

**CAPITAL ASSET PRICING MODEL (CAPM) COST OF COMMON EQUITY ESTIMATES
FOR LDC PEER GROUP BASED ON 20-YEAR US TREASURY**

	(1)	(2)	(3)		(4)	
Company Name	20-Year Risk Free Rate	Beta	Market Risk Premiums		CAPM Cost of Common Equity Range	
Atmos Energy Corporation	4.67%	0.7254	5.00%	6.00%	8.30%	9.03%
New Jersey Resources Corporation	4.67%	0.7191	5.00%	6.00%	8.27%	8.99%
NiSource Inc.	4.67%	0.6986	5.00%	6.00%	8.17%	8.87%
Northwest Natural Holding Company	4.67%	0.6052	5.00%	6.00%	7.70%	8.30%
ONE Gas, Inc.	4.67%	0.6572	5.00%	6.00%	7.96%	8.62%
Southwest Gas Holdings, Inc.	4.67%	0.6764	5.00%	6.00%	8.06%	8.73%
Spire Inc.	4.67%	0.7243	5.00%	6.00%	8.29%	9.02%
Average		<u>0.687</u>			<u>8.11%</u>	<u>8.79%</u>

Column 1 = Average of last 3 Months of 20-Year Treasuries obtained from the St. Louis Federal Reserve website at <https://fred.stlouisfed.org/series/GS20>

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole. I used a template provided by S&P Market Intelligence that calculates raw betas based on the Value Line approach. However, instead of using five years of data, I used four years of data. I then adjusted the raw beta using the following Blume formula:
Adjusted Beta = 0.35 + 0.67 * Unadjusted Beta

Column 3 = The market risk premium is similar to historical spreads and estimates provided by sources, such as Kroll.

Column 4 = (Column 1 + (Column 2 * Column 3)).

**CAPITAL ASSET PRICING MODEL (CAPM) COST OF COMMON EQUITY ESTIMATES
FOR LDC PEER GROUP BASED ON 30-YEAR US TREASURY**

	(1)	(2)	(3)		(4)	
Company Name	30-Year Risk Free Rate	Beta	Market Risk Premiums		CAPM Cost of Common Equity Range	
Atmos Energy Corporation	4.57%	0.73	5.00%	6.00%	8.20%	8.93%
New Jersey Resources Corporation	4.57%	0.72	5.00%	6.00%	8.17%	8.89%
NiSource Inc.	4.57%	0.70	5.00%	6.00%	8.07%	8.77%
Northwest Natural Holding Company	4.57%	0.61	5.00%	6.00%	7.60%	8.20%
ONE Gas, Inc.	4.57%	0.66	5.00%	6.00%	7.86%	8.52%
Southwest Gas Holdings, Inc.	4.57%	0.68	5.00%	6.00%	7.96%	8.63%
Spire Inc.	4.57%	0.72	5.00%	6.00%	8.19%	8.92%
Average		<u><u>0.69</u></u>			<u><u>8.01%</u></u>	<u><u>8.69%</u></u>

Column 1 = Average of last 3 Months of 30-Year Treasuries obtained from the St. Louis Federal Reserve website at <https://fred.stlouisfed.org/series/GS20>

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole. I used a template provided by S&P Market Intelligence that calculates raw betas based on the Value Line approach. However, instead of using five years of data, I used four years of data. I then adjusted the raw beta using the following Blume formula:
Adjusted Beta = 0.35 + 0.67 * Unadjusted Beta

Column 3 = The market risk premium is similar to historical spreads and estimates provided by sources, such as Kroll.

Column 4 = (Column 1 + (Column 2 * Column 3)).

**CAPITAL ASSET PRICING MODEL (CAPM) COST OF COMMON EQUITY ESTIMATES FOR LDC
PEER GROUP BASED ON KROLL RECOMMENDED RISK-FREE RATE AND RISK PREMIUM**

	(1)	(2)	(3)	(4)
Company Name	Kroll Recommended Risk-free Rate	Beta	Kroll Market Risk Premium	CAPM Cost of Common Equity
Atmos Energy Corporation	4.54%	0.725	5.00%	8.17%
New Jersey Resources Corporation	4.54%	0.719	5.00%	8.14%
NiSource Inc.	4.54%	0.699	5.00%	8.03%
Northwest Natural Holding Company	4.54%	0.605	5.00%	7.57%
ONE Gas, Inc.	4.54%	0.657	5.00%	7.83%
Southwest Gas Holdings, Inc.	4.54%	0.676	5.00%	7.92%
Spire Inc.	4.54%	0.724	5.00%	8.16%
Average		<u>0.69</u>		<u>7.97%</u>

Column 1 = Kroll Most Recent Guidance on Normalized Risk-free Rate as of June 16, 2022
[Recommended U.S. Equity Risk Premium and Corresponding Risk-Free Rates \(kroll.com\)](https://www.kroll.com/insights/2022/06/16/recommended-us-equity-risk-premium-and-corresponding-risk-free-rates)

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole. I used a template provided by S&P Market Intelligence that calculates raw betas based on the Value Line approach. However, instead of using five years of data, I used four years of data. I then adjusted the raw beta using the following Blume formula:
Adjusted Beta = 0.35 + 0.67 * Unadjusted Beta

Column 3 = Kroll's guidance as of June 6, 2024 on equity risk premium to be used in conjunction with normalized risk-free rate.
[Kroll Lowers its Recommended U.S. Equity Risk Premium to 5.0%, Effective June 5, 2024](https://www.kroll.com/insights/2024/06/06/kroll-lowers-its-recommended-us-equity-risk-premium-to-5-0-effective-june-5-2024)

Column 4 = (Column 1 + (Column 2 * Column 3)).