DUKE ENERGY OHIO EXHIBIT_____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates.	)))	Case No. 21-887-EL-AIR
In the Matter of the Application of Duke Energy Ohio, Inc., for Tariff Approval.	)))	Case No. 21-888-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Change Accounting Methods.	)))	Case No. 21-889-EL-AAM

DIRECT TESTIMONY OF

DYLAN W. D'ASCENDIS

ON BEHALF OF

DUKE ENERGY OHIO, INC.

October 15, 2021

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ATTACHMENTS:

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dylan W. D'Ascendis. My business address is 3000 Atrium Way, Suite 241, Mount Laurel, New Jersey 08054.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Partner at ScottMadden, Inc.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I have offered expert testimony on behalf of investor-owned utilities before 30 state regulatory commissions in the United States, the Federal Energy Regulatory Commission, the Alberta Utility Commission, an American Arbitration Association panel, and the Superior Court of Rhode Island on issues including, but not limited to, common equity cost rate, rate of return, valuation, capital structure, class cost of service, and rate design.

On behalf of the American Gas Association (AGA), I calculate the AGA Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund (AGIF) is measured on a monthly basis. The AGA Gas Index and AGIF are a market capitalization weighted index and mutual fund, respectively, comprised of the common stocks of the publicly traded corporate members of the AGA.

I am a member of the Society of Utility and Regulatory Financial Analysts (SURFA). In 2011, I was awarded the professional designation "Certified Rate of Return Analyst" by SURFA, which is based on education, experience, and the successful completion of a comprehensive written examination.

I am also a member of the National Association of Certified Valuation Analysts (NACVA) and was awarded the professional designation "Certified Valuation Analyst" by the NACVA in 2015.

I am a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History. I have also received a Master of Business Administration with high honors and concentrations in Finance and International Business from Rutgers University.

The details of my educational background and expert witness appearances are shown in Appendix A.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE PROCEEDINGS?

A. The purpose of my testimony is to present evidence and provide a recommendation regarding Duke Energy Ohio, Inc.'s (Duke Energy Ohio or the Company) return on common equity (ROE) for its electric operations.

Q. HAVE YOU PREPARED ATTACHMENTS IN SUPPORT OF YOUR RECOMMENDATION?

A. Yes. I have prepared Attachments DWD-1 through DWD-8, which were prepared by me or under my direction.

Q. WHAT IS YOUR RECOMMENDED COMMON EQUITY COST RATE?

A. I recommend that the Public Utilities Commission of Ohio (Commission) authorize Duke Energy Ohio the opportunity to earn an ROE of 10.30% on its electric rate base. The ratemaking capital structure and cost of debt is sponsored by Duke Energy Ohio witness Mr. Christopher Bauer. The overall rate of return is summarized on page 1 of Attachment DWD-1 and in Table 1 below:

Table 1: Summary of Recommended Weighted Average Cost of Capital

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	49.50%	4.16%	2.06%
Common Equity	50.50%	10.30%	5.20%
Total	100.00%		7.26%

Q. PLEASE SUMMARIZE YOUR RECOMMENDED COMMON EQUITY COST RATE.

A. My recommended common equity cost rate of 10.30% is summarized on page 2 of Attachment DWD-1. I have assessed the market-based common equity cost rates of companies of relatively similar, but not necessarily identical, risk to Duke Energy Ohio. Using companies of relatively comparable risk as proxies is consistent with the principles of fair rate of return established in the *Hope*[1] and *Bluefield*[2] decisions. No proxy group can be identical in risk to any single company. Consequently, there must be an evaluation of relative risk between the company and the proxy group to determine if it is appropriate to adjust the proxy group's indicated rate of return.

My recommendation results from applying several cost of common equity models, specifically the Discounted Cash Flow (DCF) model, the Risk Premium Model (RPM), and the Capital Asset Pricing Model (CAPM), to the market data of a proxy group of fourteen electric utilities (Utility Proxy Group) whose selection criteria will be discussed below. In addition, I applied the DCF model, RPM, and CAPM to a proxy group of 50 domestic, non-price regulated companies comparable in total risk to the Utility Proxy Group (Non-Price Regulated Proxy Group). The results derived from each are as follows:

[1] *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).
[2] *Bluefield Water Works Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1923).

Table 2: Summary of Common Equity Cost Rates

Discounted Cash Flow Model	8.86%
Risk Premium Model	10.78%
Capital Asset Pricing Model	12.52%
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	12.58%
Indicated Range	9.72% - 11.72%
Size Adjustment	0.15%
Credit Risk Adjustment	0.08%
Flotation Cost Adjustment	0.11%
Recommended Range	10.06% - 12.06%
Recommended Cost of Common Equity	10.30%

The indicated range of common equity cost rates applicable to the Utility Proxy Group is between 9.72% and 11.72% before any Company-specific adjustments.[3] I then adjusted the indicated range by 0.15% and 0.08% to reflect the Company's smaller relative size and greater credit risk, as compared to the Utility Proxy Group companies, and by 0.11% for flotation costs.[4] These adjustments resulted in a Company-specific indicated range of common equity cost rates between 10.06% and 12.06%.

From this range, I recommend an ROE for the Company toward the lower end of my Company-specific range, specifically 10.30%.

Q. HOW IS THE REMAINDER OF YOUR DIRECT TESTIMONY ORGANIZED?

A. The remainder of my Direct Testimony is organized as follows:

- Section II – Provides a summary of financial theory and regulatory principles pertinent to the development of the cost of common equity;

[3] The indicated range is 100 basis points above and below the midpoint of my ROE model results.
[4] *See infra* Section VI for a detailed discussion of my cost of common equity adjustments.

- Section III – Explains my selection of the Utility Proxy Group used to develop my cost of common equity analytical results;
- Section IV – Describes the analyses on which my cost of common equity recommendation is based;
- Section V – Summarizes my common equity cost rate before adjustments to reflect Company-specific factors;
- Section VI – Explains my adjustments to my common equity cost rate to reflect Company-specific factors;
- Section VII – Presents my conclusions.

II. GENERAL PRINCIPLES

Q. WHAT GENERAL PRINCIPLES HAVE YOU CONSIDERED IN ARRIVING AT YOUR RECOMMENDED COMMON EQUITY COST RATE OF 10.30%?

A. In unregulated industries, marketplace competition is the principal determinant of the price of products or services. For regulated public utilities, regulation must act as a substitute for marketplace competition. Assuring that the utility can fulfill its obligations to the public, while providing safe and reliable service at all times, requires a level of earnings sufficient to maintain the integrity of presently invested capital. Sufficient earnings also permit the attraction of needed new capital at a reasonable cost, for which the utility must compete with other forms of comparable risk, consistent with the fair rate of return standards established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield* cases.

The U.S. Supreme Court affirmed the fair rate of return standards in *Hope*, when it stated:

> The rate-making process under the Act, i.e., the fixing of "just and reasonable" rates, involves a balancing of the investor and the consumer

> interests. Thus, we stated in the *Natural Gas Pipeline Co.* case that "regulation does not ensure that the business shall produce net revenues." 315 U.S. p. 590. But such considerations aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. Cf. *Chicago & Grand Trunk Ry. Co.* v. *Wellman*, 143 U.S. 339, 345-346. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. See *Missouri ex rel. Southwestern Bell Tel. Co*. v. *Public Service Commission*, 262 U.S. 276, 291 (Mr. Justice Brandeis concurring). [5]

Consistent with the findings in *Hope*, the Commission's decision in these proceedings should provide the Company with the opportunity to earn a return that is: (1) adequate to attract capital at reasonable cost and terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks.

Also, the required return for a regulated public utility is established on a stand-alone basis, *i.e.*, for the utility operating company at issue in a rate case. When funding is provided by a parent entity, the allowed return still must be sufficient to provide an incentive to allocate equity capital to the subsidiary or business unit rather than other internal or external investment opportunities. That is, the regulated subsidiary must compete for capital with all the parent company's affiliates, and with other, similarly situated companies. In that regard, investors value corporate entities on a sum-of-the-parts basis and expect each division within the parent company to provide an appropriate risk-adjusted return.

[5] *Hope*, 320 U.S. 591, 603 (1944).

It therefore is important that the authorized ROE reflects the risks and prospects of the utility's operations and supports the utility's financial integrity from a stand-alone perspective as measured by their combined business and financial risks. Consequently, the ROE authorized in these proceedings should be sufficient to support the business risk and financial risk of the Company's Ohio electric utility operations on a stand-alone basis.

Q. WITHIN THAT BROAD FRAMEWORK, HOW IS THE COST OF CAPITAL ESTIMATED IN REGULATORY PROCEEDINGS?

A. Regulated utilities primarily use common stock and long-term debt to finance their permanent property, plant, and equipment (*i.e.*, rate base). The fair rate of return for a regulated utility is based on its weighted average cost of capital, in which, as noted earlier, the costs of the individual sources of capital are weighted by their respective book values.

The cost of capital is the return investors require to make an investment in a firm. Investors will provide funds to a firm only if the return that they expect is equal to, or greater than, the return that they require to accept the risk of providing funds to the firm.

The cost of capital (that is, the combination of the costs of debt and equity) is based on the economic principle of "opportunity costs." Investing in any asset (whether debt or equity securities) represents a forgone opportunity to invest in alternative assets. For any investment to be sensible, its expected return must be at least equal to the return expected on alternative, comparable risk investment opportunities. Because investments with like risks should offer similar returns, the opportunity cost of an investment should equal the return available on an investment of comparable risk.

Whereas the cost of debt is contractually defined and can be directly observed as the interest rate or yield on debt securities, the cost of common equity must be estimated based on market data and various financial models. Because the cost of common equity is

premised on opportunity costs, the models used to determine it are typically applied to a group of "comparable" or "proxy" companies.

In the end, the estimated cost of capital should reflect the return that investors require in light of the subject company's business and financial risks, and the returns available on comparable investments.

Q. IS THE AUTHORIZED RETURN SET IN REGULATORY PROCEEDINGS GUARANTEED?

A. No, it is not. Consistent with the *Hope* and *Bluefield* standards, the rate-setting process should provide the utility a reasonable opportunity to recover its return of, and return on, its prudently incurred investments, but it does not guarantee that return. While a utility may have control over some factors that affect the ability to earn its authorized return (*e.g.*, management performance, operating and maintenance expenses, etc.), there are several factors beyond a utility's control that affect its ability to earn its authorized return. Those may include factors such as weather, the economy, and the prevalence and magnitude of regulatory lag.

A. Business Risk

Q. PLEASE DEFINE BUSINESS RISK AND EXPLAIN WHY IT IS IMPORTANT FOR DETERMINING A FAIR RATE OF RETURN.

A. The investor-required return on common equity reflects investors' assessment of the total investment risk of the subject company. Total investment risk is often discussed in the context of business and financial risk.

Business risk reflects the uncertainty associated with owning a company's common stock without the company's use of debt and/or preferred stock financing. One way of considering the distinction between business and financial risk is to view the former as the

uncertainty of the expected earned return on common equity, assuming the firm is financed with no debt.

Examples of business risks generally faced by utilities include, but are not limited to, the regulatory environment, mandatory environmental compliance requirements, customer mix and concentration of customers, service territory economic growth, market demand, risks and uncertainties of supply, operations, capital intensity, size, the degree of operating leverage, and the like, all of which have a direct bearing on earnings. Although analysts, including rating agencies, may categorize business risks individually, as a practical matter, such risks are interrelated and not wholly distinct from one another. For determining an appropriate return on common equity, the relevant issue is where investors see the subject company as falling within a spectrum of risk. To the extent investors view a company as being exposed to high risk, the required return will increase, and vice versa.

For regulated utilities, business risks are both long-term and near-term in nature. Whereas near-term business risks are reflected in year-to-year variability in earnings and cash flow brought about by economic or regulatory factors, long-term business risks reflect the prospect of an impaired ability of investors to obtain both a fair rate of return on, and return of, their capital. Moreover, because utilities accept the obligation to provide safe, adequate and reliable service at all times (in exchange for a reasonable opportunity to earn a fair return on their investment), they generally do not have the option to delay, defer, or reject capital investments. Because those investments are capital-intensive, utilities generally do not have the option to avoid raising external funds during periods of capital market distress, if necessary.

Because utilities invest in long-lived assets, long-term business risks are of paramount concern to equity investors. That is, the risk of not recovering the return on

their investment extends far into the future. The timing and nature of events that may lead to losses, however, also are uncertain and, consequently, those risks and their implications for the required return on equity tend to be difficult to quantify. Regulatory commissions (like investors who commit their capital) must review a variety of quantitative and qualitative data and apply their reasoned judgment to determine how long-term risks weigh in their assessment of the market-required return on common equity.

B. Financial Risk

Q. PLEASE DEFINE FINANCIAL RISK AND EXPLAIN WHY IT IS IMPORTANT IN DETERMINING A FAIR RATE OF RETURN.

A. Financial risk is the additional risk created by the introduction of debt and preferred stock into the capital structure. The higher the proportion of debt and preferred stock in the capital structure, the higher the financial risk to common equity owners (*i.e.*, failure to receive dividends due to default or other covenants). Therefore, consistent with the basic financial principle of risk and return, common equity investors demand higher returns as compensation for bearing higher financial risk.

Q. CAN BOND AND CREDIT RATINGS BE A PROXY FOR A FIRM'S COMBINED BUSINESS AND FINANCIAL RISKS TO EQUITY OWNERS (*I.E.*, INVESTMENT RISK)?

A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of, similar combined business and financial risks (*i.e.*, total risk) faced by bond investors.[6] Although specific business or financial risks may differ between companies, the same bond/credit rating indicates that the combined risks are roughly similar from a debtholder perspective.

[6] Risk distinctions within S&P's bond rating categories are recognized by a plus or minus, *e.g.*, within the A category, an S&P rating can be A+, A, or A-. Similarly, risk distinction for Moody's ratings are distinguished by numerical rating gradations, *e.g.*, within the A category, a Moody's rating can be A1, A2, or A3.

The caveat is that these debtholder risk measures do not translate directly to risks for common equity.

Q. DO RATING AGENCIES ACCOUNT FOR COMPANY SIZE IN THEIR BOND RATINGS?

A. No. Neither Standard & Poor's (S&P) nor Moody's have minimum company size requirements for any given rating level. This means that, all else equal, a relative size analysis must be conducted for equity investments in companies with similar bond ratings.

III. DUKE ENERGY OHIO'S OPERATIONS AND THE UTILITY PROXY GROUP

Q. ARE YOU FAMILIAR WITH DUKE ENERGY OHIO'S OPERATIONS?

A. Yes. Duke Energy Ohio, a subsidiary of Duke Energy Corporation (Duke Energy), is headquartered in downtown Cincinnati and directs the planning, construction, operation, and maintenance of electric transmission and distribution systems in Ohio and Kentucky.[7] The Company's Ohio electric operations services approximately over 700,000 customers via approximately 1,609 circuit-miles of transmission lines and 16,549 circuit-miles of distribution lines throughout its territory.[8] Duke Energy Ohio currently has senior unsecured ratings of Baa1 (outlook: Stable) and BBB+ (outlook: Stable) from Moody's Investor Service and S&P's Rating Services, respectively.[9]

Q. PLEASE EXPLAIN HOW YOU CHOSE THE COMPANIES IN THE UTILITY PROXY GROUP.

A. The companies selected for the Utility Proxy Group met the following criteria:

(i) They were included in the Eastern, Central, or Western Electric Utility Group of *Value Line* (Standard Edition);

[7] Source: S&P Global Market Intelligence.
[8] Company provided.
[9] Source: S&P Global Market Intelligence.

(ii) They have 70% or greater of fiscal year 2020 total operating income derived from, and 70% or greater of fiscal year 2020 total assets attributable to, regulated electric operations;

(iii) At the time of preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity (*i.e.*, one publicly-traded utility merging with or acquiring another);

(iv) They have not cut or omitted their common dividends during the five years ended 2020 or through the time of preparation of this testimony;

(v) They have *Value Line* and Bloomberg Professional Services (Bloomberg) adjusted betas;

(vi) They have positive *Value Line* five-year dividends per share (DPS) growth rate projections; and

(vii) They have *Value Line*, Zacks, Yahoo! Finance, or Bloomberg consensus five-year earnings per share (EPS) growth rate projections.

The following fourteen companies met these criteria:

Table 3: Utility Proxy Group Companies

Company Name	Ticker Symbol
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
Duke Energy Corporation	DUK
Edison International	EIX
Entergy Corporation	ETR
Evergy, Inc.	EVRG
Eversource Energy	ES
IDACORP, Inc.	IDA
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Otter Tail Corporation	OTTR
Pinnacle West Capital Corporation	PNW
Portland General Electric Co.	POR
Xcel Energy, Inc.	XEL

Q. WHY IS IT NECESSARY TO DEVELOP A PROXY GROUP WHEN ESTIMATING THE ROE FOR THE COMPANY?

A. Because the Company is not publicly traded and does not have publicly traded equity securities, it is necessary to develop groups of publicly traded, comparable companies to serve as "proxies" for the Company. In addition to the analytical necessity of doing so, the use of proxy companies is consistent with the *Hope* and *Bluefield* comparable risk standards, as discussed above. I have selected two proxy groups that, in my view, are fundamentally risk-comparable to the Company: a Utility Proxy Group and a Non-Price Regulated Proxy Group, which is comparable in total risk to the Utility Proxy Group.[10]

Even when proxy groups are carefully selected, it is common for analytical results to vary from company to company. Despite the care taken to ensure comparability, because no two companies are identical, market expectations regarding future risks and prospects will vary within the proxy group. It therefore is common for analytical results to reflect a

[10] The development of the Non-Price Regulated Proxy Group is explained in more detail in Section IV.

seemingly wide range, even for a group of similarly situated companies. At issue is how to estimate the ROE from within that range. That determination will be best informed by employing a variety of sound analyses that necessarily must consider the sort of quantitative and qualitative information discussed throughout my Direct Testimony. Additionally, a relative risk analysis between the Company and the Utility Proxy Group must be made to determine whether or not explicit Company-specific adjustments need to be made to the Utility Proxy Group indicated results.

IV. COMMON EQUITY COST RATE MODELS

Q. IS IT IMPORTANT THAT COST OF COMMON EQUITY MODELS BE MARKET BASED?

A. Yes. A public utility must compete for equity in capital markets along with all other companies of comparable risk, which includes non-utilities. The cost of common equity is thus determined based on equity market expectations for the returns of those comparable risk companies. If an individual investor is choosing to invest their capital among companies of comparable risk, they will choose a company providing a higher return over a company providing a lower return.

Q. ARE YOUR COST OF COMMON EQUITY MODELS MARKET BASED?

A. Yes. The DCF model uses market prices in developing the model's dividend yield component. The RPM uses bond ratings and expected bond yields that reflect the market's assessment of bond/credit risk. In addition, beta coefficients (β), which reflect the market/systematic risk component of equity risk premium, are derived from regression analyses of market prices. The Predictive Risk Premium Model (PRPM) uses monthly market returns in addition to expectations of the risk-free rate. The CAPM is market based for many of the same reasons that the RPM is market based (*i.e.*, the use of expected bond

yields and betas). Selection criteria for comparable risk non-price regulated companies are based on regression analyses of market prices and reflect the market's assessment of total risk.

Q. WHAT ANALYTICAL APPROACHES DID YOU USE TO DETERMINE THE COMPANY'S ROE?

A. As discussed earlier, I have relied on the DCF model, the RPM, and the CAPM, which I apply to the Utility Proxy Group described above. I also applied these same models to a Non-Price Regulated Proxy Group described later in this section.

I rely on these models because reasonable investors use a variety of tools and do not rely exclusively on a single source of information or single model. Moreover, the models on which I rely focus on different aspects of return requirements, and provide different insights to investors' views of risk and return. The DCF model, for example, estimates the investor-required return assuming a constant expected dividend yield and growth rate in perpetuity, while Risk Premium-based methods (*i.e.,* the RPM and CAPM approaches) provide the ability to reflect investors' views of risk, future market returns, and the relationship between interest rates and the cost of common equity. Just as the use of market data for the Utility Proxy Group adds the reliability necessary to inform expert judgment in arriving at a recommended common equity cost rate, the use of multiple generally accepted common equity cost rate models also adds reliability and accuracy when arriving at a recommended common equity cost rate.

A. Discounted Cash Flow Model

Q. WHAT IS THE THEORETICAL BASIS OF THE DCF MODEL?

A. The theory underlying the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting

those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return rate, which is derived from the cash flows received from dividends and market price appreciation. Mathematically, the dividend yield on market price plus a growth rate equals the capitalization rate; *i.e.*, the total common equity return rate expected by investors as shown below:

$$K_e = (D_0 (1+g))/P + g$$

where:

K_e = the required Return on Common Equity;
D_0 = the annualized Dividend Per Share;
P = the current stock price; and
g = the growth rate.

Q. WHICH VERSION OF THE DCF MODEL DID YOU USE?

A. I used the single-stage constant growth DCF model in my analyses.

Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN APPLYING THE CONSTANT GROWTH DCF MODEL.

