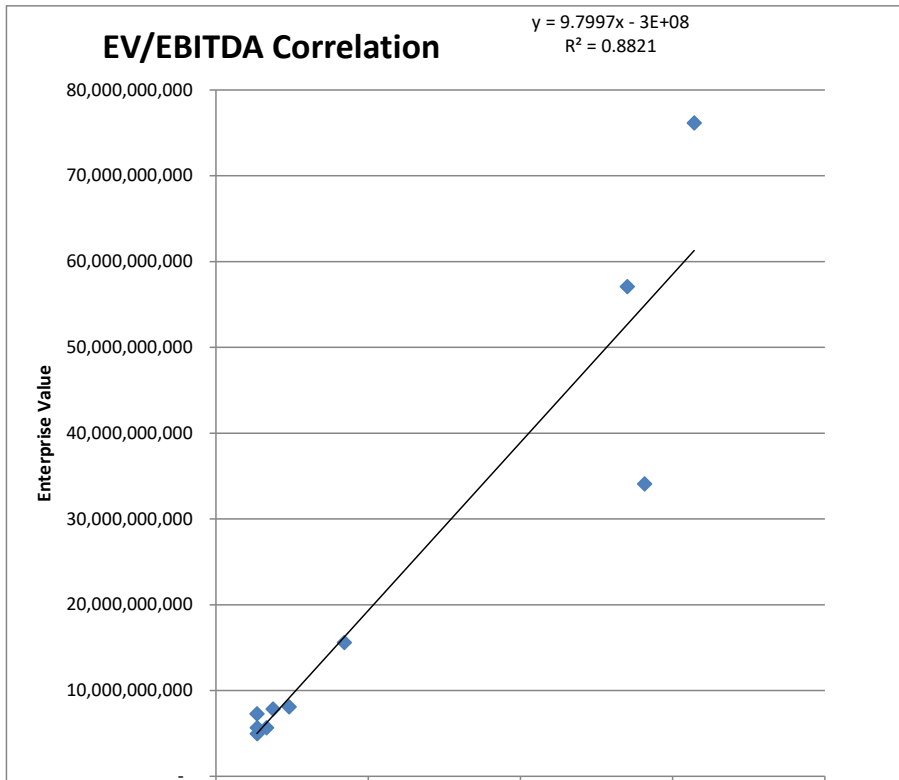
Company	Ticker	Stock Price	2023		2024		2023		2024	
			Actual Earnings Ratio (EPS/P)		Projected Earnings Ratio (PEPS/P)		Cash Flow Ratio (CF/P)		Projected Cash Flow Ratio	
Avista Corp	ava	35.74	2.30	6.4%	2.45	6.9%	5.70	15.9%	5.90	16.5%
Black Hills	bkh	53.27	3.80	7.1%	3.90	7.3%	7.80	14.6%	8.00	15.0%
Edison International	eix	71.49	4.70	6.6%	5.10	7.1%	12.35	17.3%	13.00	18.2%
Idacorp Inc	ida	97.46	5.15	5.3%	5.45	5.6%	8.80	9.0%	9.35	9.6%
NorthWestern Corp	nwe	50.89	3.10	6.1%	3.55	7.0%	6.45	12.7%	7.15	14.0%
Pinnacle West Capital Co	pnw	70.94	4.25	6.0%	4.60	6.5%	13.35	18.8%	13.40	18.9%
PNM Resources Inc	pnm	41.15	2.80	6.8%	2.85	6.9%	6.85	16.6%	7.05	17.1%
Portland General Electric	por	43.34	2.60	6.0%	3.00	6.9%	6.90	15.9%	7.75	17.9%
Sempra Energy	sre	74.73	4.60	6.2%	4.80	6.4%	7.85	10.5%	8.30	11.1%
Xcel Energy Inc	xel	61.91	3.35	5.4%	3.55	5.7%	8.25	13.3%	8.65	14.0%
Mean			6.2%		6.6%		14.5%		15.2%	
Harmonic Mean			6.1%		6.6%		13.8%		14.6%	
Median			6.1%		6.9%		15.3%		15.8%	
Max			7.1%		7.3%		18.8%		18.9%	
Min			5.3%		5.6%		9.0%		9.6%	
Std Dev			0.6%		0.6%		3.1%		3.1%	
Coefficient of Variation			9.3%		8.7%		21.3%		20.3%	
Say			6.0%		6.6%		14.5%		15.0%	

