

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

	(1)	(2)	(3)	(4)	(5)	(6)
Company Name	30-Year Risk Free Rate	Beta	Geometric Equity Risk Premium	Arithmetic Equity Risk Premium	Geometric CAPM Cost of Common Equity	Arithmetic CAPM Cost of Common Equity
Atmos Energy Corporation	2.07%	0.78	4.62%	6.07%	5.67%	6.80%
New Jersey Resources Corporation	2.07%	0.74	4.62%	6.07%	5.49%	6.57%
NiSource Inc.	2.07%	0.77	4.62%	6.07%	5.62%	6.74%
Northwest Natural Holding Company	2.07%	0.69	4.62%	6.07%	5.24%	6.24%
ONE Gas, Inc.	2.07%	0.81	4.62%	6.07%	5.82%	6.99%
South Jersey Industries, Inc.	2.07%	0.80	4.62%	6.07%	5.75%	6.91%
Southwest Gas Holdings, Inc.	2.07%	0.83	4.62%	6.07%	5.88%	7.08%
Spire Inc.	2.07%	0.77	4.62%	6.07%	5.64%	6.76%
<b>Average</b>		<u><u>0.77</u></u>			<u><u>5.64%</u></u>	<u><u>6.76%</u></u>
<b>Average of Pure-Play Regulateds</b>	<b>2.07%</b>	<b>0.76</b>	<b>4.62%</b>	<b>6.07%</b>	<b>5.59%</b>	<b>6.69%</b>

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 Linen approach. This approach measures the covariance of the company's weekly returns with that of the S&P 500 divided by the variance of the S&P 500 returns over an historical 5 year period. This raw beta is then adjusted by the Blume formula, which is the following:  
Adjusted Beta = 0.35 + 0.67 \* Unadjusted Beta

Column 3 = Geometric realized equity risk premiums (1926-2020) based on Stocks, Bonds, Bills and Inflation Data Provided by Ibbotson.

Column 4 = Arithmetic realized equity risk premiums (1926-2020) based on Stocks, Bonds, Bills and Inflation Data Provided by Ibbotson.

Column 5 = (Column 1 + (Column 2 \* Column 3)).

Column 6 = (Column 1 + (Column 2 \* Column 4)).