A. The unadjusted dividend yields are based on the proxy companies' dividends as of August 31, 2021, divided by the average closing market price for the 60 trading days ended August 31, 2021.[11]

Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO THE DIVIDEND YIELD.

A. Because dividends are paid periodically (*e.g.*, quarterly), as opposed to continuously (daily), an adjustment must be made to the dividend yield. This is often referred to as the discrete, or the Gordon Periodic, version of the DCF model.

DCF theory calls for using the full growth rate, or D_1, in calculating the model's dividend yield component. Since the companies in the Utility Proxy Group increase their

[11] *See*, column 1, page 1 of Attachment DWD-2.

quarterly dividends at various times during the year, a reasonable assumption is to reflect one-half the annual dividend growth rate in the dividend yield component, or $D_{1/2}$. Because the dividend should be representative of the next 12-month period, this adjustment is a conservative approach that does not overstate the dividend yield. Therefore, the actual average dividend yields in Column 1, page 1 of Attachment DWD-2 have been adjusted upward to reflect one-half the average projected growth rate shown in Column 5.

Q. PLEASE EXPLAIN THE BASIS FOR THE GROWTH RATES YOU APPLY TO THE UTILITY PROXY GROUP IN YOUR CONSTANT GROWTH DCF MODEL.

A. Investors are likely to rely on widely available financial information services, such as *Value Line*, Zacks, and Yahoo! Finance. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as companies' ability to effectively manage the effects of changing laws and regulations, and ever-changing economic and market conditions. For these reasons, I used analysts' five-year forecasts of EPS growth in my DCF analysis.

Over the long run, there can be no growth in DPS without growth in EPS. Security analysts' earnings expectations have a more significant influence on market prices than dividend expectations. Thus, using earnings growth rates in a DCF analysis provides a better match between investors' market price appreciation expectations and the growth rate component of the DCF.

Q. PLEASE SUMMARIZE THE CONSTANT GROWTH DCF MODEL RESULTS.

A. As shown on page 1 of Attachment DWD-2, for the Utility Proxy Group, the mean result of applying the single-stage DCF model is 8.82%, the median result is 8.89%, and the average of the two is 8.86%. In arriving at a conclusion for the constant growth DCF-indicated common equity cost rate for the Utility Proxy Group, I relied on an average of

the mean and the median results of the DCF. This approach considers all the proxy utilities' results, while mitigating the high and low outliers of those individual results.

B. The Risk Premium Model

Q. PLEASE DESCRIBE THE THEORETICAL BASIS OF THE RPM.

A. The RPM is based on the fundamental financial principle of risk and return; namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are behind debt holders in any claim on a company's assets and earnings. As a result, investors require higher returns from common stocks than from bonds to compensate them for bearing the additional risk.

While it is possible to directly observe bond returns and yields, investors' required common equity returns cannot be directly determined or observed. According to RPM theory, one can estimate a common equity risk premium over bonds (either historically or prospectively) and use that premium to derive a cost rate of common equity. The cost of common equity equals the expected cost rate for long-term debt capital, plus a risk premium over that cost rate, to compensate common shareholders for the added risk of being unsecured and last-in-line for any claim on the corporation's assets and earnings upon liquidation.

Q. PLEASE EXPLAIN HOW YOU DERIVED YOUR INDICATED COST OF COMMON EQUITY BASED ON THE RPM.

A. To derive my indicated cost of common equity under the RPM, I used two risk premium methods. The first method was the PRPM and the second method was a risk premium model using a total market approach. The PRPM estimates the risk-return relationship

directly, while the total market approach indirectly derives a risk premium by using known metrics as a proxy for risk.

1. The Predictive Risk Premium Model

Q. PLEASE EXPLAIN THE PRPM.

A. The PRPM, published in the *Journal of Regulatory Economics,*[12] was developed from the work of Robert F. Engle, who shared the Nobel Prize in Economics in 2003 "for methods of analyzing economic time series with time-varying volatility (ARCH)."[13] Engle found that volatility changes over time and is related from one period to the next, especially in financial markets. Engle discovered that volatility of prices and returns cluster over time and is therefore highly predictable and can be used to predict future levels of risk and risk premiums.

The PRPM estimates the risk-return relationship directly, as the predicted equity risk premium is generated by predicting volatility or risk. The PRPM is not based on an estimate of investor behavior, but rather on an evaluation of the results of that behavior (*i.e.*, the variance of historical equity risk premiums).

The inputs to the model are the historical returns on the common shares of each Utility Proxy Group company minus the historical monthly yield on long-term U.S. Treasury securities through August 2021. Using a generalized form of ARCH, known as GARCH, I calculated each Utility Proxy Group company's projected equity risk premium using Eviews© statistical software. When the GARCH model is applied to the historical return data, it produces a predicted GARCH variance series[14] and a GARCH coefficient[15].

[12] Autoregressive conditional heteroscedasticity. *See* "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, *The Journal of Regulatory Economics* (December 2011), 40:261-278.
[13] www.nobelprize.org.
[14] Illustrated on Columns 1 and 2, page 2 of Attachment DWD-3.
[15] Illustrated on Column 4, page 2 of Attachment DWD-3.

Multiplying the predicted monthly variance by the GARCH coefficient and then annualizing it[16] produces the predicted annual equity risk premium. I then added the forecasted 30-year U.S. Treasury bond yield of 2.70%[17] to each company's PRPM-derived equity risk premium to arrive at an indicated cost of common equity. The 30-year U.S. Treasury bond yield is a consensus forecast derived from Blue Chip Financial Forecasts (*Blue Chip)*.[18] The mean PRPM indicated common equity cost rate for the Utility Proxy Group is 11.17%, the median is 10.59%, and the average of the two is 10.88%. Consistent with my reliance on the average of the median and mean results of the DCF models, I relied on the average of the mean and median results of the Utility Proxy Group PRPM to calculate a cost of common equity rate of 10.88%.

Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF RETURN.

A. As shown in Attachments DWD-3 and DWD-4, the risk-free rate adopted for applications of the RPM and CAPM is 2.70%. This risk-free rate is based on the average of the *Blue Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the fourth calendar quarter of 2022, and long-term projections for the years 2023 to 2027 and 2028 to 2032.

Q. WHY DO YOU USE THE PROJECTED 30-YEAR TREASURY YIELD IN YOUR ANALYSES?

A. The yield on long-term U.S. Treasury bonds is almost risk-free and its term is consistent with the long-term cost of capital to public utilities measured by the yields on Moody's A2-rated public utility bonds; the long-term investment horizon inherent in utilities' common stocks; and the long-term life of the jurisdictional rate base to which the allowed

[16] Annualized Return = (1 + Monthly Return) ^12 - 1
[17] *See* Column 6, page 2 of Attachment DWD-3.
[18] *Blue Chip Financial Forecasts*, June 1, 2021 at page 14 and September 1, 2021 at page 2.

fair rate of return (*i.e.*, cost of capital) will be applied. In contrast, short-term U.S. Treasury yields are more volatile and largely a function of Federal Reserve monetary policy. Because both ratemaking and the cost of capital, including common equity cost rate, are prospective in nature, a prospective yield on long-term debt is essential.

2. The Total Market Risk Premium Approach

Q. PLEASE EXPLAIN THE TOTAL MARKET APPROACH RPM.

A. The total market approach RPM adds a prospective public utility bond yield to an average of: (1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium, (2) an equity risk premium based on the S&P Utilities Index, and (3) an equity risk premium based on authorized ROEs for electric utilities.

Q. PLEASE EXPLAIN THE BASIS OF THE EXPECTED BOND YIELD OF 3.87% APPLICABLE TO THE UTILITY PROXY GROUP.

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. As discussed above, ratemaking and the cost of capital, including common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. I relied on a consensus forecast of about 50 economists of the expected yield on Aaa-rated corporate bonds for the six calendar quarters ending with the fourth calendar quarter of 2022, and *Blue Chip*'s long-term projections for 2023 to 2027, and 2028 to 2032. As shown on line 1, page 3 of Attachment DWD-3, the average expected yield on Moody's Aaa-rated corporate bonds is 3.41%. To derive an expected yield on Moody's A2-rated public utility bonds, I made an upward adjustment of 0.38%, which represents a recent spread between Aaa-rated corporate bonds and A2-rated public utility bonds, in order to adjust the expected Aaa-rated corporate bond yield to an equivalent A2-rated public utility

bond yield.[19] Adding that recent 0.38% spread to the expected Aaa-rated corporate bond yield of 3.41% results in an expected A2-rated public utility bond yield of 3.79%.

I then reviewed the average credit rating for the Utility Proxy Group from Moody's to determine if an adjustment to the estimated A2-rated public utility bond was necessary. Since the Utility Proxy Group's average Moody's long-term issuer rating is A3, another adjustment to the expected A2-rated public utility bond is needed to reflect the difference in bond ratings. An upward adjustment of 0.08%, which represents one-third of a recent spread between A2-rated and Baa2-rated public utility bond yields, is necessary to make the A2 prospective bond yield applicable to an A3-rated public utility bond.[20] Adding the 0.08% to the 3.79% prospective A2-rated public utility bond yield results in a 3.87% expected bond yield applicable to the Utility Proxy Group.

Table 4: Summary of the Calculation of the Utility Proxy Group Projected Bond Yield[21]

Prospective Yield on Moody's Aaa-Rated Corporate Bonds (*Blue Chip)*	3.41%
Adjustment to Reflect Yield Spread Between Moody's Aaa-Rated Corporate Bonds and Moody's A2-Rated Utility Bonds	0.38%
Adjustment to Reflect the Utility Proxy Group's Average Moody's Bond Rating of A3	0.08%
Prospective Bond Yield Applicable to the Utility Proxy Group	3.87%

[19] As shown on line 2 and explained in note 2, page 3 of Attachment DWD-3.
[20] As shown on line 4 and explained in note 3, page 3 of Attachment DWD-3. Moody's does not provide public utility bond yields for A3-rated bonds. As such, it was necessary to estimate the difference between A2-rated and A3-rated public utility bonds. Because there are three steps between Baa2 and A2 (Baa2 to Baa1, Baa1 to A3, and A3 to A2) I assumed an adjustment of one-third of the difference between the A2-rated and Baa2-rated public utility bond yield was appropriate.
[21] As shown on page 3 of Attachment DWD-3.

To develop the indicated ROE using the total market approach RPM, this prospective bond yield is then added to the average of the three different equity risk premiums described below.

a. The Beta-Derived Risk Premium

Q. PLEASE EXPLAIN HOW THE BETA-DERIVED EQUITY RISK PREMIUM IS DETERMINED.

A. The components of the beta-derived risk premium model are: (1) an expected market equity risk premium over corporate bonds, and (2) the beta coefficient. The derivation of the beta-derived equity risk premium that I applied to the Utility Proxy Group is shown on lines 1 through 9, page 8 of Attachment DWD-3. The total beta-derived equity risk premium I applied is based on an average of three historical market data-based equity risk premiums, two *Value Line*-based equity risk premiums, and a Bloomberg-based equity risk premium. Each of these is described below.

Q. HOW DID YOU DERIVE A MARKET EQUITY RISK PREMIUM BASED ON LONG-TERM HISTORICAL DATA?

A. To derive a historical market equity risk premium, I used the most recent holding period returns for the large company common stocks from the Stocks, Bonds, Bills, and Inflation (SBBI) Yearbook 2021 (SBBI - 2021)[22] less the average historical yield on Moody's Aaa/Aa-rated corporate bonds for the period 1928 to 2020. Using holding period returns over a very long time is appropriate because it is consistent with the long-term investment horizon presumed by investing in a going concern, *i.e.*, a company expected to operate in perpetuity.

[22] SBBI Appendix A Tables: Morningstar Stocks, Bonds, Bills, & Inflation 1926-2020.

SBBI's long-term arithmetic mean monthly total return rate on large company common stocks was 11.94%, and the long-term arithmetic mean monthly yield on Moody's Aaa/Aa-rated corporate bonds was 6.02%.[23] As shown on line 1, page 8 of Attachment DWD-3, subtracting the mean monthly bond yield from the total return on large company stocks results in a long-term historical equity risk premium of 5.92%.

I used the arithmetic mean monthly total return rates for the large company stocks and yields (income returns) for the Moody's Aaa/Aa corporate bonds, because they are appropriate for the purpose of estimating the cost of capital as noted in SBBI - 2021.[24] Using the arithmetic mean return rates and yields is appropriate because historical total returns and equity risk premiums provide insight into the variance and standard deviation of returns needed by investors in estimating future risk when making a current investment. If investors relied on the geometric mean of historical equity risk premiums, they would have no insight into the potential variance of future returns, because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, which is critical to risk analysis.

Q. PLEASE EXPLAIN THE DERIVATION OF THE REGRESSION-BASED MARKET EQUITY RISK PREMIUM.

A. To derive the regression-based market equity risk premium of 8.87% shown on line 2, page 8 of Attachment DWD-3, I used the same monthly annualized total returns on large company common stocks relative to the monthly annualized yields on Moody's Aaa/Aa-rated corporate bonds as mentioned above. I modeled the relationship between interest rates and the market equity risk premium using the observed monthly market equity risk premium as the dependent variable, and the monthly yield on Moody's Aaa/Aa-rated

[23] As explained in note 1, page 9 of Attachment DWD-3.
[24] SBBI - 2020, at 10-22 and 10-23.

corporate bonds as the independent variable. I then used a linear Ordinary Least Squares (OLS) regression, in which the market equity risk premium is expressed as a function of the Moody's Aaa/Aa-rated corporate bonds yield:

$$RP = \alpha + \beta\ (R_{Aaa/Aa})$$

Q. PLEASE EXPLAIN THE DERIVATION OF THE PRPM EQUITY RISK PREMIUM.

A. I used the same PRPM approach described above to the PRPM equity risk premium. The inputs to the model are the historical monthly returns on large company common stocks minus the monthly yields on Moody's Aaa/Aa-rated corporate bonds during the period from January 1928 through August 2021.[25] Using the previously discussed GARCH, the projected equity risk premium is determined using Eviews© statistical software. The resulting PRPM predicted a market equity risk premium of 7.88%.[26]

Q. PLEASE EXPLAIN THE DERIVATION OF A PROJECTED EQUITY RISK PREMIUM BASED ON *VALUE LINE* DATA FOR YOUR RPM ANALYSIS.

A. As noted above, because both ratemaking and the cost of capital are prospective, a prospective market equity risk premium is needed. The derivation of the forecasted or prospective market equity risk premium can be found in note 4, page 9 of Attachment DWD-3. Consistent with my calculation of the dividend yield component in my DCF analysis, this prospective market equity risk premium is derived from an average of the three- to five-year median market price appreciation potential by *Value Line* for the 13 weeks ended September 3, 2021, plus an average of the median estimated dividend yield for the common stocks of the 1,700 firms covered in *Value Line*'s *Standard Edition*.[27]

[25] Data from January 1928 to December 2020 is from SBBI - 2021. Data from January 2021 to August 2021 is from Bloomberg.
[26] Shown on line 3, page 8 of Attachment DWD-3.
[27] As explained in detail in note 1, page 2 of Attachment DWD-4.

The average median expected price appreciation is 32%, which translates to a 7.19% annual appreciation, and, when added to the average of *Value Line*'s median expected dividend yields of 1.76%, equates to a forecasted annual total return rate on the market of 8.95%. The forecasted Moody's Aaa-rated corporate bond yield of 3.41% is deducted from the total market return of 8.95%, resulting in an equity risk premium of 5.54%, as shown on line 4, page 8 of Attachment DWD-3.

Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED ON THE S&P 500 COMPANIES.

A. Using data from *Value Line*, I calculated an expected total return on the S&P 500 companies using expected dividend yields and long-term growth estimates as a proxy for capital appreciation. The expected total return for the S&P 500 is 15.05%. Subtracting the prospective yield on Moody's Aaa-rated corporate bonds of 3.41% results in an 11.64% projected equity risk premium.

Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED ON BLOOMBERG DATA.

A. Using data from Bloomberg, I calculated an expected total return on the S&P 500 using expected dividend yields and long-term growth estimates as a proxy for capital appreciation, identical to the method described above. The expected total return for the S&P 500 is 18.17%. Subtracting the prospective yield on Moody's Aaa-rated corporate bonds of 3.41% results in a 14.76% projected equity risk premium.

Q. WHAT IS YOUR CONCLUSION OF A BETA-DERIVED EQUITY RISK PREMIUM FOR USE IN YOUR RPM ANALYSIS?

A. I gave equal weight to all six equity risk premiums in arriving at a 9.10% equity risk premium.

Table 5: Summary of the Calculation of the Equity Risk Premium Using Total Market Returns[28]

Historical Spread Between Total Returns of Large Stocks and Aaa and Aa2-Rated Corporate Bond Yields (1928 – 2020)	5.92%
Regression Analysis on Historical Data	8.87%
PRPM Analysis on Historical Data	7.88%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected Aaa Corporate Bond Yields	5.54%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected Aaa Corporate Bond Yields	11.64%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected Aaa Corporate Bond Yields	14.76%
Average	9.10%

After calculating the average market equity risk premium of 9.10%, I adjusted it by the beta coefficient to account for the risk of the Utility Proxy Group. As discussed below, beta is a meaningful measure of prospective relative risk to the market as a whole, and is a logical way to allocate a company's or proxy group's share of the market's total equity risk premium relative to corporate bond yields. As shown on page 1 of Attachment DWD-4, the average of the mean and median beta for the Utility Proxy Group is 0.99. Multiplying the 0.99 average by the market equity risk premium of 9.10% results in a beta-adjusted equity risk premium for the Utility Proxy Group of 9.01%.

b. The S&P Utility Index Derived Risk Premium

Q. HOW DID YOU DERIVE THE EQUITY RISK PREMIUM BASED ON THE S&P UTILITY INDEX AND MOODY'S A-RATED PUBLIC UTILITY BONDS?

A. I estimated three equity risk premiums based on S&P Utility Index holding period returns, and two equity risk premiums based on the expected returns of the S&P Utilities Index, using *Value Line* and Bloomberg data, respectively. Turning first to the S&P Utility Index

[28] As shown on page 8 of Attachment DWD-3.

holding period returns, I derived a long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.65%, and monthly Moody's A-rated public utility bond yields of 6.49% from 1928 to 2020, to arrive at an equity risk premium of 4.16%.[29] I then used the same historical data to derive an equity risk premium of 6.51% based on a regression of the monthly equity risk premiums. The final S&P Utility Index holding period equity risk premium involved applying the PRPM using the historical monthly equity risk premiums from January 1928 to August 2021 to arrive at a PRPM-derived equity risk premium of 4.94% for the S&P Utility Index.

I then derived expected total returns on the S&P Utilities Index of 10.94% and 9.11% using data from *Value Line* and Bloomberg, respectively, and subtracted the prospective Moody's A2-rated public utility bond yield of 3.79%,[30] which resulted in equity risk premiums of 7.15% and 5.32%, respectively. As with the market equity risk premiums, I averaged each risk premium to arrive at my utility-specific equity risk premium of 5.62%.

Table 6: Summary of the Calculation of the Equity Risk Premium Using S&P Utility Index Holding Returns[31]

Historical Spread Between Total Returns of the S&P Utilities Index and A2-Rated Utility Bond Yields (1928 – 2020)	4.16%
Regression Analysis on Historical Data	6.51%
PRPM Analysis on Historical Data	4.94%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P Utilities Index less Projected A2 Utility Bond Yields	7.15%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P Utilities Index less Projected A2 Utility Bond Yields	5.32%
Average	5.62%

[29] As shown on line 1, page 12 of Attachment DWD-3.
[30] Derived on line 3, page 3 of Attachment DWD-3.
[31] As shown on page 12 of Attachment DWD-3.

c. Authorized Return-Derived Equity Risk Premium

Q. HOW DID YOU DERIVE AN EQUITY RISK PREMIUM OF 5.81% BASED ON AUTHORIZED ROES FOR ELECTRIC UTILITIES?

A. The equity risk premium of 5.81% shown on line 3, page 7 of Attachment DWD-3 is the result of a regression analysis based on regulatory awarded ROEs related to the yields on Moody's A-rated public utility bonds. That analysis is shown on page 13 of Attachment DWD-3 which contains the graphical results of a regression analysis of 1183 rate cases for electric utilities which were fully litigated during the period from January 1, 1980 through August 31, 2021. It shows the implicit equity risk premium relative to the yields on A-rated public utility bonds immediately prior to the issuance of each regulatory decision. It is readily discernible that there is an inverse relationship between the yield on A-rated public utility bonds and equity risk premiums. In other words, as interest rates decline, the equity risk premium rises and vice versa, a result consistent with financial literature on the subject.[32] I used the regression results to estimate the equity risk premium applicable to the projected yield on Moody's A2-rated public utility bonds of 3.79%. Given the expected A-rated utility bond yield of 3.79%, it can be calculated that the indicated equity risk premium applicable to that bond yield is 5.81%, which is shown on line 3, page 7 of Attachment DWD-3.