Source: Value Line / yr end stock price

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

2024 Assessment Year

Company	Ticker	Stock Price	Enterprise Value	EBITDA Historical	Annual Change VL	EBITDA Forecast	EV / EBITDA Forecast	Revenue Forecast	EV / Sales Forecast	CF Forecast	Debt Svc	EV/CF Forecast
Avista Corp	ava	35.74	4,973,083,000	523,099,000	3.51%	541,453,351	9.18	1,774,850,000	2.80	454,300,000	133,266,180	8.46
Black Hills	bkh	53.27	7,837,960,000	729,500,000	2.56%	748,205,128	10.48	2,611,200,000	3.00	544,000,000	252,936,000	9.84
Edison International	ex	71.49	34,089,422,500	5,349,000,000	5.26%	5,630,526,316	6.05	1,644,412,500	20.73	458,250,000	1,878,900,000	14.59
Idacorp Inc	ida	97.46	7,284,760,000	506,872,000	6.25%	538,551,500	13.53	1,693,200,000	4.30	476,850,000	161,056,680	11.42
NorthWestern Corp	nwe	50.89	5,676,210,000	487,622,000	10.85%	540,542,217	10.50	1,599,600,000	3.55	443,300,000	151,261,800	9.55
Pinnacle West Capital Corp	pnw	70.94	15,607,343,000	1,678,776,000	0.37%	1,685,063,551	9.26	4,619,450,000	3.38	1,520,900,000	453,339,180	7.91
PNM Resources Inc	pnm	41.15	5,651,815,500	644,386,000	2.92%	663,200,190	8.52	2,219,222,500	2.55	605,242,500	126,455,280	7.72
Portland General Electric	por	43.34	8,104,010,000	854,000,000	12.32%	959,202,899	8.45	3,207,400,000	2.53	786,625,000	222,300,000	8.03
Sempra Energy	sre	74.73	76,170,580,000	5,942,000,000	5.73%	6,282,624,204	12.12	18,443,300,000	4.13	5,361,800,000	1,537,020,000	11.04
Xcel Energy Inc	xel	61.91	57,088,938,000	5,155,000,000	4.85%	5,404,939,394	10.56	15,477,990,000	3.69	4,773,070,000	1,375,620,000	9.28
10							Mean	9.87	5.07			9.78
							Harmonic Mean	9.44	3.51			9.44
							Median	9.87	3.46			9.42
							Std Dev	2.08	5.54			2.11
Say								9.75	4.00			9.75



Forecast EV/EBITDA By Rank

Guideline Companies	EV/EBITDA forecast		
Edison International	6.05		
Portland General Electric	8.45		
PNM Resources Inc	8.52	8.29	Low Average
Avista Corp	9.18	8.52	Low Median
Pinnacle West Capital Corp	9.26	8.40	Say
Black Hills	10.48	11.44	High Average
NorthWestern Corp	10.50	10.56	High Median
Xcel Energy Inc	10.56	11.00	Say
Sempra Energy	12.12		
Idacorp Inc	13.53		

- 2,000,000,000 4,000,000,000 6,000,000,000 8,000,000,000
EBITDA (Forecast)

◆ EV/EBITDA — Linear (EV/EBITDA)

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*	Divs + Buyb	Change in Earnings	Change in Dividends	T.Bill Rate	T.Bond Rate	Bond-Bill	Implied Growth	Premium	Growth Es	Implied Premium (FCFE)	Implied Premium	ERP/Riskfree Rate
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	40.6	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%	1115.1	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%	1257.6	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%	3.2
2012	7.18%	2.13%	1426.19	102.47	30.44	75.9	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%	2058.9	113.01	39.44	101.98	5.17%	8.71%	0.05%	2.17%	2.12%	2.77%	2.24%	5.58%	5.78%	5.48%	2.66
2015	5.20%	2.11%	2043.94	106.32	43.16	106.1	-5.92%	9.43%	0.21%	2.27%	2.06%	2.96%	2.46%	5.51%	6.12%	5.16%	2.7
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	58.8	150.5	9.44%	9.68%	1.55%	1.92%	0.37%	2.57%	2.03%	3.96%	5.20%	5.06%	2.71
2020	3.72%	1.51%	3756.07	139.76	56.7	127.78	-13.91%	-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	59.2	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

DATA INPUT

Washington State Department of Revenue

2024 Assessment Year

Electric Industry

Guideline Companies		Historic Figures (2023)													
		Stock Price 12/29/23	Beta Levered	Fin'l Strength	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Dividends Per Share	Bk Value Per Share	Mkt/Bk	Common Shares	LTD (BV)	Trailing P/E Ratio	Div Yield	Calculated Debt
Name	Ticker	Yahoo	VL	VL	VL	VL	VL	VL	VL	Formula	VL	VL	VL	VL	Formula
Avista Corp	ava	35.74	0.90	B+	23.40	5.70	2.30	1.84	32.70	1.09	77,000,000	2,621,400,000	16.6	5.0%	84.00%
Black Hills	bkh	53.27	1.00	B++	36.75	7.80	3.80	2.50	46.75	1.14	68,000,000	3,799,500,000	14.5	4.6%	95.78%
Edison International	eix	71.49	1.00	B++	43.90	12.35	4.70	2.99	35.25	2.03	35,250,000	29,532,000,000	15.8	4.3%	94.86%
Idacorp Inc	ida	97.46	0.85	A	32.55	8.80	5.15	3.20	56.85	1.71	51,000,000	2,826,200,000	18.4	3.4%	95.00%
NorthWestern Corp	nwe	50.89	0.95	B+	24.50	6.45	3.10	2.56	47.25	1.08	62,000,000	2,550,800,000	16.8	5.1%	90.54%
Pinnacle West Capital Corp	pnw	70.94	0.95	B++	41.40	13.35	4.25	3.49	54.10	1.31	113,500,000	8,164,400,000	17.7	4.8%	89.78%
PNM Resources Inc	pnm	41.15	0.90	B+	24.15	6.85	2.80	1.49	26.75	1.54	85,850,000	3,914,200,000	14.1	4.0%	93.18%
Portland General Electric	por	43.34	0.90	B++	28.55	6.90	2.60	1.88	33.80	1.28	101,500,000	4,077,000,000	18.4	4.5%	92.65%
Sempra Energy	sre	74.73	1.00	A	27.35	7.85	4.60	2.38	44.90	1.66	646,000,000	28,592,000,000	16.5	3.2%	92.43%
Xcel Energy Inc	xel	61.91	0.85	A	26.75	8.25	3.35	2.08	31.50	1.97	551,800,000	24,910,000,000	19.9	3.5%	90.03%
Average												16.9			
Harmonic Mean												16.7			
Median												16.7			

