

**CAPITAL ASSET PRICING MODEL (CAPM) COST OF COMMON EQUITY ESTIMATES
FOR VARIOUS PROXY GROUPS BASED ON DUFF & PHELPS NORMALIZED RISK-FREE RATE**

	(1)	(2)	(3)	(4)
Company Name	D&P Normalized Risk-free Rate	Beta	D&P Equity Risk Premium	CAPM Cost of Common Equity
EEI Electric Proxy Group	3.00%	0.577	5.50%	6.17%
Regulated EEI Proxy Group	3.00%	0.569	5.50%	6.13%
Mostly Regulated Electric & Gas Proxy Group	3.00%	0.542	5.50%	5.98%
Pure Play Electric & Gas	3.00%	0.547	5.50%	6.01%
Pure Play Vertically Integrated	3.00%	0.551	5.50%	6.03%
Average		<u>0.551</u>		<u>6.06%</u>

Column 1 = D&P Most Recent Guidance on Normalized Risk-free Rate as of September 30, 2019
<https://www.duffandphelps.com/insights/publications/valuation/us-normalized-risk-free-effective-september-30-2019>

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 = D&P guidance as of September 30, 2019 on equity risk premium to be used in conjunction with normalized risk-free rate.
<https://www.duffandphelps.com/insights/publications/valuation/us-normalized-risk-free-effective-september-30-2019>

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