Q. WHAT IS YOUR CONCLUSION OF AN EQUITY RISK PREMIUM FOR USE IN YOUR TOTAL MARKET APPROACH RPM ANALYSIS?

A. The equity risk premium I apply to the Utility Proxy Group is 6.81%, which is the average of the beta-adjusted equity risk premium for the Utility Proxy Group, the S&P Utilities

[32] *See, e.g.*, Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts", *Journal of Applied Finance*, Vol. 11, No. 1, 2001, at pages 11 to 12; Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, "The Risk Premium Approach to Measuring a Utility's Cost of Equity", *Financial Management*, Spring 1985, at pages 33 to 45.

Index, and the authorized return utility equity risk premiums of 9.01%, 5.62%, and 5.81%, respectively.[33]

Q. WHAT IS THE INDICATED RPM COMMON EQUITY COST RATE BASED ON THE TOTAL MARKET APPROACH?

A. As shown on line 7, page 3 of Attachment DWD-3, I calculated a common equity cost rate of 10.68% for the Utility Proxy Group based on the total market approach RPM.

Table 7: Summary of the Total Market Return Risk Premium Model[34]

Prospective Moody's A3-Rated Utility Bond Applicable to the Utility Proxy Group	3.87%
Prospective Equity Risk Premium	6.81%
Indicated Cost of Common Equity	10.68%

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE PRPM AND THE TOTAL MARKET APPROACH RPM?

A. As shown on page 1 of Attachment DWD-3, the indicated RPM-derived common equity cost rate is 10.78%, which gives equal weight to the PRPM (10.88%) and the adjusted-market approach results (10.68%).

C. The Capital Asset Pricing Model

Q. PLEASE EXPLAIN THE THEORETICAL BASIS OF THE CAPM.

A. CAPM theory defines risk as the co-variability of a security's returns with the market's returns as measured by the beta coefficient (β). A beta coefficient less than 1.0 indicates lower variability than the market as a whole, while a beta coefficient greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all non-market or unsystematic risk can be eliminated through diversification. The risk that cannot be eliminated through diversification is called

[33] As shown on page 7 of Attachment DWD-3.
[34] As shown on page 3 of Attachment DWD-3.

market, or systematic, risk. In addition, the CAPM presumes that investors only require compensation for systematic risk, which is the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by the beta coefficient. The traditional CAPM model is expressed as:

$$R_s = R_f + \beta (R_m - R_f)$$

Where:
R_s = Return rate on the common stock
R_f = Risk-free rate of return
R_m = Return rate on the market as a whole
β = Adjusted beta coefficient (volatility of the security relative to the market as a whole)

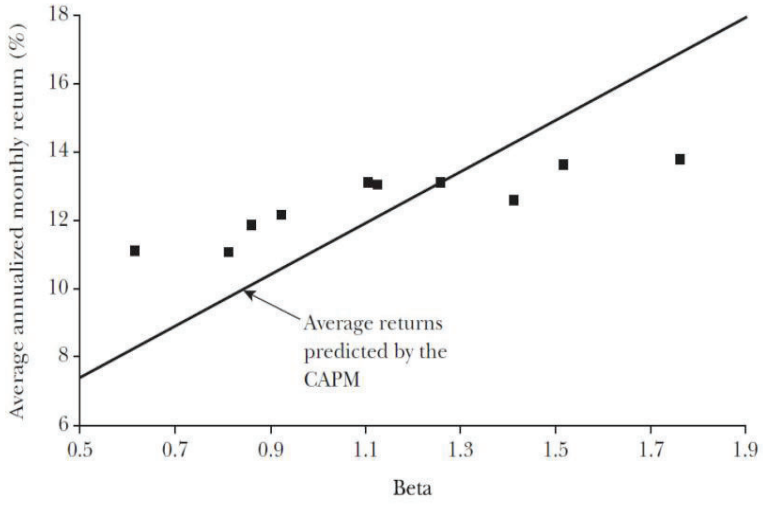
Numerous tests of the CAPM have measured the extent to which security returns and beta coefficients are related as predicted by the CAPM, confirming its validity. The empirical CAPM (ECAPM) reflects the reality that while the results of these tests support the notion that the beta coefficient is related to security returns, the empirical Security Market Line (SML) described by the CAPM formula is not as steeply sloped as the predicted SML.[35]

The ECAPM reflects this empirical reality. Fama and French clearly state regarding Figure 2, below, that "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low." [36]

[35] Roger A. Morin, New Regulatory Finance (Public Utility Reports, Inc., 2006), at 175. (Morin)
[36] Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence", *Journal of Economic Perspectives*, Vol. 18, No. 3, Summer 2004 at 33 (Fama & French).

Figure 2 http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330042162430

Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on Prior Beta, 1928–2003



In addition, Morin observes that while the results of these tests support the notion that beta is related to security returns, the empirical SML described by the CAPM formula is not as steeply sloped as the predicted SML. Morin states:

> With few exceptions, the empirical studies agree that … low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.[37]
>
> * * *
>
> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:
>
> $$K = R_F + x\,\beta(R_M - R_F) + (1-x)\,\beta(R_M - R_F)$$
>
> where x is a fraction to be determined empirically. The value of x that best explains the observed relationship [is] Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:
>
> $$K = R_F + 0.25(R_M - R_F) + 0.75\,\beta(R_M - R_F)$$[38]
>
> Fama and French provide similar support for the ECAPM when they state:
>
> The early tests firmly reject the Sharpe-Lintner version of the CAPM. There is a positive relation between beta and average return, but it is too 'flat.'… The regressions consistently find that the intercept is greater than the

[37]Morin, at 175.
[38]Morin, at 190.

> average risk-free rate… and the coefficient on beta is less than the average excess market return… This is true in the early tests… as well as in more recent cross-section regressions tests, like Fama and French (1992).[39]

Finally, Fama and French further note:

> Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Linter CAPM predicts. The returns on low beta portfolios are too high, and the returns on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return as 11.1 percent. The predicted return on the portfolio with the t beta is 16.8 percent per year; the actual is 13.7 percent.[40]

Clearly, the justification from Morin, Fama, and French, along with their reviews of other academic research on the CAPM, validate the use of the ECAPM. In view of theory and practical research, I have applied both the traditional CAPM and the ECAPM to the companies in the Utility Proxy Group and averaged the results.

Q. WHAT BETAS DID YOU USE IN YOUR CAPM ANALYSIS?

A. For the betas in my CAPM analysis, I considered two sources: *Value Line* and Bloomberg Professional Services. While both of those services adjust their calculated (or "raw") betas to reflect the tendency of beta to regress to the market mean of 1.00, *Value Line* calculates their beta over a five-year period, while Bloomberg calculates it over a two-year period.

Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF RETURN.

A. As discussed previously, the risk-free rate adopted for both applications of the CAPM is 2.70%. This risk-free rate is based on the average of the *Blue Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the fourth calendar quarter of 2022, and long-term projections for the years 2023 to 2027 and 2028 to 2032.

[39] Fama & French, at 32.
[40] *Ibid.,* at 33.

Q. PLEASE EXPLAIN THE ESTIMATION OF THE EXPECTED RISK PREMIUM FOR THE MARKET USED IN YOUR CAPM ANALYSES.

A. The basis of the market risk premium is explained in detail in note 1 on Attachment DWD-4. As discussed above, the market risk premium is derived from an average of three historical data-based market risk premiums, two *Value Line* data-based market risk premiums, and one Bloomberg data-based market risk premium.

The long-term income return on U.S. Government securities of 5.05% was deducted from the SBBI - 2021 monthly historical total market return of 12.20%, which results in an historical market equity risk premium of 7.15%.[41] I applied a linear OLS regression to the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government securities from SBBI - 2021. That regression analysis yielded a market equity risk premium of 9.57%. The PRPM market equity risk premium is 8.77% and is derived using the PRPM relative to the yields on long-term U.S. Treasury securities from January 1926 through August 2021.

The *Value Line*-derived forecasted total market equity risk premium is derived by deducting the forecasted risk-free rate of 2.70%, discussed above, from the *Value Line* projected total annual market return of 8.95%, resulting in a forecasted total market equity risk premium of 6.25%. The S&P 500 projected market equity risk premium using *Value Line* data is derived by subtracting the projected risk-free rate of 2.70% from the projected total return of the S&P 500 of 15.05%. The resulting market equity risk premium is 12.35%.

The S&P 500 projected market equity risk premium using Bloomberg data is derived by subtracting the projected risk-free rate of 2.70% from the projected total return

[41] SBBI - 2021, at Appendix A-1 (1) through A-1 (3) and Appendix A-7 (19) through A-7 (21).

of the S&P 500 of 18.17%. The resulting market equity risk premium is 15.47%. These six measures, when averaged, result in an average total market equity risk premium of 9.93%.

Table 8: Summary of the Calculation of the Market Risk Premium for Use in the CAPM[42]

Historical Spread Between Total Returns of Large Stocks and Long-Term Government Bond Yields (1926 – 2020)	7.15%
Regression Analysis on Historical Data	9.57%
PRPM Analysis on Historical Data	8.77%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected 30-Year Treasury Bond Yields	6.25%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected 30-Year Treasury Bond Yields	12.35%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected 30-Year Treasury Bond Yields	15.47%
Average	9.93%

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE TRADITIONAL AND EMPIRICAL CAPM TO THE UTILITY PROXY GROUP?

A. As shown on page 1 of Attachment DWD-4, the mean result of my CAPM/ECAPM analyses is 12.59%, the median is 12.45%, and the average of the two is 12.52%. Consistent with my reliance on the average of mean and median DCF results discussed above, the indicated common equity cost rate using the CAPM/ECAPM is 12.52%.

D. Common Equity Cost Rates for a Proxy Group of Domestic, Non-Price Regulated Companies Based on the DCF, RPM, and CAPM

Q. WHY DO YOU ALSO CONSIDER A PROXY GROUP OF DOMESTIC, NON-PRICE REGULATED COMPANIES?

A. In the *Hope* and *Bluefield* cases, the U.S. Supreme Court did not specify that comparable risk companies had to be utilities. Since the purpose of rate regulation is to be a substitute

[42] As shown on page 2 of Attachment DWD-4.

for marketplace competition, non-price regulated firms operating in the competitive marketplace make an excellent proxy group if they are comparable in total risk to the Utility Proxy Group being used to estimate the cost of common equity. The selection of such domestic, non-price regulated competitive firms theoretically and empirically results in a proxy group which is comparable in total risk to the Utility Proxy Group, since all of these companies compete for capital in the exact same markets.

Q. HOW DID YOU SELECT NON-PRICE REGULATED COMPANIES THAT ARE COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

A. In order to select a proxy group of domestic, non-price regulated companies similar in total risk to the Utility Proxy Group, I relied on the betas and related statistics derived from *Value Line* regression analyses of weekly market prices over the most recent 260 weeks (*i.e.*, five years). These selection criteria resulted in a proxy group of 50 domestic, non-price regulated firms comparable in total risk to the Utility Proxy Group. Total risk is the sum of non-diversifiable market risk and diversifiable company-specific risks. The criteria used in selecting the domestic, non-price regulated firms was:

(i) They must be covered by *Value Line Investment Survey* (Standard Edition);

(ii) They must be domestic, non-price regulated companies, *i.e.*, not utilities;

(iii) Their unadjusted betas must lie within plus or minus two standard deviations of the average unadjusted betas of the Utility Proxy Group; and

(iv) The residual standard errors of the *Value Line* regressions which gave rise to the unadjusted betas must lie within plus or minus two standard deviations of the average residual standard error of the Utility Proxy Group.

Betas measure market, or systematic, risk, which is not diversifiable. The residual standard errors of the regressions measure each firm's company-specific, diversifiable risk. Companies that have similar unadjusted betas and similar residual standard errors resulting from the same regression analyses have similar total investment risk.

Q. HAVE YOU PREPARED AN ATTACHMENT THAT SHOWS THE DATA FROM WHICH YOU SELECTED THE 50 DOMESTIC, NON-PRICE REGULATED COMPANIES THAT ARE COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

A. Yes, the basis of my selection and both proxy groups' regression statistics are shown in Attachment DWD-5.

Q. DID YOU CALCULATE COMMON EQUITY COST RATES USING THE DCF MODEL, RPM, AND CAPM FOR THE NON-PRICE REGULATED PROXY GROUP?

A. Yes. Because the DCF model, RPM, and CAPM have been applied in an identical manner as described above, I will not repeat the details of the rationale and application of each model. One exception is in the application of the RPM, where I did not use public utility-specific equity risk premiums, nor did I apply the PRPM to the individual non-price regulated companies.

Page 2 of Attachment DWD-6 derives the constant growth DCF model common equity cost rate. As shown, the indicated common equity cost rate, using the constant growth DCF for the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group, is 12.92%.

Pages 3 through 5 of Attachment DWD-6 contain the data and calculations that support the 12.64% RPM common equity cost rate. As shown on line 1, page 3 of

Attachment DWD-6, the consensus prospective yield on Moody's Baa-rated corporate bonds for the six quarters ending in the fourth quarter of 2022, and for the years 2023 to 2027 and 2028 to 2032, is 4.30%.[43] Since the Non-Price Regulated Proxy Group has an average Moody's long-term issuer rating of Baa1, a 0.12% downward adjustment of the prospective Baa2-rated corporate bond yield is necessary to reflect a difference in ratings.[44]

When the beta-adjusted risk premium of 8.46%[45] relative to the Non-Price Regulated Proxy Group is added to the adjusted prospective Baa2-rated corporate bond yield of 4.18%, the indicated RPM common equity cost rate is 12.64%.

Page 6 of Attachment DWD-6 contains the inputs and calculations that support my indicated CAPM/ECAPM common equity cost rate of 12.00%.

Q. HOW IS THE COST RATE OF COMMON EQUITY BASED ON THE NON-PRICE REGULATED PROXY GROUP COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

A. As shown on page 1 of Attachment DWD-6, the results of the common equity models applied to the Non-Price Regulated Proxy Group -- which group is comparable in total risk to the Utility Proxy Group -- are as follows: 12.92% (DCF), 12.64% (RPM), and 12.00% (CAPM). The average of the mean and median of these models is 12.58%, which I used as the indicated common equity cost rates for the Non-Price Regulated Proxy Group.

[43] *Blue Chip Financial Forecasts*, June 1, 2021 at page 14 and September 1, 2021 at page 2.
[44] The 0.12% downward adjustment is equal to one third of the spread between A2 and Baa2 corporate bond yields, as illustrated in Note 2 on Page 3 of Attachment DWD-6.
[45] Derived on page 5 of Attachment DWD-6.

V. CONCLUSION OF COMMON EQUITY COST RATE BEFORE ADJUSTMENTS

Q. WHAT ARE THE INDICATED COMMON EQUITY COST RATES BEFORE ADJUSTMENTS?

A. By applying multiple cost of common equity models to the Utility Proxy Group and the Non-Price Regulated Proxy Group, the indicated range of common equity cost rates before any relative risk adjustment is between 9.72% and 11.72%. I used multiple cost of common equity models as primary tools in arriving at my recommended common equity cost rate, because no single model is so inherently precise that it can be relied on to the exclusion of other theoretically sound models. Using multiple models adds reliability to the estimated common equity cost rate, with the prudence of using multiple cost of common equity models supported in both the financial literature and regulatory precedent.

VI. ADJUSTMENTS TO THE COMMON EQUITY COST RATE

A. Size Adjustment

Q. PLEASE COMPARE DUKE ENERGY OHIO'S SIZE WITH THAT OF THE UTILITY PROXY GROUP.

A. As shown in Table 9 below, Duke Energy Ohio is smaller than the utilities in the Utility Proxy Group, as measured by market capitalization.

Table 9: Size as Measured by Market Capitalization for Duke Energy Ohio and the Utility Proxy Group

	Market Capitalization* ($ Millions)	Times Greater than The Company
Duke Energy Ohio	$3,517.131	
Utility Proxy Group	$15,358.236	4.4x

*From page 1 of Attachment DWD-7.

Duke Energy Ohio's estimated market capitalization was $3.5 billion as of August 31, 2021,[46] compared with the market capitalization of the median company in the Utility Proxy Group of $15.4 billion as of August 31, 2021. The median company in the Utility Proxy Group has a market capitalization 4.4 times the size of Duke Energy Ohio's estimated market capitalization.

Q. SINCE DUKE ENERGY OHIO IS A SUBSIDIARY OF DUKE ENERGY, WHY IS THE SIZE OF THE TOTAL COMPANY NOT MORE APPROPRIATE TO USE WHEN DETERMINING THE SIZE ADJUSTMENT?

A. As discussed previously, rates are set using the stand-alone principle, which maintains that the utility operations of a diversified firm should be regulated as though they were independent (*i.e.*, without subsidies to or from affiliated companies). Because of this, the return derived in these proceedings will not apply to Duke Energy as a whole, but only Duke Energy Ohio's electric operations. Duke Energy is the sum of its constituent parts, including those constituent parts' ROEs. Potential investors in the Company are aware that it is a combination of operations in each state, and that each state's operations experience the operating risks specific to their jurisdiction. The market's expectation of Duke Energy's

[46] $1,768.291 million (company-provided book equity as of the 4th Quarter 2020) * 198.9% (market-to-book ratio of the Utility Proxy Group) as demonstrated on page 2 of Attachment DWD-7.

return is commensurate with the realities of its composite operations in each of the states in which it operates.

Q. DOES DUKE ENERGY OHIO'S SMALLER SIZE RELATIVE TO THE UTILITY PROXY GROUP COMPANIES INCREASE ITS BUSINESS RISK?

A. Yes. Duke Energy Ohio's smaller size relative to the Utility Proxy Group companies indicates greater relative business risk for the Company because, all else being equal, size has a material bearing on risk.

Size affects business risk because smaller companies generally are less able to cope with significant events that affect sales, revenues and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally. Additionally, the loss of revenues from a few larger customers would have a greater effect on a small company than on a bigger company with a larger, more diverse, customer base.

As further evidence that smaller companies are riskier, investors generally demand greater returns from smaller firms to compensate for less marketability and liquidity of their securities. Duff & Phelps 2020 Valuation Handbook Guide to Cost of Capital - Market Results through 2019 (D&P - 2020) discusses the nature of the small-size phenomenon, providing an indication of the magnitude of the size premium based on several measures of size. In discussing "Size as a Predictor of Equity Premiums," D&P - 2020 states:

> The size effect is based on the empirical observation that companies of smaller size are associated with greater risk and, therefore, have greater cost of capital [sic]. The "size" of a company is one of the most important risk elements to consider when developing cost of equity capital estimates for use in valuing a business simply because size has been shown to be a *predictor* of equity returns. In other words, there is a significant (negative) relationship between size and historical equity returns - as size *decreases*,

> returns tend to *increase*, and vice versa. (footnote omitted) (emphasis in original)[47]

Furthermore, in "The Capital Asset Pricing Model: Theory and Evidence," Fama and French note size is indeed a risk factor which must be reflected when estimating the cost of common equity. On page 38, they note:

> . . . the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariances) in returns not captured in the market return and are priced separately from market betas.[48]

Based on this evidence, Fama and French proposed their three-factor model which includes a size variable in recognition of the effect size has on the cost of common equity.

Also, it is a basic financial principle that the use of funds invested, and not the source of funds, is what gives rise to the risk of any investment.[49] Eugene Brigham, a well-known authority, states:

> A number of researchers have observed that portfolios of small-firms (sic) have earned consistently higher average returns than those of large-firm stocks; this is called the "small-firm effect." On the surface, it would seem to be advantageous to the small firms to provide average returns in a stock market that are higher than those of larger firms. In reality, it is bad news for the small firm; **what the small-firm effect means is that the capital market demands higher returns on stocks of small firms than on otherwise similar stocks of the large firms**. (emphasis added)[50]

Consistent with the financial principle of risk and return discussed above, increased relative risk due to small size must be considered in the allowed rate of return on common equity. Therefore, the Commission's authorization of a cost rate of common equity in these proceedings must appropriately reflect the unique risks of Duke Energy Ohio, including its small size, which is justified and supported above by evidence in the financial literature.

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[47] Duff & Phelps Valuation Handbook – U.S. Guide to Cost of Capital, Wiley 2020, at 4-1.
[48] Fama and French, at 25-43.
[49] Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance (McGraw-Hill Book Company, 1996), at 204-205, 229.
[50] Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition (The Dryden Press, 1989), at 623.

Q. IS THERE A WAY TO QUANTIFY A RELATIVE RISK ADJUSTMENT DUE TO DUKE ENERGY OHIO'S SMALL SIZE RELATIVE TO THE UTILITY PROXY GROUP?

A. Yes. As mentioned above, Duke Energy Ohio has greater relative risk than the median utility in the Utility Proxy Group because of its smaller size compared with the utilities in that group.

As a result, it is necessary to upwardly adjust the range of indicated common equity cost rates between 9.72% to 11.72% to reflect Duke Energy Ohio's greater risk due to its smaller relative size. The determination is based on the size premiums for portfolios of New York Stock Exchange, American Stock Exchange, and NASDAQ listed companies ranked by deciles for the 1926 to 2020 period. The average size premium for the Utility Proxy Group with a market capitalization of $15.4 billion falls in the 2nd decile, while the Company's estimated market capitalization of $3.5 billion places it in the 5th decile. The size premium spread between the 2nd decile and the 5th decile is 0.60%. Even though a 0.60% upward size adjustment is indicated, I applied a size premium of 0.15% to the Company's range of indicated common equity cost rates.