			Projected (Next Year) 2024									Longer Term Forecasts		Income Statement		
Payout Ratio	Div to Net Profits	Rtn on Shrhldrs Equity	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Dividends Per Share	Bk Value Per Share	Div to Net Profits	Rtn on Shrhldrs Equity	CF Projection 26-28	Earnings Projection 26-28	Earnings Growth 26-28	Dividend Growth 26-28	Operating Income	Current Assets	PP & E Gross
Formula	V L	V L	V L	V L	V L	V L	V L	VL	V L	V L	VL	VL	VL	Yahoo	Yahoo	Yahoo
80.00%	80%	7.0%	23.05	5.90	2.45	1.92	33.15	78%	7.5%	6.50	2.90	6.0%	4.5%	257,690,000	661,842,000	8,116,820,000
65.79%	66%	8.0%	38.40	8.00	3.90	2.58	48.70	66%	8.0%	9.25	4.50	3.0%	4.5%	472,700,000	826,600,000	8,917,200,000
63.62%	68%	11.5%	46.65	13.00	5.10	3.14	35.00	65%	12.5%	14.50	6.00	4.5%	5.0%	2,628,000,000	6,811,000,000	70,329,000,000
62.14%	62%	9.0%	33.20	9.35	5.45	3.40	59.25	62%	9.0%	10.65	6.10	4.0%	6.5%	306,964,000	1,004,054,000	8,302,974,000
82.58%	82%	6.0%	25.80	7.15	3.55	2.60	48.25	73%	7.5%	8.35	4.15	3.5%	2.0%	280,520,000	538,824,000	7,843,783,000
82.12%	82%	7.5%	40.70	13.40	4.60	3.55	56.75	78%	8.5%	15.00	5.70	2.5%	2.0%	824,640,000	1,926,967,000	27,813,760,000
53.21%	55%	10.0%	25.85	7.05	2.85	1.58	27.75	55%	10.0%	8.35	3.35	5.0%	6.0%	303,263,000	410,978,000	9,759,583,000
72.31%	72%	7.5%	31.60	7.75	3.00	1.98	35.00	66%	8.5%	9.30	3.65	5.0%	5.5%	396,000,000	935,000,000	14,303,000,000
51.74%	52%	10.5%	28.55	8.30	4.80	2.50	47.00	52%	10.5%	10.25	6.00	6.5%	5.5%	3,715,000,000	5,470,000,000	73,218,000,000
62.09%	62%	10.5%	28.05	8.65	3.55	2.22	33.15	62%	10.5%	10.10	4.25	6.0%	6.0%	2,588,000,000	4,069,000,000	75,176,000,000
	68.1%	8.8%							65.7%	9.25%	10.23					
	66.5%	8.4%							64.6%	9.02%	9.66					
	67.0%	8.5%							65.5%	8.75%	9.70					