B. Credit Risk Adjustment

Q. PLEASE DISCUSS YOUR PROPOSED CREDIT RISK ADJUSTMENT.

A. Duke Energy Ohio's long-term issuer ratings are Baa1 and BBB+ from Moody's Investors Services and S&P, respectively, which are riskier than the average long-term issuer ratings for the Utility Proxy Group of A3 and BBB+, respectively.[51] Hence, an upward credit risk adjustment is necessary to reflect the lower credit rating, *i.e.*, Baa1, of Duke Energy Ohio relative to the A3 average Moody's bond rating of the Utility Proxy Group.[52]

[51] Source: S&P Global Market Intelligence.
[52] As shown on page 5 of Attachment DWD-3.

An indication of the magnitude of the necessary upward adjustment to reflect the greater credit risk inherent in a Baa1 bond rating is one-third of a recent three-month average spread between Moody's A2 and Baa2-rated public utility bond yields of 0.25%, shown on page 4 of Attachment DWD-3, or 0.08%.[53]

C. Flotation Cost Adjustment

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are those costs associated with the sale of new issuances of common stock. They include market pressure and the mandatory unavoidable costs of issuance (*e.g.*, underwriting fees and out-of-pocket costs for printing, legal, registration, etc.). For every dollar raised through debt or equity offerings, the Company receives less than one full dollar in financing.

Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED COMMON EQUITY COST RATE?

A. It is important because there is no other mechanism in the ratemaking paradigm through which such costs can be recognized and recovered. Because these costs are real, necessary, and legitimate, recovery of these costs should be permitted. As noted by Morin:

> The costs of issuing these securities are just as real as operating and maintenance expenses or costs incurred to build utility plants, and fair regulatory treatment must permit recovery of these costs….
>
> The simple fact of the matter is that common equity capital is not free….[Flotation costs] must be recovered through a rate of return adjustment.[54]

[53] 0.08% = 0.25% * (1/3).
[54] Morin, at p. 321.

Q. SHOULD FLOTATION COSTS BE RECOGNIZED ONLY IF THERE WAS AN ISSUANCE DURING THE TEST YEAR OR THERE IS AN IMMINENT POST-TEST YEAR ISSUANCE OF ADDITIONAL COMMON STOCK?

A. No. As noted above, there is no mechanism to recapture such costs in the ratemaking paradigm other than an adjustment to the allowed common equity cost rate. Flotation costs are charged to capital accounts and are not expensed on a utility's income statement. As such, flotation costs are analogous to capital investments, albeit negative, reflected on the balance sheet. Recovery of capital investments relates to the expected useful lives of the investment. Since common equity has a very long and indefinite life (assumed to be infinity in the standard regulatory DCF model), flotation costs should be recovered through an adjustment to common equity cost rate, even when there has not been an issuance during the test year, or in the absence of an expected imminent issuance of additional shares of common stock.

Historical flotation costs are a permanent loss of investment to the utility and should be accounted for. When any company, including a utility, issues common stock, flotation costs are incurred for legal, accounting, printing fees and the like. For each dollar of issuing market price, a small percentage is expensed and is permanently unavailable for investment in utility rate base. Since these expenses are charged to capital accounts and not expensed on the income statement, the only way to restore the full value of that dollar of issuing price with an assumed investor required return of 10% is for the net investment, $0.95, to earn more than 10% to net back to the investor a fair return on that dollar. In other words, if a company issues stock at $1.00 with 5% in flotation costs, it will net $0.95 in investment. Assuming the investor in that stock requires a 10% return on his or her invested $1.00 (*i.e.*,

a return of $0.10), the company needs to earn approximately 10.5% on its invested $0.95 to receive a $0.10 return.

Q. DO THE COMMON EQUITY COST RATE MODELS YOU HAVE USED ALREADY REFLECT INVESTORS' ANTICIPATION OF FLOTATION COSTS?

A. No. All of these models assume no transaction costs. The literature is quite clear that these costs are not reflected in the market prices paid for common stocks. For example, Brigham and Daves confirm this and provide the methodology utilized to calculate the flotation adjustment.[55] In addition, Morin confirms the need for such an adjustment even when no new equity issuance is imminent.[56] Consequently, it is proper to include a flotation cost adjustment when using cost of common equity models to estimate the common equity cost rate.

Q. HOW DID YOU CALCULATE THE FLOTATION COST ALLOWANCE?

A. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs in accordance with the method cited in literature by Brigham and Daves, as well as by Morin. The flotation cost adjustment recognizes the actual costs of issuing equity that were incurred by Duke Energy in its last three equity issuances. Based on the issuance costs shown on page 1 of Attachment DWD-8, an adjustment of 0.11% is required to reflect the flotation costs applicable to the Utility Proxy Group.

Q. WHAT IS THE INDICATED COST OF COMMON EQUITY AFTER YOUR COMPANY-SPECIFIC ADJUSTMENTS?

A. Applying the 0.15% size adjustment, the 0.08% credit risk adjustment, and the 0.11% flotation cost adjustment to the indicated cost of common equity range of 9.72% to 11.72%

[55] Eugene F. Brigham and Phillip R. Daves, Intermediate Financial Management, 9th Edition, Thomson/Southwestern, at p. 342.
[56] Morin, at pp. 327-330.

results in a Company-specific cost of common equity rate range of 10.06% to 12.06%. I recommend an ROE at the lower end of my range, or 10.30%, as applicable to Duke Energy Ohio at this time.

VII. CONCLUSION

Q. WHAT IS YOUR RECOMMENDED ROE FOR DUKE ENERGY OHIO?

A. Given the indicated ROE range applicable to the Utility Proxy Group of 9.72% to 11.72% and the Company-specific ROE range of 10.06% to 12.06%, I conclude that an appropriate ROE for the Company is 10.30%.

Q. IN YOUR OPINION, IS YOUR PROPOSED ROE OF 10.30% FAIR AND REASONABLE TO DUKE ENERGY OHIO AND ITS CUSTOMERS?

A. Yes, it is.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

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Resume & Testimony Listing of:

Dylan W. D'Ascendis, CRRA, CVA
Partner

Summary

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). Dylan joined ScottMadden in 2016 and has become a leading expert witness with respect to cost of capital and capital structure. He has served as a consultant for investor-owned and municipal utilities and authorities for 13 years. Dylan has testified as an expert witness on over 100 occasions regarding rate of return, cost of service, rate design, and valuation before more than 30 regulatory jurisdictions in the United States and Canada, an American Arbitration Association panel, and the Superior Court of Rhode Island. He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured. Dylan holds a B.A. in economic history from the University of Pennsylvania and an M.B.A. with concentrations in finance and international business from Rutgers University.

Areas of Specialization

- Regulation and Rates
- Rate of Return
- Valuation
- Mutual Fund Benchmarking
- Capital Market Risk
- Regulatory Strategy
- Cost of Service

Recent Expert Testimony Submission/Appearance

- Regulatory Commission of Alaska – Capital Structure
- Federal Energy Regulatory Commission – Rate of Return
- Public Utility Commission of Texas – Return on Equity
- Hawaii Public Utilities Commission – Cost of Service / Rate Design
- Pennsylvania Public Utility Commission - Valuation

Recent Articles and Speeches

- Co-Author of: "Decoupling, Risk Impacts and the Cost of Capital", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. The Electricity Journal, March, 2020
- Co-Author of: "Decoupling Impact and Public Utility Conservation Investment", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. Energy Policy Journal, 130 (2019), 311-319
- "Establishing Alternative Proxy Groups", before the Society of Utility and Regulatory Financial Analysts: 51st Financial Forum, April 4, 2019, New Orleans, LA
- "Past is Prologue: Future Test Year", Presentation before the National Association of Water Companies 2017 Southeast Water Infrastructure Summit, May 2, 2017, Savannah, GA.
- Co-author of: "Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Pauline M. Ahern, and Frank J. Hanley, The Electricity Journal, May, 2013
- "Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN

Recent Assignments

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Sponsored valuation testimony for a large municipal water company in front of an American Arbitration Association Board to justify the reasonability of their lease payments to the City
- Co-authored a valuation report on behalf of a large investor-owned utility company in response to a new state regulation which allowed the appraised value of acquired assets into rate base

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Sponsor	Date	Case/Applicant	Docket No.	Subject
Regulatory Commission of Alaska				
Cook Inlet Natural Gas Storage Alaska, LLC	07/21	Cook Inlet Natural Gas Storage Alaska, LLC	Docket No. TA45-733	Capital Structure
Alaska Power Company	09/20	Alaska Power Company; Goat Lake Hydro, Inc.; BBL Hydro, Inc.	Tariff Nos. TA886-2; TA6-521; TA4-573	Capital Structure
Alaska Power Company	07/16	Alaska Power Company	Docket No. TA857-2	Rate of Return
Alberta Utilities Commission				
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	01/20	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	2021 Generic Cost of Capital, Proceeding ID. 24110	Rate of Return
Arizona Corporation Commission				
EPCOR Water Arizona, Inc.	06/20	EPCOR Water Arizona, Inc.	Docket No. WS-01303A-20-0177	Rate of Return
Arizona Water Company	12/19	Arizona Water Company – Western Group	Docket No. W-01445A-19-0278	Rate of Return
Arizona Water Company	08/18	Arizona Water Company – Northern Group	Docket No. W-01445A-18-0164	Rate of Return
Arkansas Public Service Commission				
Southwestern Electric Power Co.	07/21	Southwestern Electric Power Co.	Docket No. 21-070-U	Return on Equity
CenterPoint Energy Resources Corp.	05/21	CenterPoint Arkansas Gas	Docket No. 21-004-U	Return on Equity
Colorado Public Utilities Commission				
Summit Utilities, Inc.	04/18	Colorado Natural Gas Company	Docket No. 18AL-0305G	Rate of Return
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Rate of Return
Delaware Public Service Commission				
Delmarva Power & Light Co.	11/20	Delmarva Power & Light Co.	Docket No. 20-0149 (Electric)	Return on Equity
Delmarva Power & Light Co.	10/20	Delmarva Power & Light Co.	Docket No. 20-0150 (Gas)	Return on Equity
Tidewater Utilities, Inc.	11/13	Tidewater Utilities, Inc.	Docket No. 13-466	Capital Structure
Public Service Commission of the District of Columbia				
Washington Gas Light Company	09/20	Washington Gas Light Company	Formal Case No. 1162	Rate of Return
Federal Energy Regulatory Commission				
LS Power Grid California, LLC	10/20	LS Power Grid California, LLC	Docket No. ER21-195-000	Rate of Return
Florida Public Service Commission				
Tampa Electric Company	04/21	Tampa Electric Company	Docket No. 20210034-EI	Return on Equity
Peoples Gas System	09/20	Peoples Gas System	Docket No. 20200051-GU	Rate of Return
Utilities, Inc. of Florida	06/20	Utilities, Inc. of Florida	Docket No. 20200139-WS	Rate of Return
Hawaii Public Utilities Commission				
Launiupoko Irrigation Company, Inc.	12/20	Launiupoko Irrigation Company, Inc.	Docket No. 2020-0217 / Transferred to 2020-0089	Capital Structure
Lanai Water Company, Inc.	12/19	Lanai Water Company, Inc.	Docket No. 2019-0386	Cost of Service / Rate Design
Manele Water Resources, LLC	08/19	Manele Water Resources, LLC	Docket No. 2019-0311	Cost of Service / Rate Design
Kaupulehu Water Company	02/18	Kaupulehu Water Company	Docket No. 2016-0363	Rate of Return
Aqua Engineers, LLC	05/17	Puhi Sewer & Water Company	Docket No. 2017-0118	Cost of Service / Rate Design
Hawaii Resources, Inc.	09/16	Laie Water Company	Docket No. 2016-0229	Cost of Service / Rate Design

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Sponsor	Date	Case/Applicant	Docket No.	Subject
Illinois Commerce Commission				
Utility Services of Illinois, Inc.	02/21	Utility Services of Illinois, Inc.	Docket No. 21-0198	Rate of Return
Ameren Illinois Company d/b/a Ameren Illinois	07/20	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 20-0308	Return on Equity
Utility Services of Illinois, Inc.	11/17	Utility Services of Illinois, Inc.	Docket No. 17-1106	Cost of Service / Rate Design
Aqua Illinois, Inc.	04/17	Aqua Illinois, Inc.	Docket No. 17-0259	Rate of Return
Utility Services of Illinois, Inc.	04/15	Utility Services of Illinois, Inc.	Docket No. 14-0741	Rate of Return
Indiana Utility Regulatory Commission				
Aqua Indiana, Inc.	03/16	Aqua Indiana, Inc. Aboite Wastewater Division	Docket No. 44752	Rate of Return
Twin Lakes, Utilities, Inc.	08/13	Twin Lakes, Utilities, Inc.	Docket No. 44388	Rate of Return
Kansas Corporation Commission				
Atmos Energy	07/19	Atmos Energy	19-ATMG-525-RTS	Rate of Return
Kentucky Public Service Commission				
Atmos Energy Corporation	07/21	Atmos Energy Corporation	2021-00304	PRP Rider Rate
Atmos Energy Corporation	06/21	Atmos Energy Corporation	2021-00214	Rate of Return
Duke Energy Kentucky, Inc.	06/21	Duke Energy Kentucky, Inc.	2021-00190	Return on Equity
Bluegrass Water Utility Operating Company	10/20	Bluegrass Water Utility Operating Company	2020-00290	Return on Equity
Louisiana Public Service Commission				
Utilities, Inc. of Louisiana	05/21	Utilities, Inc. of Louisiana	Docket No. U-36003	Rate of Return
Southwestern Electric Power Company	12/20	Southwestern Electric Power Company	Docket No. U-35441	Return on Equity
Atmos Energy	04/20	Atmos Energy	Docket No. U-35535	Rate of Return
Louisiana Water Service, Inc.	06/13	Louisiana Water Service, Inc.	Docket No. U-32848	Rate of Return
Maine Public Utilities Commission				
The Maine Water Company	09/21	The Maine Water Company	Docket No. 2021-00053	Rate of Return
Maryland Public Service Commission				
Washington Gas Light Company	08/20	Washington Gas Light Company	Case No. 9651	Rate of Return
FirstEnergy, Inc.	08/18	Potomac Edison Company	Case No. 9490	Rate of Return
Massachusetts Department of Public Utilities				
Unitil Corporation	12/19	Fitchburg Gas & Electric Co. (Elec.)	D.P.U. 19-130	Rate of Return
Unitil Corporation	12/19	Fitchburg Gas & Electric Co. (Gas)	D.P.U. 19-131	Rate of Return
Liberty Utilities	07/15	Liberty Utilities d/b/a New England Natural Gas Company	Docket No. 15-75	Rate of Return
Minnesota Public Utilities Commission				
Northern States Power Company	11/20	Northern States Power Company	Docket No. E002/GR-20-723	Rate of Return
Mississippi Public Service Commission				
Atmos Energy	03/19	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
Atmos Energy	07/18	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
Missouri Public Service Commission				
Spire Missouri, Inc.	12/20	Spire Missouri, Inc.	Case No. GR-2021-0108	Return on Equity
Indian Hills Utility Operating Company, Inc.	10/17	Indian Hills Utility Operating Company, Inc.	Case No. SR-2017-0259	Rate of Return

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Sponsor	Date	Case/Applicant	Docket No.	Subject
Raccoon Creek Utility Operating Company, Inc.	09/16	Raccoon Creek Utility Operating Company, Inc.	Docket No. SR-2016-0202	Rate of Return
Public Utilities Commission of Nevada				
Southwest Gas Corporation	09/21	Southwest Gas Corporation	Docket No. 21-09001	Return on Equity
Southwest Gas Corporation	08/20	Southwest Gas Corporation	Docket No. 20-02023	Return on Equity
New Hampshire Public Utilities Commission				
Aquarion Water Company of New Hampshire, Inc.	12/20	Aquarion Water Company of New Hampshire, Inc.	Docket No. DW 20-184	Rate of Return
New Jersey Board of Public Utilities				
Middlesex Water Company	05/21	Middlesex Water Company	Docket No. WR21050813	Rate of Return
Atlantic City Electric Company	12/20	Atlantic City Electric Company	Docket No. ER20120746	Return on Equity
FirstEnergy	02/20	Jersey Central Power & Light Co.	Docket No. ER20020146	Rate of Return
Aqua New Jersey, Inc.	12/18	Aqua New Jersey, Inc.	Docket No. WR18121351	Rate of Return
Middlesex Water Company	10/17	Middlesex Water Company	Docket No. WR17101049	Rate of Return
Middlesex Water Company	03/15	Middlesex Water Company	Docket No. WR15030391	Rate of Return
The Atlantic City Sewerage Company	10/14	The Atlantic City Sewerage Company	Docket No. WR14101263	Cost of Service / Rate Design
Middlesex Water Company	11/13	Middlesex Water Company	Docket No. WR1311059	Capital Structure
New Mexico Public Regulation Commission				
Southwestern Public Service Company	01/21	Southwestern Public Service Company	Case No. 20-00238-UT	Return on Equity
North Carolina Utilities Commission				
Carolina Water Service, Inc.	07/21	Carolina Water Service, Inc.	Docket No. W-354 Sub 384	Rate of Return
Piedmont Natural Gas Co., Inc.	03/21	Piedmont Natural Gas Co., Inc.	Docket No. G-9, Sub 781	Return on Equity
Duke Energy Carolinas, LLC	07/20	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1214	Return on Equity
Duke Energy Progress, LLC	07/20	Duke Energy Progress, LLC	Docket No. E-2, Sub 1219	Return on Equity
Aqua North Carolina, Inc.	12/19	Aqua North Carolina, Inc.	Docket No. W-218 Sub 526	Rate of Return
Carolina Water Service, Inc.	06/19	Carolina Water Service, Inc.	Docket No. W-354 Sub 364	Rate of Return
Carolina Water Service, Inc.	09/18	Carolina Water Service, Inc.	Docket No. W-354 Sub 360	Rate of Return
Aqua North Carolina, Inc.	07/18	Aqua North Carolina, Inc.	Docket No. W-218 Sub 497	Rate of Return
North Dakota Public Service Commission				
Northern States Power Company	11/20	Northern States Power Company	Case No. PU-20-441	Rate of Return
Public Utilities Commission of Ohio				
Aqua Ohio, Inc.	07/21	Aqua Ohio, Inc.	Docket No. 21-0595-WW-AIR	Rate of Return
Aqua Ohio, Inc.	05/16	Aqua Ohio, Inc.	Docket No. 16-0907-WW-AIR	Rate of Return
Pennsylvania Public Utility Commission				
Community Utilities of Pennsylvania, Inc.	04/21	Community Utilities of Pennsylvania, Inc.	Docket No. R-2021-3025207	Rate of Return
Vicinity Energy Philadelphia, Inc.	04/21	Vicinity Energy Philadelphia, Inc.	Docket No. R-2021-3024060	Rate of Return
Delaware County Regional Water Control Authority	02/20	Delaware County Regional Water Control Authority	Docket No. A-2019-3015173	Valuation
Valley Energy, Inc.	07/19	C&T Enterprises	Docket No. R-2019-3008209	Rate of Return
Wellsboro Electric Company	07/19	C&T Enterprises	Docket No. R-2019-3008208	Rate of Return
Citizens' Electric Company of Lewisburg	07/19	C&T Enterprises	Docket No. R-2019-3008212	Rate of Return
Steelton Borough Authority	01/19	Steelton Borough Authority	Docket No. A-2019-3006880	Valuation
Mahoning Township, PA	08/18	Mahoning Township, PA	Docket No. A-2018-3003519	Valuation

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Partner

Sponsor	Date	Case/Applicant	Docket No.	Subject
SUEZ Water Pennsylvania Inc.	04/18	SUEZ Water Pennsylvania Inc.	Docket No. R-2018-000834	Rate of Return
Columbia Water Company	09/17	Columbia Water Company	Docket No. R-2017-2598203	Rate of Return
Veolia Energy Philadelphia, Inc.	06/17	Veolia Energy Philadelphia, Inc.	Docket No. R-2017-2593142	Rate of Return
Emporium Water Company	07/14	Emporium Water Company	Docket No. R-2014-2402324	Rate of Return
Columbia Water Company	07/13	Columbia Water Company	Docket No. R-2013-2360798	Rate of Return
Penn Estates Utilities, Inc.	12/11	Penn Estates, Utilities, Inc.	Docket No. R-2011-2255159	Capital Structure / Long-Term Debt Cost Rate
South Carolina Public Service Commission				
Blue Granite Water Co.	12/19	Blue Granite Water Company	Docket No. 2019-292-WS	Rate of Return
Carolina Water Service, Inc.	02/18	Carolina Water Service, Inc.	Docket No. 2017-292-WS	Rate of Return
Carolina Water Service, Inc.	06/15	Carolina Water Service, Inc.	Docket No. 2015-199-WS	Rate of Return
Carolina Water Service, Inc.	11/13	Carolina Water Service, Inc.	Docket No. 2013-275-WS	Rate of Return
United Utility Companies, Inc.	09/13	United Utility Companies, Inc.	Docket No. 2013-199-WS	Rate of Return
Utility Services of South Carolina, Inc.	09/13	Utility Services of South Carolina, Inc.	Docket No. 2013-201-WS	Rate of Return
Tega Cay Water Services, Inc.	11/12	Tega Cay Water Services, Inc.	Docket No. 2012-177-WS	Capital Structure
Tennessee Public Utility Commission				
Piedmont Natural Gas Company	07/20	Piedmont Natural Gas Company	Docket No. 20-00086	Return on Equity
Public Utility Commission of Texas				
Southwestern Public Service Company	02/21	Southwestern Public Service Company	Docket No. 51802	Return on Equity
Southwestern Electric Power Company	10/20	Southwestern Electric Power Company	Docket No. 51415	Rate of Return
Virginia State Corporation Commission				
Virginia Natural Gas, Inc.	04/21	Virginia Natural Gas, Inc.	PUR-2020-00095	Return on Equity
Massanutten Public Service Corporation	12/20	Massanutten Public Service Corporation	PUE-2020-00039	Return on Equity
Aqua Virginia, Inc.	07/20	Aqua Virginia, Inc.	PUR-2020-00106	Rate of Return
WGL Holdings, Inc.	07/18	Washington Gas Light Company	PUR-2018-00080	Rate of Return
Atmos Energy Corporation	05/18	Atmos Energy Corporation	PUR-2018-00014	Rate of Return
Aqua Virginia, Inc.	07/17	Aqua Virginia, Inc.	PUR-2017-00082	Rate of Return
Massanutten Public Service Corp.	08/14	Massanutten Public Service Corp.	PUE-2014-00035	Rate of Return / Rate Design

Duke Energy Ohio, Inc.
Recommended Capital Structure and Cost Rates
for Ratemaking Purposes
at August 31, 2021

Type Of Capital	Ratios (1)	Cost Rate	Weighted Cost Rate
Long-Term Debt	49.50%	4.16% (1)	2.06%
Common Equity	50.50%	10.30% (2)	5.20%
Total	100.00%		7.26%

Notes:

(1) Company-provided.
(2) From page 2 of this Attachment.