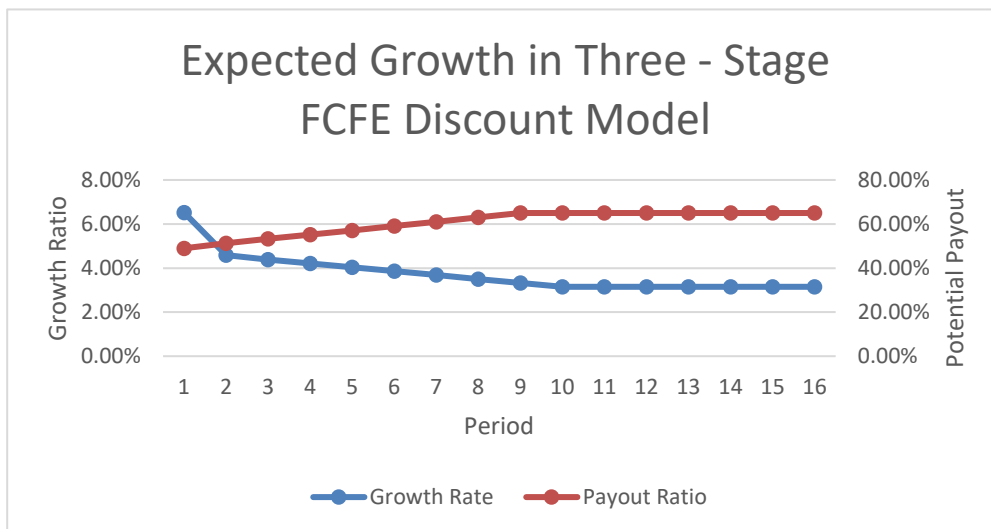
Balance Sheet			Cash Flow Statement	Other Financials	
Intangibles (excl. GW)	Current Liabilities	Long Term Debt Less Current Maturities	Depreciation & Amortization	Carrying Value Debt	Fair Value Debt
Yahoo	Yahoo	Yahoo	Yahoo	10-K	10-K
-	775,205,000	2,566,905,000	265,409,000	2,644,042,000	2,221,103,000
8,400,000	1,185,100,000	3,801,200,000	256,800,000	4,401,200,000	4,215,600,000
	8,598,000,000	30,316,000,000	2,721,000,000	33,013,000,000	31,315,000,000
	634,076,000	2,775,790,000	199,908,000	2,825,590,000	2,684,278,000
	620,845,000	2,474,357,000	207,102,000	2,784,585,000	2,521,030,000
267,110,000	2,889,347,000	7,540,622,000	854,136,000	8,415,622,000	7,555,653,000
	890,370,000	3,892,594,000	341,123,000	2,261,780,000	2,107,588,000
	1,112,000,000	3,905,000,000	458,000,000	3,999,000,000	3,705,000,000
318,000,000	10,090,000,000	27,759,000,000	2,227,000,000	27,716,000,000	25,617,000,000
	5,652,000,000	24,913,000,000	2,567,000,000	25,465,000,000	22,927,000,000

Three Stage Free Cash Flow to Equity Discount Model

Company **Avista Corp** 3.93% GDP
 Ticker **ava** 15.0 Industry P/E
65.0% Target Dividend Payout Ratio
9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		72.46%	27.54%	2.30			(35.74)
	1	6.52%	51.02%	48.98%	2.45	1.20		1.20
	2	4.59%	48.78%	51.22%	2.56	1.31		1.31
Stage 1	3	4.39%	46.73%	53.27%	2.68	1.43		1.43
	4	4.21%	44.84%	55.16%	2.79	1.54		1.54
	5	4.04%	42.87%	57.13%	2.90	1.66		1.66
	6	3.86%	40.91%	59.09%	3.01	1.78		1.78
	7	3.68%	38.94%	61.06%	3.12	1.91		1.91
Stage 2	8	3.50%	36.97%	63.03%	3.23	2.04		2.04
	9	3.33%	35.00%	65.00%	3.34	2.17		2.17
	10	3.15%	35.00%	65.00%	3.44	2.24	53.30	55.54
Stage 3	11+	3.15%	35.00%	65.00%	3.55	2.31		

$K_e = 8.01%$

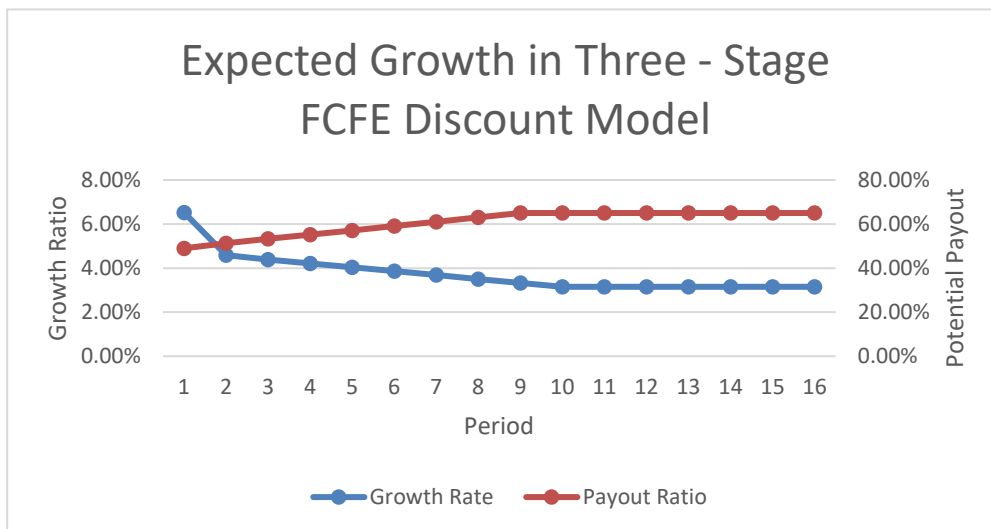


Three Stage Free Cash Flow to Equity Discount Model

Company **Black Hills** 3.93% GDP
 Ticker **bkh** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		29.24%	70.76%	3.80			(53.27)
	1	2.63%	42.74%	57.26%	3.90	2.23		2.23
	2	3.85%	41.15%	58.85%	4.05	2.38		2.38
Stage 1	3	3.70%	39.68%	60.32%	4.20	2.53		2.53
	4	3.57%	38.31%	61.69%	4.35	2.68		2.68
	5	3.45%	37.65%	62.35%	4.50	2.81		2.81
	6	3.39%	36.99%	63.01%	4.65	2.93		2.93
Stage 2	7	3.33%	36.33%	63.67%	4.81	3.06		3.06
	8	3.27%	35.66%	64.34%	4.96	3.19		3.19
	9	3.21%	35.00%	65.00%	5.12	3.33		3.33
	10	3.15%	35.00%	65.00%	5.29	3.44	81.78	85.21
Stage 3	11+	3.15%	35.00%	65.00%	5.45	3.54		

$K_e = 8.76%$



Three Stage Free Cash Flow to Equity Discount Model

Company	Edison Internati	3.93%	GDP
Ticker	eix	15.0	Industry P/E
		65.0%	Target Dividend Payout Ratio
		9.0%	Target ROE

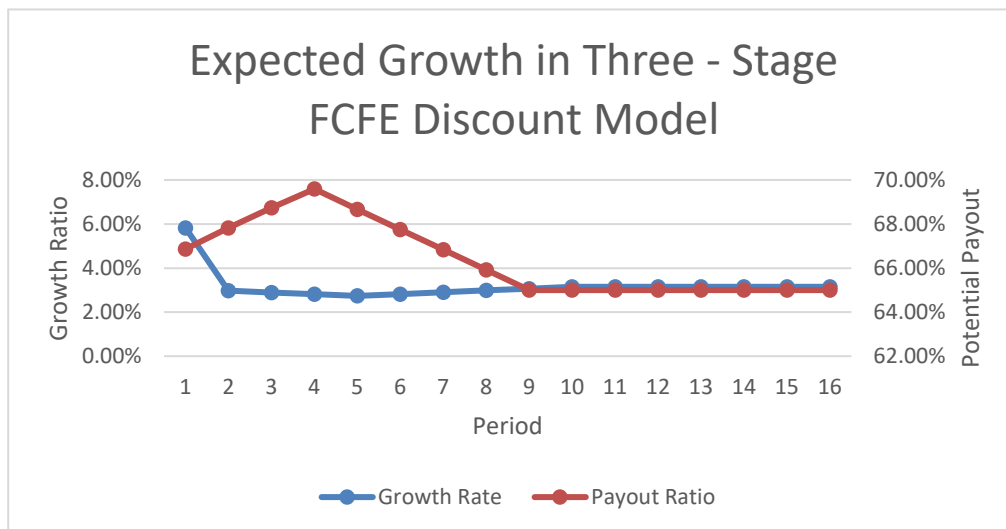
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		94.56%	5.44%	4.70			(71.49)
	1	8.51%	49.02%	50.98%	5.10	2.60		2.60
	2	4.41%	46.95%	53.05%	5.33	2.83		2.83
Stage 1	3	4.23%	45.05%	54.95%	5.55	3.05		3.05
	4	4.05%	43.29%	56.71%	5.78	3.27		3.27
	5	3.90%	41.63%	58.37%	6.00	3.50		3.50
	6	3.75%	39.97%	60.03%	6.22	3.74		3.74
	7	3.60%	38.32%	61.68%	6.45	3.98		3.98
Stage 2	8	3.45%	36.66%	63.34%	6.67	4.23		4.23
	9	3.30%	35.00%	65.00%	6.89	4.48		4.48
	10	3.15%	35.00%	65.00%	7.11	4.62	109.98	114.60
Stage 3	11+	3.15%	35.00%	65.00%	7.33	4.77		
							$K_e =$	8.49%

Three Stage Free Cash Flow to Equity Discount Model

Company **Idacorp Inc** 3.93% GDP
 Ticker **ida** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		64.72%	35.28%	5.15			(97.46)
	1	5.83%	33.13%	66.87%	5.45	3.64		3.64
	2	2.98%	32.17%	67.83%	5.61	3.81		3.81
Stage 1	3	2.90%	31.27%	68.73%	5.78	3.97		3.97
	4	2.81%	30.41%	69.59%	5.94	4.13		4.13
	5	2.74%	31.33%	68.67%	6.10	4.19		4.19
	6	2.82%	32.25%	67.75%	6.27	4.25		4.25
	7	2.90%	33.16%	66.84%	6.45	4.31		4.31
Stage 2	8	2.98%	34.08%	65.92%	6.65	4.38		4.38
	9	3.07%	35.00%	65.00%	6.85	4.45		4.45
	10	3.15%	35.00%	65.00%	7.07	4.59	109.33	113.93
Stage 3	11+	3.15%	35.00%	65.00%	7.29	4.74		