Duke Energy Ohio, Inc.
Brief Summary of Common Equity Cost Rate

Line No.	Principal Methods	Proxy Group of Fourteen Electric Companies
1.	Discounted Cash Flow Model (DCF) (1)	8.86%
2.	Risk Premium Model (RPM) (2)	10.78%
3.	Capital Asset Pricing Model (CAPM) (3)	12.52%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	12.58%
5.	Indicated Range of Common Equity Cost Rates before Adjustment for Company-Specific Risk	9.72% - 11.72%
6.	Size Risk Adjustment (5)	0.15%
7.	Credit Risk Adjustment (6)	0.08%
8.	Flotation Cost Adjustment (7)	0.11%
9.	Indicated Range of Common Equity Cost Rates after Adjustment	10.06% - 12.06%
10.	Recommended Common Equity Cost Rate	10.30%

Notes:
(1) From page 1 of Attachment DWD-2.
(2) From page 1 of Attachment DWD-3.
(3) From page 1 of Attachment DWD-4.
(4) From page 1 of Attachment DWD-6.
(5) Adjustment to reflect the Company's greater business risk due to its smaller size realtive to the Utility Proxy Group as detailed in Mr. D'Ascendis' direct testimony.
(6) Company-specific risk adjustment to reflect Duke Ohio's greater credit risk compared to the Utility Proxy Group as detailed in Mr. D'Ascendis' direct testimony.
(7) From page 1 of Attachment DWD-8.

Duke Energy Ohio, Inc.
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for the
Proxy Group of Fourteen Electric Companies

Proxy Group of Fourteen Electric Companies	[1] Average Dividend Yield (1)	[2] Value Line Projected Five Year Growth in EPS (2)	[3] Zack's Five Year Projected Growth Rate in EPS	[4] Yahoo! Finance Projected Five Year Growth in EPS	[5] Average Projected Five Year Growth in EPS (3)	[6] Adjusted Dividend Yield (4)	[7] Indicated Common Equity Cost Rate (5)
Alliant Energy Corporation	2.74 %	5.50 %	5.60 %	5.10 %	5.40 %	2.81 %	8.21 %
Ameren Corporation	2.59	6.50	7.30	7.70	7.17	2.68	9.85
Duke Energy Corporation	3.81	7.00	5.30	5.45	5.92	3.92	9.84
Edison International	4.65	NMF	3.40	3.40	3.40	4.73	8.13
Entergy Corporation	3.59	3.00	1.40	3.85	2.75	3.64	6.39
Evergy, Inc.	3.30	8.00	5.80	5.70	6.50	3.41	9.91
Eversource Energy	2.82	6.50	6.40	6.68	6.53	2.91	9.44
IDACORP, Inc.	2.76	4.00	3.90	3.20	3.70	2.81	6.51
NorthWestern Corporation	3.97	3.00	4.80	4.50	4.10	4.05	8.15
OGE Energy Corporation	4.66	4.00	4.50	3.90	4.13	4.76	8.89
Otter Tail Corporation	3.07	7.00	4.70	9.00	6.90	3.18	10.08
Pinnacle West Capital Corporation	4.03	5.00	5.00	0.10	3.37	4.10	7.47
Portland General Electric Company	3.52	8.50	8.60	7.10	8.07	3.66	11.73
Xcel Energy, Inc.	2.68	6.00	6.10	6.30	6.13	2.76	8.89
						Average	8.82 %
						Median	8.89 %
						Average of Mean and Median	8.86 %

Notes:

(1) Indicated dividend at 08/31/2021 divided by the average closing price of the last 60 trading days ending 08/31/2021 for each company.
(2) From pages 2 through 15 of this Attachment.
(3) Average of columns 2 through 4 excluding negative growth rates.
(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 5) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for Alliant Energy Corporation, 2.74% x (1+(1/2 x 5.40%)) = 2.81%.
(5) Column 5 + Column 6.

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2021
www.yahoo.com Downloaded on 08/31/2021
Bloomberg Professional Services

AMEREN NYSE-AEE

RECENT PRICE 84.20 | P/E RATIO 22.2 (Trailing: 22.0 Median: 18.0) | RELATIVE P/E RATIO 1.04 | DIV'D YLD 2.7% | VALUE LINE

TIMELINESS 2 Raised 5/28/21
SAFETY 2 Raised 6/20/14
TECHNICAL 3 Raised 5/7/21
BETA .80 (1.00 = Market)

18-Month Target Price Range
Low-High: $63-$129 | Midpoint (% to Mid): $96 (15%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+20%)	7%
Low	75	(-10%)	1%

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	242	266	249
to Sell	255	250	269
Hld's(000)	188020	196751	194499

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	29.9	34.1	35.3	37.3	48.1	46.8	54.1	64.9	70.9	80.9	87.7	86.8						
Low:	23.1	25.5	28.4	30.6	35.2	37.3	41.5	51.4	51.9	63.1	58.7	69.8						

LEGENDS
0.64 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2024 | 2025 | 2026
160 120 100 80 60 50 40 30 20 15

Percent shares traded 30 20 10

% TOT. RETURN 5/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	15.0	68.0
3 yr.	53.2	54.6
5 yr.	95.3	106.2

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	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
	33.12	33.30	36.23	36.92	29.87	31.77	31.04	28.14	24.06	24.95	25.13	25.04	25.46	25.73	24.00	22.87	*23.55*	*23.95*	Revenues per sh
	6.10	6.02	6.76	6.44	6.06	6.33	5.87	5.87	5.25	5.77	6.08	6.59	6.80	7.64	7.83	8.08	*8.65*	*9.10*	"Cash Flow" per sh
	3.13	2.66	2.98	2.88	2.78	2.77	2.47	2.41	2.10	2.40	2.38	2.68	2.77	3.32	3.35	3.50	*3.80*	*4.05*	Earnings per sh A
	2.54	2.54	2.54	2.54	1.54	1.54	1.56	1.60	1.60	1.61	1.66	1.72	1.78	1.85	1.92	2.00	*2.20*	*2.34*	Div'd Decl'd per sh B ■
	4.63	4.99	6.96	9.75	7.51	4.66	4.50	5.49	5.87	7.66	8.12	8.78	9.05	9.56	9.92	13.02	*14.40*	*11.70*	Cap'l Spending per sh
	31.09	31.86	32.41	32.80	33.08	32.15	32.64	27.27	26.97	27.67	28.63	29.27	29.61	31.21	32.73	35.29	*37.55*	*39.95*	Book Value per sh C
	204.70	206.60	208.30	212.30	237.40	240.40	242.60	242.63	242.63	242.63	242.63	242.63	242.63	244.50	246.20	253.30	*259.00*	*265.00*	Common Shs Outst'g D
	16.7	19.4	17.4	14.2	9.3	9.7	11.9	13.4	16.5	16.7	17.5	18.3	20.6	18.3	22.1	22.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio
	.89	1.05	.92	.85	.62	.62	.75	.85	.93	.88	.88	.96	1.04	.99	1.18	1.15			Relative P/E Ratio
	4.9%	4.9%	4.9%	6.2%	6.0%	5.8%	5.3%	5.0%	4.6%	4.0%	4.0%	3.5%	3.1%	3.0%	2.6%	2.6%			Avg Ann'l Div'd Yield
							7531.0	6828.0	5838.0	6053.0	6098.0	6076.0	6177.0	6291.0	5910.0	5794.0	*6100*	*6350*	Revenues ($mill)
							602.0	589.0	518.0	593.0	585.0	659.0	683.0	821.0	834.0	877.0	*990*	*1075*	Net Profit ($mill)
							37.3%	36.9%	37.5%	38.9%	38.3%	36.7%	38.2%	22.4%	17.9%	15.0%	*10.0%*	*10.0%*	Income Tax Rate
							5.6%	6.1%	7.1%	5.7%	5.1%	4.1%	5.6%	6.9%	5.8%	5.5%	*5.0%*	*5.0%*	AFUDC % to Net Profit
							45.3%	49.5%	45.2%	47.2%	49.3%	47.7%	49.2%	50.3%	52.1%	55.0%	*54.0%*	*53.5%*	Long-Term Debt Ratio
							53.7%	49.4%	53.7%	51.7%	49.7%	51.3%	49.8%	48.8%	47.1%	44.3%	*45.5%*	*46.0%*	Common Equity Ratio
							14738	13384	12190	12975	13968	13840	14420	15632	17116	20158	*21450*	*23050*	Total Capital ($mill)
							18127	16096	16205	17424	18799	20113	21466	22810	24376	26807	*29275*	*31050*	Net Plant ($mill)
							5.6%	6.0%	5.6%	5.8%	5.3%	6.0%	6.0%	6.4%	6.0%	5.3%	*5.5%*	*5.5%*	Return on Total Cap'l
							7.5%	8.7%	7.7%	8.7%	8.3%	9.1%	9.3%	10.6%	10.2%	9.7%	*10.0%*	*10.0%*	Return on Shr. Equity
							7.5%	8.8%	7.8%	8.7%	8.3%	9.2%	9.4%	10.7%	10.3%	9.7%	*10.0%*	*10.0%*	Return on Com Equity E
							2.8%	3.0%	1.9%	2.9%	2.5%	3.3%	3.4%	4.8%	4.4%	4.2%	*4.5%*	*4.5%*	Retained to Com Eq
							63%	66%	76%	67%	70%	64%	64%	56%	57%	57%	*57%*	*58%*	All Div'ds to Net Prof

	24-26
Revenues per sh	*25.75*
"Cash Flow" per sh	*10.75*
Earnings per sh A	*5.00*
Div'd Decl'd per sh B ■	*2.90*
Cap'l Spending per sh	*12.75*
Book Value per sh C	*47.75*
Common Shs Outst'g D	*280.00*
Avg Ann'l P/E Ratio	*17.0*
Relative P/E Ratio	*.90*
Avg Ann'l Div'd Yield	*3.4%*
Revenues ($mill)	*7200*
Net Profit ($mill)	*1390*
Income Tax Rate	*10.0%*
AFUDC % to Net Profit	*4.0%*
Long-Term Debt Ratio	*50.5%*
Common Equity Ratio	*49.0%*
Total Capital ($mill)	*27200*
Net Plant ($mill)	*36700*
Return on Total Cap'l	*6.0%*
Return on Shr. Equity	*10.5%*
Return on Com Equity E	*10.5%*
Retained to Com Eq	*4.5%*
All Div'ds to Net Prof	*58%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $12424 mill. **Due in 5 Yrs** $2792 mill.
LT Debt $11527 mill. **LT Interest** $439 mill.
(LT interest earned: 3.7x)
Leases, Uncapitalized Annual rentals $9 mill.
Pension Assets-12/20 $5510 mill.
Oblig $5510 mill.
Pfd Stock $142 mill. **Pfd Div'd** $6 mill.
807,595 sh. $3.50 to $5.50 cum. (no par), $100 stated val., redeem. $102.176-$110/sh.; 616,323 sh. 4.00% to 6.625%, $100 par, redeem. $100-$104.30/sh.
Common Stock 255,552,619 shs. **as of 4/30/21**
MARKET CAP: $22 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+5.6	-3.5	-5.6
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	313	307	291

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-3.0%	-.5%	*1.0%*
"Cash Flow"	2.5%	6.5%	*5.5%*
Earnings	2.0%	8.0%	*6.5%*
Dividends	.5%	3.5%	*7.0%*
Book Value	- -	3.5%	*6.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	1585	1563	1724	1419	6291.0
2019	1556	1379	1659	1316	5910.0
2020	1440	1398	1628	1328	5794.0
2021	1566	*1450*	*1700*	*1384*	*6100*
2022	*1650*	*1500*	*1750*	*1450*	*6350*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.62	.97	1.45	.28	3.32
2019	.78	.72	1.47	.38	3.35
2020	.59	.98	1.47	.46	3.50
2021	.91	*.75*	*1.70*	*.44*	*3.80*
2022	*.85*	*.85*	*1.85*	*.50*	*4.05*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.44	.44	.44	.4575	1.78
2018	.4575	.4575	.4575	.475	1.85
2019	.475	.475	.475	.495	1.92
2020	.495	.495	.495	.515	2.00
2021	.55				

BUSINESS: Ameren Corporation is a holding company formed through the merger of Union Electric and CIPSCO. Has 1.2 million electric and 127,000 gas customers in Missouri; 1.2 million electric and 813,000 gas customers in Illinois. Discontinued nonregulated power-generation operation in '13. Electric revenue breakdown: residential, 43%; commercial, 32%; industrial, 8%; other, 17%. Generating sources: coal, 67%; nuclear, 19%; hydro & other, 6%; purchased, 8%. Fuel costs: 22% of revenues. '20 reported deprec. rates: 3%-4%. Has 9,200 employees. Chairman, President & CEO: Warner L. Baxter. Inc.: Missouri. Address: One Ameren Plaza, 1901 Chouteau Ave., P.O. Box 66149, St. Louis, Missouri 63166-6149. Tel.: 314-621-3222. Internet: www.ameren.com.

Ameren filed electric and gas rate cases in Missouri. The utility is seeking an electric increase of $299 million, based on a 9.9% return on equity and a 51.9% common-equity ratio. The gas request is $9 million, based on a 9.8% ROE and the same common-equity ratio. Among other things, Ameren is seeking to place wind capacity in the rate base. Decisions are expected by February, with new tariffs taking effect in March.

Earnings will likely advance solidly in 2021. First-quarter profits soared, thanks in part to an electric rate hike in Missouri that took effect in April of 2020 and a gas tariff increase that took effect in Illinois in January of 2021. Ameren's electric operations in Illinois are benefiting from a higher allowed ROE. We have raised our share-earnings estimate by a dime, to $3.80. This is within the company's targeted range of $3.65-$3.85 a share.

Further profit growth is likely in 2022. Ameren should benefit from rate relief in Missouri. Ongoing investment in the utility's electric transmission system is another source of income. Our estimate of $4.05 a share, which we boosted by $0.10, would produce a 7% increase. This is within management's goal of 6%-8% annually. However . . .

We assume in our estimates no change in the allowed ROE for electric transmission. The Federal Energy Regulatory Commission is considering eliminating a half percentage point "adder" that is now reflected in the company's transmission rates. This would lower Ameren's annual earning power by $0.04 a share.

Ameren expects the Callaway nuclear plant to return to service in July. The unit has been out of service due to a non-nuclear problem with the generator. The repair and replacement power costs are covered by insurance, so management expects no significant effect on the company's financial results. Still, any extended and unplanned outage at a nuclear facility bears watching.

Ameren stock is timely, but expensively priced. The dividend yield is below the utility mean. The recent quotation is within our 2024-2026 Target Price Range, so total return prospects over that time frame are unspectacular.

Paul E. Debbas, CFA *June 11, 2021*

(A) Diluted EPS. Excl. nonrec. gain (losses): '05, (11¢); '10, ($2.19); '11, (32¢); '12, ($6.42); '17, (63¢); gain (loss) from disc. ops.: '13, (92¢); '15, 21¢. Next earnings report due mid-Aug. **(B)** Div'ds paid late Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. intang. In '20: $5.97/sh. **(D)** In mill. **(E)** Rate base: Orig. cost depr. Rate allowed on com. eq. in MO in '20: elec., none; in '11: gas, none; in IL: electric, varies; in '21: gas, 9.67%; earned on avg. com. eq., '20: 10.2%. Regulatory Climate: MO, Average; IL, Below Average.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	95

DUKE ENERGY NYSE-DUK

RECENT PRICE 106.19 | P/E RATIO 20.2 (Trailing: 27.0 Median: 18.0) | RELATIVE P/E RATIO 1.05 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 3 Raised 5/7/21
SAFETY 2 New 6/1/07
TECHNICAL 4 Lowered 7/30/21
BETA .90 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$52-$130	$91 (-15%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	125	(+20%)	*8%*
Low	95	(-10%)	*2%*

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	686	763	796
to Sell	702	683	681
Hld's(000)	464090	472627	483371

	High:	55.8	66.4	71.1	75.5	87.3	90.0	87.8	91.8	91.4	97.4	103.8	108.0
	Low:	46.4	50.6	59.6	64.2	67.1	65.5	70.2	76.1	72.0	82.5	62.1	85.6

LEGENDS
0.54 x Dividends p sh divided by Interest Rate
Relative Price Strength
1-for-3 Rev split 7/12
Options: Yes
Shaded area indicates recession

Target Price Range 2024 2025 2026

% TOT. RETURN 7/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	29.3	55.5
3 yr.	44.8	48.6
5 yr.	50.6	95.5