$K_e = 5.20\%$

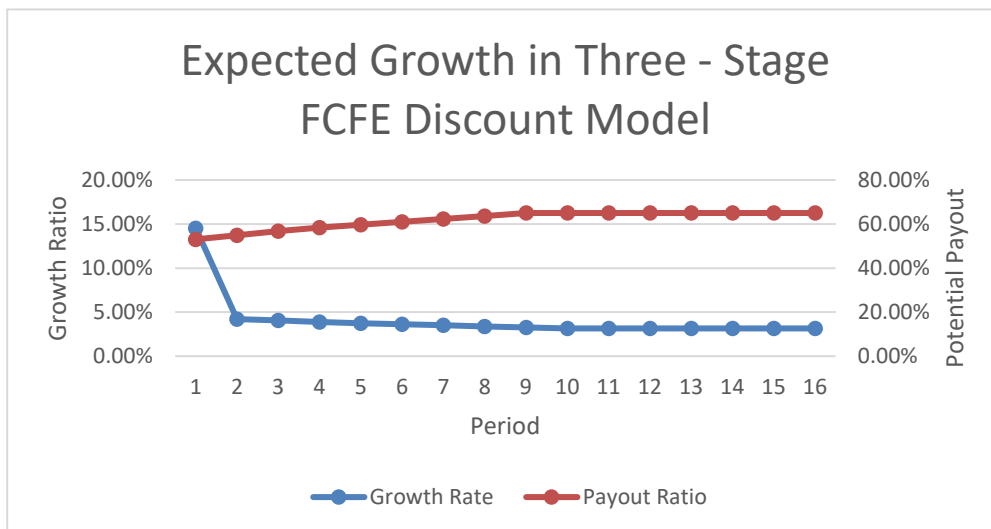


Three Stage Free Cash Flow to Equity Discount Model

Company **NorthWestern** 3.93% GDP
 Ticker **nwe** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		161.29%	-61.29%	3.10			(50.89)
Stage 1	1	14.52%	46.95%	53.05%	3.55	1.88		1.88
	2	4.23%	45.05%	54.95%	3.70	2.03		2.03
	3	4.05%	43.29%	56.71%	3.85	2.18		2.18
	4	3.90%	41.67%	58.33%	4.00	2.33		2.33
	5	3.75%	40.33%	59.67%	4.15	2.48		2.48
Stage 2	6	3.63%	39.00%	61.00%	4.30	2.62		2.62
	7	3.51%	37.67%	62.33%	4.45	2.77		2.77
	8	3.39%	36.33%	63.67%	4.60	2.93		2.93
	9	3.27%	35.00%	65.00%	4.75	3.09		3.09
	10	3.15%	35.00%	65.00%	4.90	3.19	75.86	79.04
Stage 3	11+	3.15%	35.00%	65.00%	5.06	3.29		

$K_e = 8.18\%$

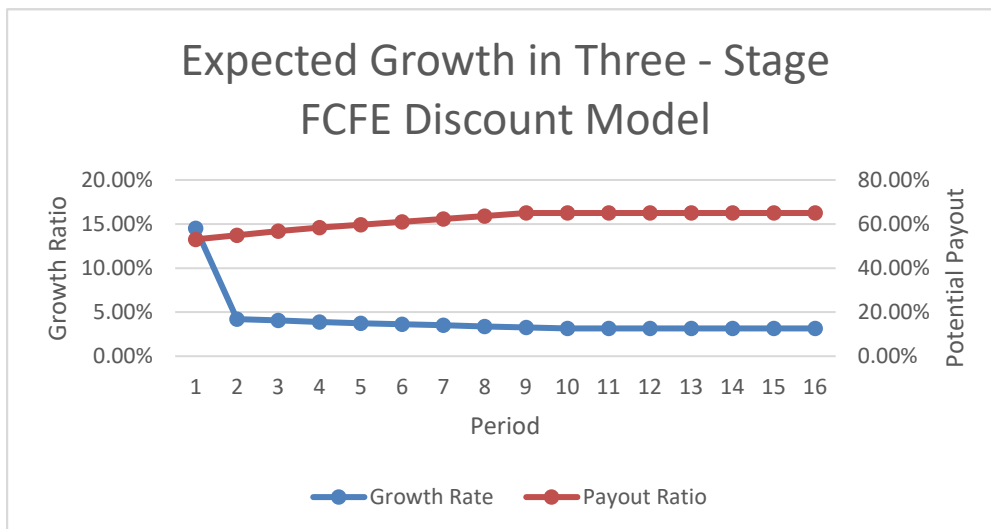


Three Stage Free Cash Flow to Equity Discount Model

Company **Pinnacle West** 3.93% GDP
 Ticker **pnw** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		91.50%	8.50%	4.25			(70.94)
	1	8.24%	66.43%	33.57%	4.60	1.54		1.54
	2	5.98%	62.68%	37.32%	4.88	1.82		1.82
Stage 1	3	5.64%	59.33%	40.67%	5.15	2.09		2.09
	4	5.34%	56.32%	43.68%	5.43	2.37		2.37
	5	5.07%	52.06%	47.94%	5.70	2.73		2.73
	6	4.69%	47.79%	52.21%	5.97	3.12		3.12
Stage 2	7	4.30%	43.53%	56.47%	6.22	3.51		3.51
	8	3.92%	39.26%	60.74%	6.47	3.93		3.93
	9	3.53%	35.00%	65.00%	6.70	4.35		4.35
	10	3.15%	35.00%	65.00%	6.91	4.49	106.87	111.36
Stage 3	11+	3.15%	35.00%	65.00%	7.12	4.63		