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
	- -	25.32	30.24	31.15	29.18	32.22	32.63	27.88	34.84	33.84	34.10	32.49	33.66	33.73	34.21	31.04	*32.15*	*33.05*	Revenues per sh	*36.00*
	- -	7.86	8.11	7.34	7.58	8.49	8.68	6.80	8.56	9.11	9.40	9.20	10.01	10.49	12.13	10.89	*12.60*	*13.30*	"Cash Flow" per sh	*15.50*
	- -	2.76	3.60	3.03	3.39	4.02	4.14	3.71	3.98	4.13	4.10	3.71	4.22	4.13	5.07	3.92	*5.15*	*5.45*	Earnings per sh A	*6.50*
	- -	- -	2.58	2.70	2.82	2.91	2.97	3.03	3.09	3.15	3.24	3.36	3.49	3.64	3.75	3.82	*3.90*	*3.98*	Div'd Decl'd per sh B ■	*4.25*
	- -	8.07	7.43	10.35	9.85	10.84	9.80	7.81	7.83	7.62	9.83	11.29	11.50	12.91	15.17	12.88	*13.60*	*16.60*	Cap'l Spending per sh	*15.50*
	- -	62.30	50.40	49.51	49.85	50.84	51.14	58.04	58.54	57.81	57.74	58.62	59.63	60.27	61.20	59.82	*61.15*	*62.60*	Book Value per sh C	*68.50*
	- -	418.96	420.62	423.96	436.29	442.96	445.29	704.00	706.00	707.00	688.00	700.00	700.00	727.00	733.00	769.00	*770.00*	*770.00*	Common Shs Outst'g D	*770.00*
	- -	- -	16.1	17.3	13.3	12.7	13.8	17.5	17.4	17.9	18.2	21.3	19.9	19.4	17.7	22.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.0*
	- -	- -	.85	1.04	.89	.81	.87	1.11	.98	.94	.92	1.12	1.00	1.05	.94	1.16			Relative P/E Ratio	*.95*
	- -	- -	4.4%	5.2%	6.2%	5.7%	5.2%	4.7%	4.4%	4.3%	4.3%	4.3%	4.2%	4.5%	4.2%	4.4%			Avg Ann'l Div'd Yield	*3.9%*
							14529	19624	24598	23925	23459	22743	23565	24521	25079	23868	*24750*	*25450*	Revenues ($mill)	*27800*
							1839.0	2136.0	2813.0	2934.0	2854.0	2560.0	2963.0	2928.0	3755.0	2996.0	*4080*	*4315*	Net Profit ($mill)	*5100*
							31.3%	30.2%	32.6%	30.6%	32.2%	31.0%	30.4%	14.2%	12.7%	4.9%	*7.0%*	*7.0%*	Income Tax Rate	*7.0%*
							23.2%	22.3%	8.8%	7.2%	9.2%	11.7%	12.3%	13.0%	7.9%	8.9%	*7.0%*	*7.0%*	AFUDC % to Net Profit	*7.0%*
							45.1%	47.0%	48.0%	47.7%	48.6%	52.6%	54.0%	53.8%	54.0%	53.7%	*54.0%*	*54.5%*	Long-Term Debt Ratio	*54.5%*
							54.9%	52.9%	52.0%	52.3%	51.4%	47.4%	46.0%	46.2%	44.1%	44.4%	*44.0%*	*44.0%*	Common Equity Ratio	*43.5%*
							41451	77307	79482	78088	77222	86609	90774	94940	101807	103589	*106550*	*109700*	Total Capital ($mill)	*120900*
							42661	68558	69490	70046	75709	82520	86391	91694	102127	106782	*111500*	*118275*	Net Plant ($mill)	*134100*
							5.6%	3.6%	4.6%	4.8%	4.8%	4.0%	4.3%	4.2%	4.8%	3.9%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.5%*
							8.1%	5.2%	6.8%	7.2%	7.2%	6.2%	7.1%	6.7%	8.0%	6.2%	*8.5%*	*8.5%*	Return on Shr. Equity	*9.5%*
							8.1%	5.2%	6.8%	7.2%	7.2%	6.2%	7.1%	6.7%	8.3%	6.3%	*8.5%*	*8.5%*	Return on Com Equity E	*9.5%*
							2.2%	.9%	1.5%	1.7%	1.5%	.6%	1.2%	1.0%	2.4%	.4%	*2.0%*	*2.5%*	Retained to Com Eq	*3.5%*
							72%	82%	78%	76%	79%	91%	83%	84%	71%	94%	*76%*	*74%*	All Div'ds to Net Prof	*66%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $64418 mill. **Due in 5 Yrs** $21060 mill.
LT Debt $54768 mill. **LT Interest** $2178 mill.
Incl. $845 mill. finance leases.
(LT interest earned: 2.2x)
Leases, Uncapitalized Annual rentals $229 mill.
Pension Assets-12/20 $9337 mill.
Oblig $8634 mill.
Pfd Stock $1962 mill. **Pfd Div'd** $107 mill.
40 mill. shs. 5.75%, cum., $25 liq. value, redeemable at $25.50 prior to 6/15/24; 1 mill. shs. 4.875%, cum., $1000 liq. value.
Common Stock 769,218,956 shs. **as of 4/30/21**
MARKET CAP: $82 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+3.9	-.9	-2.3
Avg. Indust. Use (MWH)	2953	2934	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	+1.4	+1.5	NA
Fixed Charge Cov. (%)	218	233	183

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	.5%	-1.0%	*1.5%*
"Cash Flow"	3.5%	4.5%	*5.5%*
Earnings	2.5%	1.5%	*7.0%*
Dividends	3.0%	3.5%	*2.0%*
Book Value	2.0%	1.0%	*2.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	6135	5643	6628	6115	24521
2019	6163	5873	6940	6103	25079
2020	5949	5421	6721	5777	23868
2021	6150	*5650*	*6900*	*6050*	*24750*
2022	*6350*	*5800*	*7100*	*6200*	*25450*

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	1.17	.71	1.63	.61	4.13
2019	1.24	1.12	1.82	.89	5.07
2020	1.24	1.08	1.74	d.13	3.92
2021	1.25	*1.10*	*1.80*	*1.00*	*5.15*
2022	*1.35*	*1.15*	*1.90*	*1.05*	*5.45*

Calendar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.855	.855	.89	.89	3.49
2018	.89	.89	.9275	.9275	3.64
2019	.9275	.9275	.945	.945	3.75
2020	.945	.945	.965	.965	3.82
2021	.965	.965	.985		

BUSINESS: Duke Energy Corporation is a holding company for utilities with 7.6 mill. elec. customers in NC, FL, IN, SC, OH, & KY, and 1.6 mill. gas customers in OH, KY, NC, SC, and TN. Owns independent power plants & has 25% stake in National Methanol in Saudi Arabia. Acq'd Progress Energy 7/12; Piedmont Natural Gas 10/16; discontinued most int'l ops. in '16. Elec. rev. breakdown: residential, 45%; commercial, 28%; industrial, 13%; other, 14%. Generating sources: gas, 31%; nuclear, 30%; coal, 18%; other, 2%; purchased, 19%. Fuel costs: 27% of revs. '20 reported deprec. rate: 3.0%. Has 27,500 employees. Chairman, President & CEO: Lynn J. Good. Inc.: DE. Address: 550 South Tryon St., Charlotte, NC 28202-1803. Tel.: 704-382-3853. Internet: www.duke-energy.com.

Duke Energy has come under criticism from an investor group. Elliott Management, with an undisclosed stake in Duke, is proposing the separation of Duke into three utilities, believing that the performance of those in Florida and the Midwest need improvement. Duke responded by stating its belief that the company's scale is an asset. So far, this does not appear to have had a large effect on the share price, but this bears attention from investors.

Earnings will likely be much improved in 2021. The bottom line fell into the red in the fourth quarter of 2020 due to coal-ash remediation costs that the company was unable to recover from customers. Duke is also benefiting from rate relief. Our estimate is at the midpoint of management's targeted range of $5.00-$5.30 a share.

Rate relief should help lift the bottom line in 2022. In Florida, the state commission approved a settlement calling for electric tariff hikes of $67 million in 2022, $49 million in 2023, and $79 million in 2024. The allowed return on equity is 8.85%-10.85% and the common-equity ratio is 53%. In North Carolina, Piedmont Gas is seeking an increase of $109 million (10.4%), based on an ROE of 10.25% and a common-equity ratio of 53%. New rates will be in place as early as November of 2021. Note that earlier this year, Duke's electric utilities in North Carolina received rate hikes, so a full year's effect of these increases will boost earnings in 2022.

Duke is awaiting regulatory approval of an asset sale. The company intends to raise over $2 billion through the sale of its Indiana electric utility in two phases. This would take care of its equity needs through 2025. The proposed sale has come under some criticism, however.

The board raised the dividend, effective with the September payment. The 2.1% increase was $0.02 a share. This growth rate is well below the industry average because the payout ratio is high.

The dividend yield is slightly above the utility mean. There is some speculative appeal if anything happens from the conflict with Elliott Management. Note, too, that in 2020 NextEra Energy reportedly expressed interest in buying Duke.

Paul E. Debbas, CFA *August 13, 2021*

(A) Dil. EPS. Excl. nonrec. losses: '12, 70¢; '13, 24¢; '14, 67¢; '17, 15¢; '18, 41¢; '20, $2.21; losses on disc. ops.: '14, 80¢; '16, 60¢; '18, '20 EPS don't sum due to rounding. Next egs. due early Nov. **(B)** Div'ds paid mid-Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. **(C)** Incl. intang. In '20: $41.25/sh. **(D)** In mill., adj. for rev. split. **(E)** Rate base: Net orig. cost. Rate all'd on com. eq. in '21 in NC: 9.6%; in '19 in SC: 9.5%; in '20 in FL: 9.5%-11.5%; in '20 in IN: 9.7%; earn. on avg. com. eq., '20: 9.9%. Reg. Clim.: NC, SC Avg.; OH, IN Above Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	40
Earnings Predictability	90

EDISON INTERNAT'L NYSE-EIX

RECENT PRICE 58.20 | P/E RATIO 13.9 (Trailing: 30.6 Median: 15.0) | RELATIVE P/E RATIO 0.70 | DIV'D YLD 4.6% | VALUE LINE

TIMELINESS 4 Lowered 5/7/21
SAFETY 3 Lowered 11/23/18
TECHNICAL 5 Lowered 7/9/21
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$44-$97	$71 (20%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+70%)	*18%*
Low	65	(+10%)	*7%*

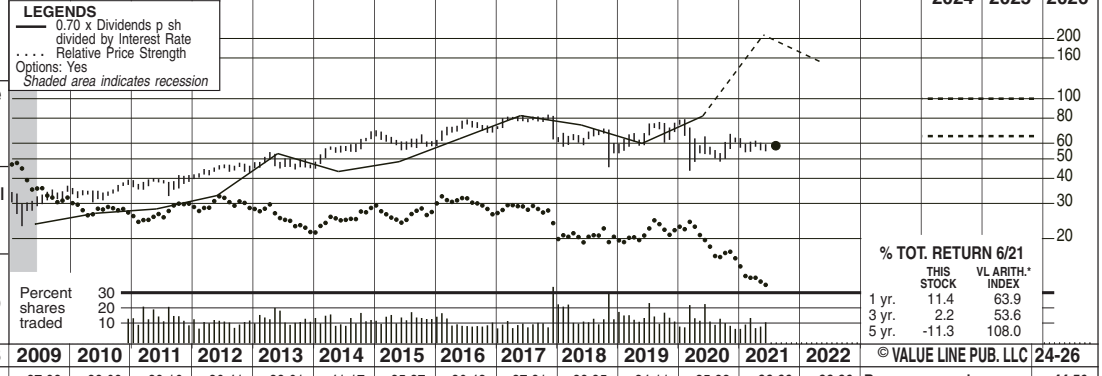
Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	269	303	289
to Sell	264	238	261
Hld's(000)	334110	329568	330900

High:	39.4	41.6	48.0	54.2	68.7	69.6	78.7	83.4	71.0	76.4	78.9	63.6
Low:	30.4	32.6	39.6	44.3	44.7	55.2	58.0	62.7	45.5	53.4	43.6	53.9

LEGENDS
0.70 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2024 2025 2026



% TOT. RETURN 6/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	11.4	63.9
3 yr.	2.2	53.6
5 yr.	-11.3	108.0

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
36.38	38.74	40.25	43.31	37.98	38.09	39.16	36.41	38.61	41.17	35.37	36.43	37.81	38.85	34.11	35.83	*36.60*	*38.30*	Revenues per sh	*44.50*
6.99	7.25	7.60	8.08	7.96	8.41	9.03	9.63	8.80	9.95	10.35	10.43	11.03	4.69	9.15	7.94	*10.70*	*11.20*	"Cash Flow" per sh	*13.25*
3.34	3.28	3.32	3.68	3.24	3.35	3.23	4.55	3.78	4.33	4.15	3.94	4.51	d1.26	3.98	1.72	*4.20*	*4.35*	Earnings per sh A	*5.25*
1.02	1.10	1.18	1.23	1.25	1.27	1.29	1.31	1.37	1.48	1.73	1.98	2.23	2.43	2.48	2.58	*2.68*	*2.78*	Div'd Decl'd per sh B ■	*3.10*
5.73	7.78	8.67	8.67	10.07	13.94	14.76	12.73	11.05	11.99	12.97	11.46	11.75	13.84	13.47	14.47	*14.30*	*13.75*	Cap'l Spending per sh	*14.25*
20.30	23.66	25.92	29.21	30.20	32.44	30.86	28.95	30.50	33.64	34.89	36.82	35.82	32.10	36.75	37.08	*39.00*	*40.60*	Book Value per sh C	*46.75*
325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	361.99	378.91	*385.00*	*385.00*	Common Shs Outst'g D	*385.00*
11.7	13.0	16.0	12.4	9.7	10.3	11.8	9.7	12.7	13.0	14.8	17.9	17.2	- -	16.7	34.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*15.5*
.62	.70	.85	.75	.65	.66	.74	.62	.71	.68	.75	.94	.87	- -	.89	1.79			Relative P/E Ratio	*.85*
2.6%	2.6%	2.2%	2.7%	4.0%	3.7%	3.4%	3.0%	2.8%	2.6%	2.8%	2.8%	2.9%	3.8%	3.7%	4.3%			Avg Ann'l Div'd Yield	*3.8%*
12760	11862	12581	13413	11524	11869	12320	12657	12347	13578	*14100*	*14750*	Revenues ($mill)	*17100*
1112.0	1594.0	1344.0	1539.0	1480.0	1422.0	1603.0	d290.0	1477.0	775.0	*1770*	*1845*	Net Profit ($mill)	*2235*
25.7%	14.3%	25.2%	22.4%	6.6%	11.1%	5.0%	- -	- -	- -	*NMF*	*NMF*	Income Tax Rate	*NMF*
14.8%	8.5%	7.8%	5.8%	8.0%	6.8%	7.2%	- -	11.1%	22.5%	*10.0%*	*9.0%*	AFUDC % to Net Profit	*8.0%*
55.3%	45.2%	45.7%	44.1%	45.0%	41.8%	45.6%	53.6%	53.5%	55.2%	*54.5%*	*55.0%*	Long-Term Debt Ratio	*58.0%*
40.6%	46.2%	46.2%	47.2%	46.7%	49.2%	45.8%	38.3%	39.9%	39.5%	*38.0%*	*37.5%*	Common Equity Ratio	*36.0%*
24773	20422	21516	23216	24352	24362	25506	27284	33360	35581	*39750*	*41975*	Total Capital ($mill)	*50100*
32116	30273	30455	32981	35085	37000	39050	41348	44285	47839	*50850*	*53500*	Net Plant ($mill)	*61100*
6.0%	8.9%	7.3%	7.7%	7.1%	6.9%	7.3%	.1%	5.6%	3.4%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
10.0%	14.2%	11.5%	11.9%	11.1%	10.0%	11.6%	NMF	9.5%	4.9%	*9.5%*	*10.0%*	Return on Shr. Equity	*10.5%*
10.5%	15.9%	12.5%	13.0%	12.0%	10.8%	12.7%	NMF	10.2%	4.6%	*11.0%*	*11.0%*	Return on Com Equity E	*11.5%*
6.3%	11.4%	8.1%	8.8%	7.2%	5.6%	6.6%	NMF	4.1%	NMF	*4.0%*	*4.0%*	Retained to Com Eq	*5.0%*
43%	32%	40%	37%	44%	53%	52%	NMF	63%	NMF	*66%*	*67%*	All Div'ds to Net Prof	*61%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $23594 mill. **Due in 5 Yrs** $7848 mill.
LT Debt $20165 mill. **LT Interest** $921 mill.
(LT interest earned: 1.5x)
Leases, Uncapitalized Annual rentals $39 mill.
Pension Assets-12/20 $4171 mill.
Oblig $4476 mill.
Pfd Stock $1901 mill. **Pfd Div'd** $106 mill.
350,000 sh. 6.25%, $1000 liq. value; 638,020 sh. 5.0%-5.75%, $2500 liq. value, all cumulative.

Common Stock 379,438,053 shs.
as of 4/20/21
MARKET CAP: $22 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	-.4	-2.7	+.7
Avg. Indust. Use (MWH)	667	657	589
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	23766	22009	23133
Annual Load Factor (%)	48.0	49.6	46.7
% Change Customers (yr-end)	+.6	+.5	+.6
Fixed Charge Cov. (%)	NMF	172	NMF

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-1.0%	-1.0%	*3.5%*
"Cash Flow"	-1.0%	-5.5%	*10.5%*
Earnings	-8.0%	-18.5%	*NMF*
Dividends	7.0%	10.5%	*3.5%*
Book Value	1.5%	1.5%	*5.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	2564	2815	4269	3009	12657
2019	2824	2812	3741	2970	12347
2020	2790	2987	4644	3157	13578
2021	2960	*3140*	*4800*	*3200*	*14100*
2022	*3100*	*3250*	*5050*	*3350*	*14750*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.82	.84	1.57	d4.49	d1.26
2019	.64	1.57	1.35	.45	3.98
2020	.50	.85	d.76	1.13	1.72
2021	.68	*1.10*	*1.45*	*.97*	*4.20*
2022	*.70*	*1.15*	*1.50*	*1.00*	*4.35*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.5425	.5425	.5425	.5425	2.17
2018	.605	.605	.605	.605	2.42
2019	.6125	.6125	.6125	.6125	2.45
2020	.6375	.6375	.6375	.6375	2.55
2021	.6625	.6625	.6625		

BUSINESS: Edison International (formerly SCECorp) is a holding company for Southern California Edison Company (SCE), which supplies electricity to 5.2 mill. customers in a 50,000-sq.-mi. area in central, coastal, & southern CA (excl. Los Angeles & San Diego). Edison Energy is an energy svcs. co. Disc. Edison Mission Energy (independent power producer) in '12. Elec. rev. breakdown: residential, 42%; commercial, 40%; industrial, 4%; other, 14%. Generating sources: nuclear, 8%; gas, 5%; hydro, 4%; purchased, 83%. Fuel costs: 36% of revs. '20 reported depr. rate: 3.6%. Has 13,400 empls. Chairman: William P. Sullivan. Pres. & CEO: Pedro J. Pizzaro. Inc.: CA. Address: 2244 Walnut Grove Ave., P.O. Box 976, Rosemead, CA 91770. Tel.: 626-302-2222. Web: www.edison.com.

Edison International's utility subsidiary is awaiting an order from the California Public Utilities Commission (CPUC) on its general rate case. Southern California Edison is asking for increases of $1.3 billion in 2021 (retroactive to the start of the year), $452 million in 2022, and $524 million in 2023. When the ruling will come is unknown. Through a separate proceeding, SCE is seeking an additional $497 million for wildfire-mitigation and grid safety and resiliency costs. A decision is expected in the first quarter of 2022. Finally, the utility is issuing securitized bonds to recover over $2.0 billion of costs that are not eligible for recovery through the general rate case.

The company's reported earnings are still based on rates that were in place in 2020. Thus, this doesn't reflect its earning power once the rate ruling is in place. In fact, management hasn't put forth any earnings guidance for 2021, and won't do so until after the CPUC issues its order.

We expect an earnings recovery this year, followed by moderate growth in 2022. Results fell into the red in the third quarter of 2020 due to charges for expected liabilities for wildfires and mudslides in SCE's service area. (This is also why the company posted a loss in 2018.) We assume no such charge in 2021. We also assume that the utility will get reasonable treatment from the CPUC in the aforementioned regulatory matters. Note that our estimates reflect the effects of financing measures made since 2019, such as an increase in the share count.

Wildfires continue to be a key issue for the company. SCE has resolved $4.2 billion of insurance claims for its $6.2 billion of wildfire liabilities. If there are any major wildfires subsequently, the utility may tap a statewide insurance fund to cover its liabilities. The company and the state are taking additional measures for wildfire mitigation. Even so, the cost of wildfire insurance has surged in recent years.

This untimely stock's dividend yield is well above the utility mean. This reflects wildfire-related uncertainties. Risk-tolerant income seekers ought to consider this equity, which also has good 18-month and 3- to 5-year total return potential.

Paul E. Debbas, CFA *July 23, 2021*

(A) Dil. EPS. Excl. nonrec. gains (losses): '09, (64¢); '10, 54¢; '11, ($3.33); '13, ($1.12); '15, ($1.18); '17, ($1.37); '18, (15¢); '19, (21¢); '20, 25¢; gains (loss) from disc. ops.: '12, ($5.11); '13, 11¢; '14, 57¢; '15, 11¢; '18, 10¢. '19 EPS don't sum due to chng. in shs. Next earnings report due late July. **(B)** Div'ds paid late Jan., Apr., July, & Oct. ■ Div'd reinv. plan avail. **(C)** Incl. def'd charges. In '20: $18.79/sh. **(D)** In mill. **(E)** Rate base: net orig. cost. Rate all'd on com. eq. in '20: 10.3%; earned on avg. com. eq., '20: 4.7%. Regulatory Climate: Average.

Company's Financial Strength	B+
Stock's Price Stability	80
Price Growth Persistence	40
Earnings Predictability	5

EVERSOURCE ENERGY NYSE-ES

RECENT PRICE 87.30 | P/E RATIO 22.6 (Trailing: 24.0 Median: 19.0) | RELATIVE P/E RATIO 1.18 | DIV'D YLD 2.9% | VALUE LINE

TIMELINESS 3 Raised 8/13/21
SAFETY 1 Raised 5/22/15
TECHNICAL 5 Lowered 7/16/21
BETA .90 (1.00 = Market)

18-Month Target Price Range

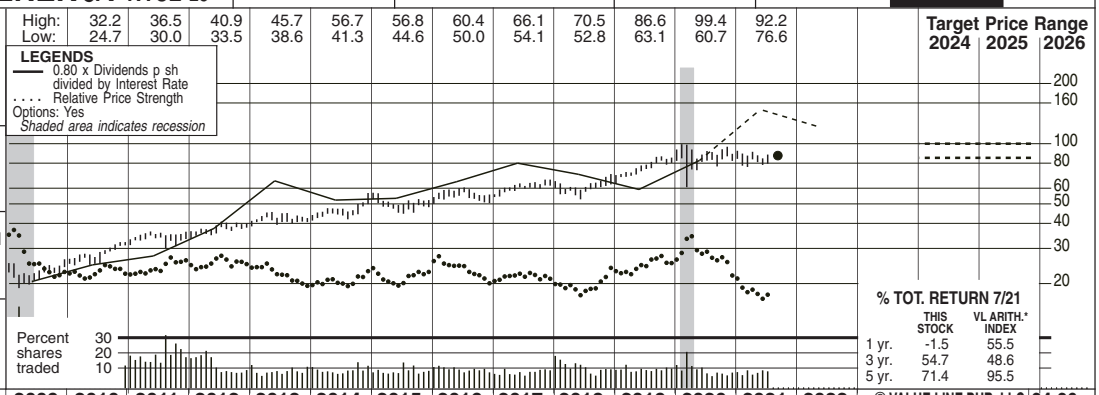
Low-High	Midpoint (% to Mid)
$59-$144	$102 (15%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+15%)	7%
Low	85	(-5%)	3%

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	347	387	331
to Sell	304	293	369
Hld's(000)	263560	263115	266387



2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
41.85	44.64	37.27	37.22	30.97	27.76	25.21	19.98	23.16	24.42	25.08	24.11	24.46	26.66	25.85	25.96	*27.90*	*28.25*	Revenues per sh	*30.75*
5.46	3.69	4.82	6.16	4.96	5.68	4.88	4.03	5.22	4.56	4.94	5.46	5.84	6.64	6.65	6.89	*7.45*	*7.90*	"Cash Flow" per sh	*9.00*
.98	.82	1.59	1.86	1.91	2.10	2.22	1.89	2.49	2.58	2.76	2.96	3.11	3.25	3.45	3.55	*3.75*	*4.05*	Earnings per sh A	*5.00*
.68	.73	.78	.83	.95	1.03	1.10	1.32	1.47	1.57	1.67	1.78	1.90	2.02	2.14	2.27	*2.41*	*2.56*	Div'd Decl'd per sh B ■	*3.05*
5.89	5.49	7.14	8.06	5.17	5.41	6.08	4.69	4.62	5.06	5.44	6.24	7.41	7.96	8.83	8.58	*10.25*	*10.20*	Cap'l Spending per sh	*8.50*
18.46	18.14	18.65	19.38	20.37	21.60	22.65	29.41	30.49	31.47	32.64	33.80	34.99	36.25	38.29	41.01	*42.50*	*44.40*	Book Value per sh C	*50.50*
131.59	154.23	156.22	155.83	175.62	176.45	177.16	314.05	315.27	316.98	317.19	316.89	316.89	316.89	329.88	342.95	*344.00*	*347.00*	Common Shs Outst'g D	*357.00*
19.8	27.1	18.7	13.7	12.0	13.4	15.4	19.9	16.9	17.9	18.1	18.7	19.5	18.7	22.1	24.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.5*
1.05	1.46	.99	.82	.80	.85	.97	1.27	.95	.94	.91	.98	.98	1.01	1.18	1.24			Relative P/E Ratio	*1.05*
3.5%	3.3%	2.6%	3.2%	4.2%	3.6%	3.2%	3.5%	3.5%	3.4%	3.3%	3.2%	3.1%	3.3%	2.8%	2.6%			Avg Ann'l Div'd Yield	*3.3%*
4465.7	6273.8	7301.2	7741.9	7954.8	7639.1	7752.0	8448.2	8526.5	8904.4	*9600*	*9600*	Revenues ($mill)	*10750*
400.3	533.0	793.7	827.7	886.0	949.8	995.5	1040.5	1121.0	1212.7	*1300*	*1395*	Net Profit ($mill)	*1725*
29.9%	34.0%	35.0%	36.2%	37.9%	36.9%	36.8%	21.7%	19.7%	22.2%	*20.0%*	*20.0%*	Income Tax Rate	*20.0%*
8.6%	2.3%	1.4%	2.4%	2.9%	3.9%	4.7%	6.1%	6.3%	5.4%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*4.0%*
53.4%	43.7%	44.3%	45.9%	45.6%	44.8%	51.2%	52.4%	52.8%	52.4%	*53.0%*	*53.5%*	Long-Term Debt Ratio	*55.0%*
45.3%	55.4%	54.8%	53.2%	53.6%	54.4%	48.2%	46.9%	46.6%	47.1%	*46.5%*	*46.0%*	Common Equity Ratio	*44.5%*
8856.0	16675	17544	18738	19313	19697	23018	24474	27097	29842	*31500*	*33475*	Total Capital ($mill)	*40300*
10403	16605	17576	18647	19892	21351	23617	25610	27585	30883	*33275*	*35650*	Net Plant ($mill)	*41600*
5.9%	4.2%	5.5%	5.3%	5.5%	5.8%	5.2%	5.2%	5.1%	5.0%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.5%*
9.7%	5.7%	8.1%	8.2%	8.4%	8.7%	8.9%	8.9%	8.8%	8.5%	*9.0%*	*9.0%*	Return on Shr. Equity	*9.5%*
9.8%	5.7%	8.2%	8.2%	8.5%	8.8%	8.9%	9.0%	8.8%	8.6%	*9.0%*	*9.0%*	Return on Com Equity E	*9.5%*
5.0%	1.6%	3.4%	3.5%	3.4%	3.5%	3.5%	3.4%	3.6%	3.3%	*3.0%*	*3.5%*	Retained to Com Eq	*3.5%*
50%	72%	59%	58%	61%	60%	61%	62%	60%	62%	*64%*	*63%*	All Div'ds to Net Prof	*62%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $18385 mill. **Due in 5 Yrs** $8252.1 mill.
LT Debt $15258 mill. **LT Interest** $568.0 mill.
(LT interest earned: 3.9x)
Leases, Uncapitalized Annual rentals $11.4 mill.
Pension Assets-12/20 $5409.2 mill.
Oblig $7045.3 mill.
Pfd Stock $155.6 mill. **Pfd Div'd** $7.6 mill.
Incl. 2,324,000 shs $1.90-$3.28 rates ($50 par) not subject to mandatory redemption, call. at $50.50-$54.00; 430,000 shs 4.25%-4.78% not subject to mandatory redemption, call. at $102.80-$103.63.
Common Stock 343,466,162 shs. **as of 4/30/21**
MARKET CAP: $30 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+2.2	-3.3	-2.7
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.5	+.7	+.8
Fixed Charge Cov. (%)	319	319	345

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-2.0%	1.5%	*2.5%*
"Cash Flow"	2.0%	6.5%	*5.0%*
Earnings	5.5%	5.5%	*6.5%*
Dividends	8.5%	6.5%	*6.0%*
Book Value	6.5%	4.0%	*4.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	2288	1854	2271	2035	8448.1
2019	2416	1884	2176	2050	8526.5
2020	2373	1953	2344	2234	8904.4
2021	2826	2122	*2400*	*2252*	*9600*
2022	*2850*	*2200*	*2450*	*2300*	*9800*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.85	.76	.91	.73	3.25
2019	.97	.74	.98	.76	3.45
2020	1.01	.75	1.01	.78	3.55
2021	1.06	.77	*1.03*	*.89*	*3.75*
2022	*1.17*	*.87*	*1.08*	*.93*	*4.05*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.475	.475	.475	.475	1.90
2018	.505	.505	.505	.505	2.02
2019	.535	.535	.535	.535	2.14
2020	.5675	.5675	.5675	.5675	2.27
2021	.6025	.6025			

BUSINESS: Eversource Energy (formerly Northeast Utilities) is the parent of utilities with 3.2 mill. electric, 881,000 gas, 216,000 water customers. Supplies power to most of Connecticut and gas to part of Connecticut; supplies power to 3/4 of New Hampshire's population; supplies power to western Massachusetts and parts of eastern MA & gas to central & eastern MA; supplies water to CT, MA, & NH. Acq'd NSTAR 4/12; Aquarion 12/17; Columbia Gas 10/20. Electric rev. breakdown: residential, 56%; commercial, 33%; industrial, 5%; other, 6%. Fuel costs: 34% of revs. '20 reported deprec. rate: 3.0%. Has 9,300 employees. Chairman: James J. Judge. President & CEO: Joe Nolan. Inc.: MA. Address: 300 Cadwell Drive, Springfield, MA 01104. Tel.: 413-785-5871. Internet: www.eversource.com.

We have cut our 2021 earnings estimate for Eversource Energy by $0.10 a share, to $3.75. Management is guiding Wall Street toward the low end of the company's targeted range of $3.81-$3.93 a share. However, this excludes transition costs associated with a large gas utility acquisition last fall ($0.04 a share in the first six months of 2021). We *include* these in our earnings presentation. Even so, share net should end up ahead of the 2020 tally, which was affected by acquisition-related expenses and higher-than-usual storm-related costs. The bottom line is benefiting from income from the newly acquired gas utility; a full year's effect of rate relief obtained in 2020; and capital spending on electric transmission.

Connecticut Light & Power has appealed a regulatory order to the state Superior Court. The Connecticut regulators penalized the utility $28.6 million and ordered a reduction in its allowed return on equity by 0.9 percentage point because of what they said was CL&P's unsatisfactory performance following a tropical storm in August of 2020. The penalty reduced first-quarter earnings by $0.07 a share. The state commission was scheduled to hold hearings on this matter shortly after our report went to press.

We expect earnings will advance sharply in 2022. Earnings won't be affected by the $0.07-a-share penalty and the aforementioned transition costs. If CL&P's allowed ROE is reduced, however, this would lower Eversource's annual earning power by $0.06-$0.07 a share.

Three offshore wind projects are in various stages of development. These would add 1,760 megawatts of capacity from 2023 through 2025. This would enhance Eversource's long-term earnings growth, but also has construction risk.

The company is asking the Massachusetts regulators to approval two capital plans. The utility would spend nearly $200 million for grid modernization from 2022 through 2025. It would spend $500 million-$600 million for advanced meters, primarily from 2024 through 2027.

This stock has a high valuation. It doesn't stand out among utilities for its dividend yield or 3- to 5-year total return potential.

Paul E. Debbas, CFA *August 13, 2021*

(A) Diluted EPS. Excl. nonrecurring gains (losses): '05, ($1.36); '08, (19¢); '10, 9¢; '19, (64¢). Next earnings report due early Nov. (B) Div'ds historically paid late Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail. (C) Incl. deferred charges. In '20: $9939.3 mill., $28.98/sh. (D) In mill. (E) Rate allowed on com. eq. in MA: (elec.) '18, 10.0%; (gas) '20, 9.7%-9.9%; in CT: (elec.) '18, 9.25%; (gas) '18, 9.3%; in NH: '21, 9.3%; earned on avg. com. eq., '20: 9.0%. Regulatory Climate: CT, Below Average; NH, Average; MA, Above Average.

Company's Financial Strength	A
Stock's Price Stability	85
Price Growth Persistence	70
Earnings Predictability	100

ENTERGY CORP. NYSE-ETR

RECENT PRICE 105.26 | P/E RATIO 17.7 (Trailing: 13.2 Median: 13.0) | RELATIVE P/E RATIO 0.83 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 2 Raised 6/11/21
SAFETY 2 Raised 12/13/19
TECHNICAL 4 Raised 6/11/21
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$55-$138	$97 (-10%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	150	(+45%)	*12%*
Low	110	(+5%)	*5%*

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	262	312	254
to Sell	303	276	321
Hld's(000)	173339	174980	172087

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	84.3	74.5	74.5	72.6	92.0	90.3	82.1	87.9	90.8	122.1	135.5	110.3						
Low:	68.7	57.6	61.6	60.2	60.4	61.3	65.4	69.6	71.9	83.2	75.2	85.8						

LEGENDS
0.54 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2024 2025 2026

% TOT. RETURN 5/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	7.2	68.0
3 yr.	44.4	54.6
5 yr.	68.6	106.2

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
	46.61	53.94	59.47	69.15	56.82	64.27	63.67	57.94	63.86	69.71	64.54	60.55	61.35	58.23	54.63	50.51	*52.70*	*50.95*	Revenues per sh	*55.25*
	8.18	10.69	11.73	12.89	13.29	16.54	17.53	15.98	16.25	17.68	17.71	18.72	16.70	16.50	17.19	18.21	*17.50*	*18.45*	"Cash Flow" per sh	*21.00*
	4.40	5.36	5.60	6.20	6.30	6.66	7.55	6.02	4.96	5.77	5.81	6.88	5.19	5.88	6.30	6.90	*5.95*	*6.35*	Earnings per sh [A]	*7.50*
	2.16	2.16	2.58	3.00	3.00	3.24	3.32	3.32	3.32	3.32	3.34	3.42	3.50	3.58	3.66	3.74	*3.86*	*4.08*	Div'd Decl'd per sh [B] ■ †	*4.80*
	6.72	9.44	10.29	13.92	12.99	13.33	15.21	18.18	15.73	14.82	16.79	17.28	22.07	22.45	21.72	24.52	*17.00*	*17.30*	Cap'l Spending per sh	*18.75*
	35.71	40.45	40.71	42.07	45.54	47.53	50.81	51.73	54.00	55.83	51.89	45.12	44.28	46.78	51.34	54.56	*57.85*	*60.35*	Book Value per sh [C]	*69.00*
	216.83	202.67	193.12	189.36	189.12	178.75	176.36	177.81	178.37	179.24	178.39	179.13	180.52	189.06	199.15	200.24	*205.00*	*206.00*	Common Shs Outst'g [D]	*212.00*
	16.3	14.3	19.3	16.6	12.0	11.6	9.1	11.2	13.2	12.9	12.5	10.9	15.0	13.8	16.5	15.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.5*
	.87	.77	1.02	1.00	.80	.74	.57	.71	.74	.68	.63	.57	.75	.75	.88	.79			Relative P/E Ratio	*.95*
	3.0%	2.8%	2.4%	2.9%	4.0%	4.2%	4.9%	4.9%	5.1%	4.5%	4.6%	4.6%	4.5%	4.4%	3.5%	3.6%			Avg Ann'l Div'd Yield	*3.7%*
	11229	10302	11391	12495	11513	10846	11074	11009	10879	10114	*10800*	*10500*	Revenues ($mill)	*11700*
	1367.4	1091.9	904.5	1060.0	1061.2	1249.8	950.7	1092.1	1258.2	1406.7	*1235*	*1330*	Net Profit ($mill)	*1615*
	17.3%	13.0%	26.7%	37.8%	2.2%	11.3%	1.8%	- -	1.8%	NMF	*22.0%*	*22.0%*	Income Tax Rate	*22.0%*
	8.9%	11.9%	10.1%	9.3%	7.4%	8.1%	14.7%	17.5%	16.7%	12.2%	*6.0%*	*7.0%*	AFUDC % to Net Profit	*7.0%*
	52.2%	55.8%	55.1%	54.9%	57.8%	63.6%	63.6%	63.2%	62.0%	65.5%	*66.5%*	*66.0%*	Long-Term Debt Ratio	*66.0%*
	46.4%	42.9%	43.6%	43.8%	40.8%	35.5%	35.5%	35.9%	37.1%	33.7%	*33.0%*	*33.5%*	Common Equity Ratio	*33.5%*
	19324	21432	22109	22842	22714	22777	22528	24602	27557	32386	*36075*	*37100*	Total Capital ($mill)	*43600*
	25609	27299	27882	28723	27824	27921	29664	31974	35183	38853	*40025*	*41150*	Net Plant ($mill)	*45700*
	8.5%	6.4%	5.4%	6.0%	6.0%	6.9%	5.7%	5.8%	5.9%	5.6%	*4.5%*	*4.5%*	Return on Total Cap'l	*5.0%*
	14.8%	11.5%	9.1%	10.3%	11.1%	15.1%	11.6%	12.0%	12.0%	12.6%	*10.0%*	*10.5%*	Return on Shr. Equity	*11.0%*
	15.0%	11.6%	9.2%	10.4%	11.2%	15.2%	11.7%	12.2%	12.1%	12.7%	*10.0%*	*10.5%*	Return on Com Equity [E]	*11.0%*
	8.4%	5.2%	3.0%	4.4%	4.8%	7.7%	3.9%	4.9%	5.2%	5.9%	*3.5%*	*4.0%*	Retained to Com Eq	*4.0%*
	45%	56%	68%	58%	58%	50%	68%	61%	58%	55%	*65%*	*64%*	All Div'ds to Net Prof	*64%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $25732 mill. **Due in 5 Yrs** $8503.7 mill.
LT Debt $24075 mill. **LT Interest** $796.0 mill.
Incl. $146.9 mill. of securitization bonds.
(LT interest earned: 2.9x)
Leases, Uncapitalized Annual rentals $65.7 mill.
Pension Assets-12/20 $6854.4 mill.
Oblig $9143.7 mill.
Pfd Stock $254.4 mill. **Pfd Div'd** $18.3 mill.
200,000 shs. 6.25%-7.5%, $100 par; 250,000 shs. 8.75%, 1.4 mill. shs. 5.375%; all cum., without sinking fund.
Common Stock 200,659,948 shs. **as of 4/30/21**
MARKET CAP: $21 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+4.1	-1.4	-4.1
Avg. Indust. Use (MWH)	946	1070	1017
Avg. Indust. Revs. per KWH(¢)	5.16	5.24	4.95
Capacity at Peak (Mw)	23121	23887	NA
Peak Load, Summer (Mw)	21587	21598	NA
Annual Load Factor (%)	65	64	NA
% Change Customers (yr-end)	+.6	+.8	+1.0
Fixed Charge Cov. (%)	NMF	165	202

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-1.5%	-4.0%	*Nil*
"Cash Flow"	2.0%	- -	*3.5%*
Earnings	- -	3.0%	*3.0%*
Dividends	1.5%	2.0%	*4.5%*
Book Value	1.0%	-1.0%	*5.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	2724	2669	3104	2512	11009
2019	2610	2666	3141	2462	10878
2020	2427	2413	2904	2370	10114
2021	2845	*2555*	*3000*	*2400*	*10800*
2022	*2700*	*2600*	*2900*	*2300*	*10500*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.73	1.34	3.42	.39	5.88
2019	1.32	1.22	1.82	1.94	6.30
2020	.59	1.79	2.59	1.93	6.90
2021	1.66	*1.25*	*2.35*	*.69*	*5.95*
2022	*1.25*	*1.60*	*2.75*	*.75*	*6.35*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.87	.87	.87	.89	3.50
2018	.89	.89	.89	.91	3.58
2019	.91	.91	.91	.93	3.66
2020	.93	.93	.93	.95	3.74
2021	.95	.95			

BUSINESS: Entergy Corporation supplies electricity to 3.0 million customers through subsidiaries in Arkansas, Louisiana, Mississippi, Texas, and New Orleans (regulated separately from Louisiana). Distributes gas to 202,000 customers in Louisiana. Has a nonutility subsidiary that owns four nuclear units (three no longer operating). Electric revenue breakdown: residential, 39%; commercial, 25%; industrial, 26%; other, 10%. Generating sources: gas, 47%; nuclear, 29%; coal, 3%; purchased, 21%. Fuel costs: 24% of revenues. '20 reported depreciation rate: 2.8%. Has 13,000 employees. Chairman & CEO: Leo P. Denault. Incorporated: Delaware. Address: 639 Loyola Avenue, P.O. Box 61000, New Orleans, Louisiana 70161. Telephone: 504-576-4000. Internet: www.entergy.com.

The earnings decline we estimate for Entergy in 2021 is not a sign of trouble for the company. In recent years, Entergy has been booking tax credits that have made its tax rate low or negative. This boosted December-quarter profits well above the typical level in each of the past two years. We are not assuming any such income in 2021, although this cannot be ruled out. Our estimate is at the midpoint of Entergy's targeted range of $5.80-$6.10 a share. Based on statements by management, dividend growth is expected to accelerate in the fourth quarter.

Some regulatory matters are pending. Entergy Texas awaits a commission ruling on settlements that would provide $39 million in revenues through two regulatory mechanisms. Entergy Mississippi is seeking $48.2 million through the state's formula rate plan. New rates are expected to take effect in July. A full year's effect of rate relief granted in 2021, plus additional orders in 2022, points to higher earnings next year. Through legislation, Entergy Arkansas got a more-favorable outcome of a rate order that will net it an additional $67 million. Note that formula rate plans in most of the company's jurisdictions provide rate relief annually. Our earnings estimate for 2022 is within management's forecast of $6.15-$6.45 a share.

Entergy has one more nonregulated nuclear unit remaining. In recent years, the company has exited these operations because returns have not been good. Entergy has sold the plants (and their nuclear decommissioning trusts) to companies that will conduct the decommissioning. The last nuclear plant, in Michigan, will be shut in 2022.

The company plans to issue securitized bonds. Most of this (nearly $2.4 billion) would be for the recovery of costs associated with three hurricanes that hit the utility's service area from August through October of 2020. Entergy needs regulatory approval in Louisiana and Texas. If this is obtained, the bonds would be issued in 2022.

Entergy stock has a dividend yield that is about average for a utility. Total return potential is decent for the 3- to 5-year period, but negative for the 18-month span.