$K_e = 7.51\%$

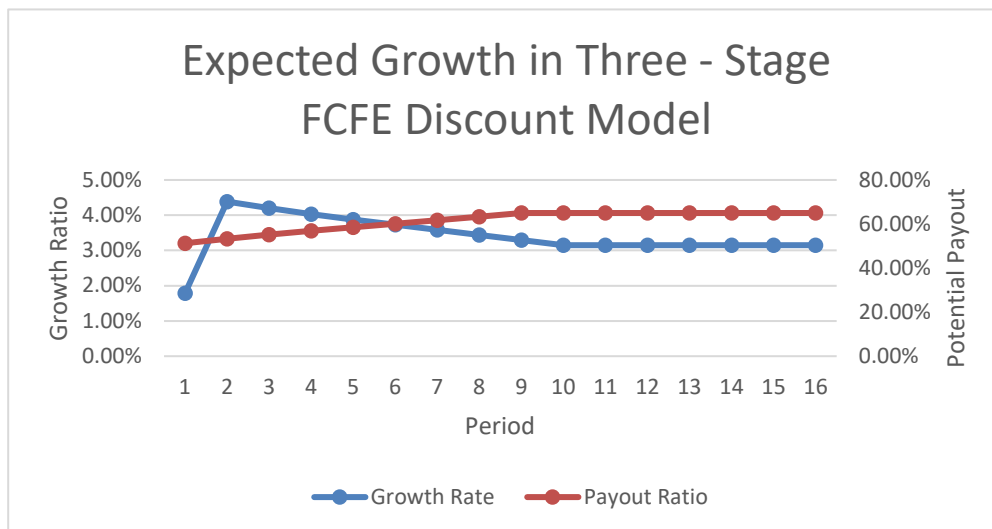


Three Stage Free Cash Flow to Equity Discount Model

Company **PNM Resources** 3.93% GDP
 Ticker **pnm** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		19.84%	80.16%	2.80			(41.15)
	1	1.79%	48.73%	51.27%	2.85	1.46		1.46
	2	4.39%	46.69%	53.31%	2.98	1.59		1.59
Stage 1	3	4.20%	44.80%	55.20%	3.10	1.71		1.71
	4	4.03%	43.07%	56.93%	3.23	1.84		1.84
	5	3.88%	41.45%	58.55%	3.35	1.96		1.96
	6	3.73%	39.84%	60.16%	3.47	2.09		2.09
Stage 2	7	3.59%	38.23%	61.77%	3.60	2.22		2.22
	8	3.44%	36.61%	63.39%	3.72	2.36		2.36
	9	3.30%	35.00%	65.00%	3.85	2.50		2.50
	10	3.15%	35.00%	65.00%	3.97	2.58	61.38	63.96
Stage 3	11+	3.15%	35.00%	65.00%	4.09	2.66		

$K_e = 8.11\%$

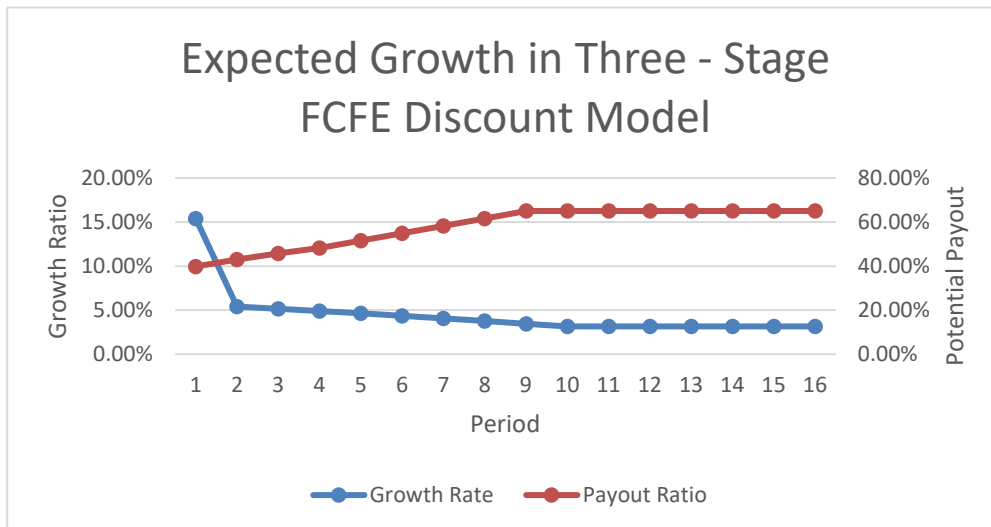


Three Stage Free Cash Flow to Equity Discount Model

Company **Portland General** 3.93% GDP
 Ticker **por** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		170.94%	-70.94%	2.60			(43.34)
Stage 1	1	15.38%	60.19%	39.81%	3.00	1.19		1.19
	2	5.42%	57.09%	42.91%	3.16	1.36		1.36
	3	5.14%	54.30%	45.70%	3.33	1.52		1.52
	4	4.89%	51.77%	48.23%	3.49	1.68		1.68
	5	4.66%	48.42%	51.58%	3.65	1.88		1.88
Stage 2	6	4.36%	45.06%	54.94%	3.81	2.09		2.09
	7	4.06%	41.71%	58.29%	3.96	2.31		2.31
	8	3.75%	38.35%	61.65%	4.11	2.54		2.54
	9	3.45%	35.00%	65.00%	4.25	2.77		2.77
	10	3.15%	35.00%	65.00%	4.39	2.85	67.90	70.75
Stage 3	11+	3.15%	35.00%	65.00%	4.53	2.94		

$K_e = 8.24\%$

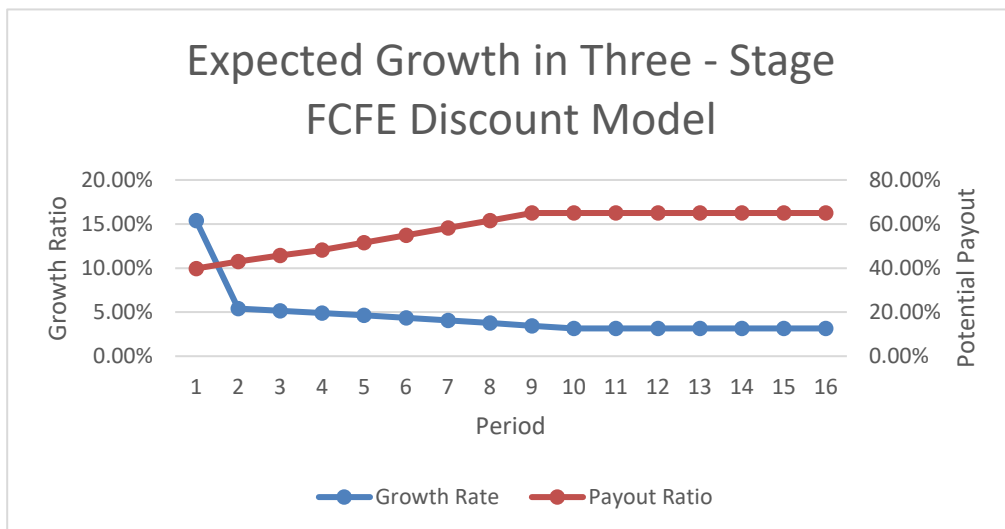


Three Stage Free Cash Flow to Equity Discount Model

Company **Sempra Energy** 3.93% GDP
 Ticker **sre** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		48.31%	51.69%	4.60			(74.73)
	1	4.35%	69.44%	30.56%	4.80	1.47		1.47
	2	6.25%	65.36%	34.64%	5.10	1.77		1.77
Stage 1	3	5.88%	61.73%	38.27%	5.40	2.07		2.07
	4	5.56%	58.48%	41.52%	5.70	2.37		2.37
	5	5.26%	53.78%	46.22%	6.00	2.77		2.77
	6	4.84%	49.09%	50.91%	6.29	3.20		3.20
	7	4.42%	44.39%	55.61%	6.57	3.65		3.65
Stage 2	8	4.00%	39.70%	60.30%	6.83	4.12		4.12
	9	3.57%	35.00%	65.00%	7.07	4.60		4.60
	10	3.15%	35.00%	65.00%	7.30	4.74	112.91	117.66
Stage 3	11+	3.15%	35.00%	65.00%	7.53	4.89		

$K_e = 7.44\%$



Three Stage Free Cash Flow to Equity Discount Model

Company **Xcel Energy Inc** 3.93% GDP
 Ticker **xel** 15.0 Industry P/E
 65.0% Target Dividend Payout Ratio
 9.0% Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		66.33%	33.67%	3.35			(61.91)
	1	5.97%	54.77%	45.23%	3.55	1.61		1.61
	2	4.93%	52.20%	47.80%	3.73	1.78		1.78
Stage 1	3	4.70%	49.86%	50.14%	3.90	1.96		1.96
	4	4.49%	47.72%	52.28%	4.08	2.13		2.13
	5	4.29%	45.17%	54.83%	4.25	2.33		2.33
	6	4.07%	42.63%	57.37%	4.42	2.54		2.54
Stage 2	7	3.84%	40.09%	59.91%	4.59	2.75		2.75
	8	3.61%	37.54%	62.46%	4.76	2.97		2.97
	9	3.38%	35.00%	65.00%	4.92	3.20		3.20
	10	3.15%	35.00%	65.00%	5.07	3.30	78.51	81.80
Stage 3	11+	3.15%	35.00%	65.00%	5.23	3.40		

$K_e = 5.87%$