Paul E. Debbas, CFA *June 11, 2021*

(A) Diluted EPS. Excl. nonrec. losses: '05, 21¢; '12, $1.26; '13, $1.14; '14, 56¢; '15, $6.99; '16, $10.14; '17, $2.91; '18, $1.25. Next earnings report due early Aug. **(B)** Div'ds historically paid in early Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. **(C)** Incl. deferred charges. In '20: $33.43/sh. **(D)** In millions. **(E)** Rate base: Net original cost. Allowed ROE (blended): 9.95%; earned on avg. com. eq., '20: 13.1%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	30
Earnings Predictability	65

EVERGY, INC. NYSE-EVRG

RECENT PRICE 61.99 | P/E RATIO 17.2 (Trailing: 19.1 Median: NMF) | RELATIVE P/E RATIO 0.81 | DIV'D YLD 3.6% | VALUE LINE

TIMELINESS 4 Lowered 6/11/21
SAFETY 2 New 9/14/18
TECHNICAL 2 Raised 6/11/21
BETA .95 (1.00 = Market)

18-Month Target Price Range

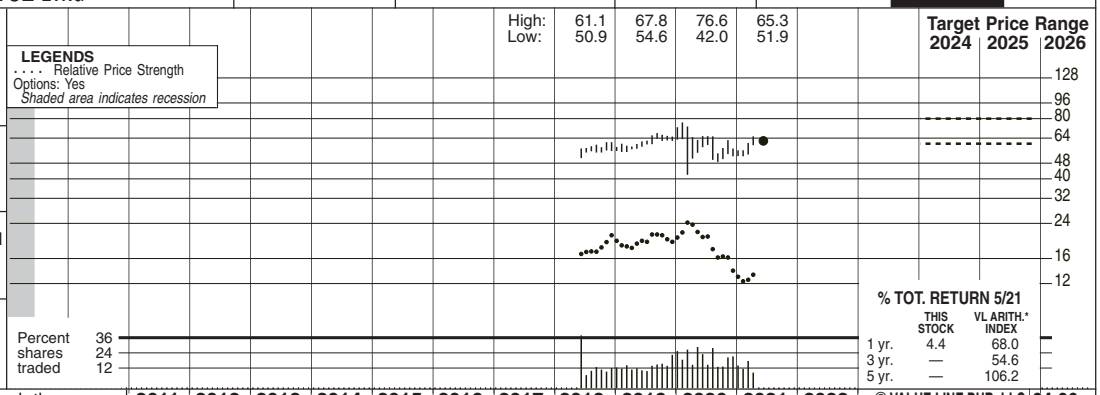
Low-High	Midpoint (% to Mid)
$30-$83	$57 (-10%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	80	(+30%)	*10%*
Low	60	(-5%)	*3%*

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	260	268	268
to Sell	279	291	255
Hld's(000)	181645	188200	191409



Evergy, Inc. was formed through the merger of Great Plains Energy and Westar Energy in June of 2018. Great Plains Energy holders received .5981 of a share of Evergy for each of their shares, and Westar Energy holders received one share of Evergy for each of their shares. The merger was completed on June 4, 2018. Shares of Evergy began trading on the New York Stock Exchange one day later.

CAPITAL STRUCTURE as of 3/31/21
Total Debt $11284 mill. **Due in 5 Yrs** $4377.0 mill.
LT Debt $9090.6 mill. **LT Interest** $327.2 mill.
Incl. $45.3 mill. finance leases.
(LT interest earned: 3.2x)

Leases, Uncapitalized Annual rentals $18.5 mill.

Pension Assets-12/20 $1799.1 mill. **Oblig** $2901.1 mill.
Pfd Stock None

Common Stock 229,267,502 shs.
as of 4/30/21
MARKET CAP: $14 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	NA	NA	-3.9
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	7.11	7.25	7.14
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	322	305	286

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	--	--	*3.5%*
"Cash Flow"	--	--	*6.5%*
Earnings	--	--	*8.0%*
Dividends	--	--	*5.5%*
Book Value	--	--	*3.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	600.2	893.4	1582.5	1199.8	4275.9
2019	1216.9	1221.7	1577.6	1131.6	5147.8
2020	1116.7	1184.7	1517.6	1094.4	4913.4
2021	1612	*1238*	*1550*	*1100*	*5500*
2022	*1250*	*1250*	*1600*	*1100*	*5200*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.42	.56	1.32	.07	2.50
2019	.39	.57	1.56	.28	2.79
2020	.31	.59	1.60	.22	2.72
2021	.84	*.70*	*1.75*	*.31*	*3.60*
2022	*.55*	*.75*	*1.90*	*.35*	*3.55*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	--	--	--	--	--
2018	.40	.40	.46	.475	1.74
2019	.475	.475	.475	.505	1.93
2020	.505	.505	.505	.535	2.05
2021	.535				

© VALUE LINE PUB. LLC	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	24-26
Revenues per sh	--	--	--	--	--	--	--	16.75	22.71	21.66	*23.90*	*22.60*	*25.00*
"Cash Flow" per sh	--	--	--	--	--	--	--	4.89	7.18	7.06	*7.95*	*8.10*	*9.25*
Earnings per sh A	--	--	--	--	--	--	--	2.50	2.79	2.72	*3.60*	*3.55*	*4.25*
Div'd Decl'd per sh B ■	--	--	--	--	--	--	--	1.74	1.93	2.05	*2.17*	*2.29*	*2.65*
Cap'l Spending per sh	--	--	--	--	--	--	--	4.19	5.34	6.88	*8.15*	*8.00*	*8.00*
Book Value per sh C	--	--	--	--	--	--	--	39.28	37.82	38.50	*39.95*	*41.20*	*45.50*
Common Shs Outst'g D	--	--	--	--	--	--	--	255.33	226.64	226.84	*230.00*	*230.00*	*230.00*
Avg Ann'l P/E Ratio	--	--	--	--	--	--	--	22.7	21.8	21.7	*Bold figures are*		*17.0*
Relative P/E Ratio	--	--	--	--	--	--	--	1.23	1.16	1.12	*Value Line*		*.95*
Avg Ann'l Div'd Yield	--	--	--	--	--	--	--	3.1%	3.2%	3.5%	*estimates*		*3.7%*
Revenues ($mill)	--	--	--	--	--	--	--	4275.9	5147.8	4913.4	*5500*	*5200*	*5750*
Net Profit ($mill)	--	--	--	--	--	--	--	535.8	669.9	618.3	*840*	*835*	*980*
Income Tax Rate	--	--	--	--	--	--	--	9.8%	12.6%	14.1%	*12.0%*	*12.0%*	*12.0%*
AFUDC % to Net Profit	--	--	--	--	--	--	--	2.5%	2.5%	5.5%	*5.0%*	*5.0%*	*5.0%*
Long-Term Debt Ratio	--	--	--	--	--	--	--	40.0%	50.6%	51.3%	*51.0%*	*51.0%*	*51.5%*
Common Equity Ratio	--	--	--	--	--	--	--	60.0%	49.4%	48.7%	*49.0%*	*49.0%*	*48.5%*
Total Capital ($mill)	--	--	--	--	--	--	--	16716	17337	17924	*18775*	*19425*	*21600*
Net Plant ($mill)	--	--	--	--	--	--	--	18952	19346	20106	*20975*	*21775*	*23900*
Return on Total Cap'l	--	--	--	--	--	--	--	4.0%	4.8%	4.5%	*5.5%*	*5.0%*	*5.5%*
Return on Shr. Equity	--	--	--	--	--	--	--	5.3%	7.8%	7.1%	*9.0%*	*8.5%*	*9.0%*
Return on Com Equity E	--	--	--	--	--	--	--	5.3%	7.8%	7.1%	*9.0%*	*8.5%*	*9.0%*
Retained to Com Eq	--	--	--	--	--	--	--	.6%	2.4%	1.8%	*3.5%*	*3.0%*	*3.5%*
All Div'ds to Net Prof	--	--	--	--	--	--	--	89%	69%	75%	*59%*	*63%*	*62%*

BUSINESS: Evergy, Inc. was formed through the merger of Great Plains Energy and Westar Energy in June of 2018. Through its subsidiaries (now doing business under the Evergy name), provides electric service to 1.6 million customers in Kansas and Missouri, including the greater Kansas City area. Electric revenue breakdown: residential, 39%; commercial, 33%; industrial, 12%; wholesale, 5%; other, 11%. Generating sources: coal, 54%; nuclear, 17%; purchased, 29%. Fuel costs: 22% of revenues. '20 reported deprec. rate: 3%. Has 5,100 employees. Chairman: Mark A. Ruelle. President & Chief Executive Officer: David A. Campbell. Incorporated: Missouri. Address: 1200 Main Street, Kansas City, Missouri 64105. Telephone: 816-556-2200. Internet: www.evergy.com.

Our 2021 earnings estimate for Evergy requires an explanation. First-quarter pretax earnings included $96.5 million of unusually high profits from the company's small energy-marketing subsidiary, which benefited from a surge in power prices in Texas during a cold spell in February. We had anticipated this, but not to such a large extent. Accordingly, we raised our 2021 earnings estimate by $0.20 a share, to $3.60. This is near the upper end of Evergy's targeted range (on a GAAP basis) of $3.43-$3.63 a share. Additionally, its utilities incurred a surge in fuel and purchased-power costs of $340 million. These are passed through to customers, which explains why the top line increased so significantly. Because the first-quarter comparison will be so tough in 2022, we look for a slight earnings decline for the full year, even though Evergy should benefit from higher kilowatt-hour sales as the economy recovers, effective expense control, and investment in its transmission system. The company's capital budget calls for $3.0 billion of spending on transmission from 2021 through 2025.

The company filed integrated resource plans in Missouri and Kansas. These include the retirement of 1,200 megawatts of coal-fired generation and the addition of 3,200 mw of renewable capacity. Evergy wants to issue securitized bonds to recover its undepreciated interest in the coal units that will be closed. Kansas enacted a law permitting securitization, and similar legislation awaits the governor's signature in Missouri.

An agreement with Bluescape, an investor group, was completed in April. An affiliate of Bluescape paid $113 million for 2.27 million common shares and received warrants for the purchase of 3.95 million shares. The chairman of Bluescape, John Wilder (a former utility chief executive officer), was added to Evergy's board of directors. Evergy and Bluescape have a standstill agreement that runs through the 2022 annual meeting.

This untimely stock has an average dividend yield, by utility standards. Total return potential is negative for the next 18 months and unspectacular for the 3- to 5-year period. The recent quotation is within our 2024-2026 Target Price Range.

Paul E. Debbas, CFA *June 11, 2021*

(A) Diluted EPS. '18 EPS don't sum to full-year total due to change in shares, '19 due to rounding. Next earnings report due early Aug. **(B)** Dividends paid in mid-March, June, September, and December. ■ Dividend reinvestment plan available. **(C)** Incl. intangibles. In '20: $4204.8 mill., $18.54/sh. **(D)** In millions. **(E)** Rate base: Original cost depreciated. Rate allowed on common equity in Missouri in '18: none specified; in Kansas in '18: 9.3%. Earned on average common equity, '20: 7.1%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	70
Price Growth Persistence	NMF
Earnings Predictability	NMF

IDACORP, INC. NYSE-IDA

RECENT PRICE **99.35** | P/E RATIO **20.7** (Trailing: 20.5 Median: 17.0) | RELATIVE P/E RATIO **1.05** | DIV'D YLD **3.0%** | **VALUE LINE**

TIMELINESS 3 Lowered 3/5/21
SAFETY 1 Raised 1/22/21
TECHNICAL 3 Lowered 7/2/21
BETA .85 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$76-$148	$112 (15%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	120	(+20%)	*8%*
Low	100	(Nil)	*4%*

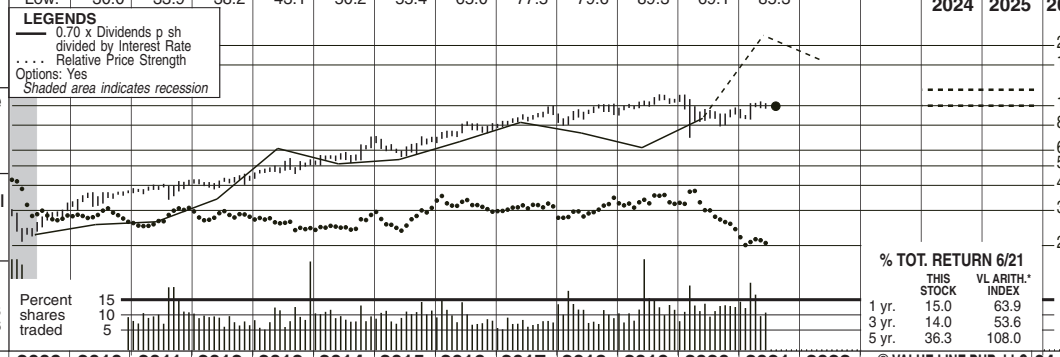
Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	186	152	183
to Sell	147	183	156
Hld's(000)	38758	39313	39645

	37.8	42.7	45.7	54.7	70.1	70.5	83.4	100.0	102.4	114.0	113.6	105.0
High:	30.0	33.9	38.2	43.1	50.2	55.4	65.0	77.5	79.6	89.3	69.1	85.3

LEGENDS
0.70 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2024 2025 2026



% TOT. RETURN 6/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	15.0	63.9
3 yr.	14.0	53.6
5 yr.	36.3	108.0

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
20.15	21.23	19.51	20.47	21.92	20.97	20.55	21.55	24.81	25.51	25.23	25.04	26.76	27.19	26.70	26.77	*28.15*	*28.75*	Revenues per sh	*31.75*
3.87	4.58	4.11	4.27	5.07	5.35	5.84	5.93	6.29	6.58	6.70	6.86	7.50	7.85	8.07	8.19	*8.40*	*8.75*	"Cash Flow" per sh	*10.00*
1.75	2.35	1.86	2.18	2.64	2.95	3.36	3.37	3.64	3.85	3.87	3.94	4.21	4.49	4.61	4.69	*4.80*	*5.05*	Earnings per sh [A]	*5.75*
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.37	1.57	1.76	1.92	2.08	2.24	2.40	2.56	2.72	*2.89*	*3.09*	Div'd Decl'd per sh [B] ■ †	*3.70*
4.53	5.16	6.39	5.19	5.26	6.85	6.76	4.78	4.68	5.45	5.84	5.89	5.66	5.51	5.53	6.16	*7.25*	*7.70*	Cap'l Spending per sh	*10.00*
24.04	25.77	26.79	27.76	29.17	31.01	33.19	35.07	36.84	38.85	40.88	42.74	44.65	47.01	48.88	50.73	*52.65*	*54.60*	Book Value per sh [C]	*60.75*
42.66	43.63	45.06	46.92	47.90	49.41	49.95	50.16	50.23	50.27	50.34	50.40	50.42	50.42	50.42	50.46	*50.45*	*50.45*	Common Shs Outst'g [D]	*50.45*
16.7	15.1	18.2	13.9	10.2	11.8	11.5	12.4	13.4	14.7	16.2	19.1	20.6	20.5	22.3	19.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*19.0*
.89	.82	.97	.84	.68	.75	.72	.79	.75	.77	.82	1.00	1.04	1.11	1.19	1.02			Relative P/E Ratio	*1.05*
4.1%	3.4%	3.5%	4.0%	4.5%	3.4%	3.1%	3.3%	3.2%	3.1%	3.1%	2.8%	2.6%	2.6%	2.5%	2.9%			Avg Ann'l Div'd Yield	*3.4%*
1026.8	1080.7	1246.2	1282.5	1270.3	1262.0	1349.5	1370.8	1346.4	1350.7	*1420*	*1450*	Revenues ($mill)	*1600*
166.9	168.9	182.4	193.5	194.7	198.3	212.4	226.8	232.9	237.4	*240*	*255*	Net Profit ($mill)	*290*
--	13.4%	28.3%	8.0%	19.0%	15.5%	18.6%	7.1%	9.5%	10.8%	*10.5%*	*10.5%*	Income Tax Rate	*10.5%*
23.3%	20.3%	12.3%	13.6%	16.3%	16.3%	13.9%	15.2%	16.2%	17.3%	*17.0%*	*17.0%*	AFUDC % to Net Profit	*17.0%*
45.6%	45.5%	46.6%	45.3%	45.6%	44.8%	43.7%	43.6%	41.3%	43.9%	*44.5%*	*44.5%*	Long-Term Debt Ratio	*49.0%*
54.4%	54.5%	53.4%	54.7%	54.4%	55.2%	56.3%	56.4%	58.7%	56.1%	*55.5%*	*55.5%*	Common Equity Ratio	*51.0%*
3045.2	3225.4	3465.9	3567.6	3783.3	3898.5	3997.5	4205.1	4201.3	4560.4	*4805*	*4980*	Total Capital ($mill)	*6000*
3406.6	3536.0	3665.0	3833.5	3992.4	4172.0	4283.9	4395.7	4531.5	4709.5	*4895*	*5095*	Net Plant ($mill)	*5925*
6.8%	6.5%	6.4%	6.6%	6.2%	6.1%	6.3%	6.4%	6.5%	6.1%	*6.0%*	*6.0%*	Return on Total Cap'l	*6.0%*
10.1%	9.6%	9.9%	9.9%	9.5%	9.2%	9.4%	9.6%	9.4%	9.3%	*9.0%*	*9.0%*	Return on Shr. Equity	*9.5%*
10.1%	9.6%	9.9%	9.9%	9.5%	9.2%	9.4%	9.6%	9.4%	9.3%	*9.0%*	*9.0%*	Return on Com Equity [E]	*9.5%*
6.5%	5.7%	5.6%	5.4%	4.8%	4.3%	4.4%	4.4%	4.2%	3.9%	*3.5%*	*3.5%*	Retained to Com Eq	*3.5%*
36%	41%	43%	46%	50%	53%	53%	54%	56%	58%	*60%*	*61%*	All Div'ds to Net Prof	*65%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $2000.5 mill. **Due in 5 Yrs** $144.7 mill.
LT Debt $2000.5 mill. **LT Interest** $83.4 mill.
(LT interest earned: 3.7x)

Pension Assets-12/20 $871.6 mill.
Oblig $1337.4 mill.

Pfd Stock None

Common Stock 50,515,478 shs.
as of 4/23/21

MARKET CAP: $5.0 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+.1	-.3	+2.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	5.64	5.32	5.38
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	3392	3242	3392
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+2.3	+2.5	+2.7
Fixed Charge Cov. (%)	309	307	313

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	2.5%	1.5%	*3.0%*
"Cash Flow"	5.0%	4.5%	*3.5%*
Earnings	6.0%	4.0%	*4.0%*
Dividends	8.0%	8.0%	*6.5%*
Book Value	5.0%	4.5%	*3.5%*

QUARTERLY REVENUES($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	310.1	340.0	408.8	311.9	1370.8
2019	350.3	316.9	386.3	292.9	1346.4
2020	291.0	318.8	425.3	315.6	1350.7
2021	316.1	*338.9*	*440*	*325*	*1420*
2022	*320*	*345*	*455*	*330*	*1450*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.72	1.23	2.02	.52	4.49
2019	.84	1.05	1.78	.93	4.61
2020	.74	1.19	2.02	.74	4.69
2021	.89	*1.25*	*1.95*	*.71*	*4.80*
2022	*.90*	*1.20*	*2.10*	*.85*	*5.05*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.55	.55	.55	.59	2.24
2018	.59	.59	.59	.63	2.40
2019	.63	.63	.63	.67	2.56
2020	.67	.67	.67	.71	2.72
2021	.71	.71			

BUSINESS: IDACORP, Inc. is a holding company for Idaho Power Company, a regulated electric utility that serves 583,000 customers throughout a 24,000-square-mile area in southern Idaho and eastern Oregon (population: 1.2 million). Most of the company's revenues are derived from the Idaho portion of its service area. Revenue breakdown: residential, 42%; commercial, 22%; industrial, 14%; irrigation, 12%; other, 10%. Generating sources: hydro, 39%; coal, 21%; gas, 12%; purchased, 28%. Fuel costs: 32% of revenues. '20 reported depreciation rate: 2.9%. Has 1,900 employees. Chairman: Richard J. Dahl. President & CEO: Lisa Grow. Incorporated: Idaho. Address: 1221 W. Idaho St., Boise, Idaho 83702. Telephone: 208-388-2200. Internet: www.idacorpinc.com.

IDACORP is off to a good start in 2021. The customer growth rate of its utility subsidiary, Idaho Power, has been strong in recent years thanks in part to a good business climate, including low electric rates. The economy of the utility's service area is strong, and several large customers are expanding. Moody's projection for GDP growth here is 8% for 2021. For the 12-month period ending March 31st, the customer growth rate accelerated to 2.9%, from 2.7% in 2020. This might eventually put some pressure on operating and maintenance expenses, but for now, management still expects these to wind up in a range of $345 million-$355 million in 2021, versus $352 million last year. Although IDACORP had a strong first-quarter showing, management maintained its 2021 earnings target of $4.60-$4.80 a share. Our estimate remains at the top of this range. The company's guidance is typically conservative. IDACORP has a track record of exceeding the midpoint of its initial range, sometimes by a wide margin. We note that the effects of hot and dry weather were a boon for kilowatt-hour sales in the second quarter.

We look for continued solid profit growth in 2022. Moody's expects another year of 8% GDP growth in Idaho Power's service territory. There is little reason to think the favorable trend in customer growth will change. Our estimate of $5.05 a share would profit a bottom-line growth rate of 5%.

We expect a healthy dividend increase at the board meeting in September. IDACORP's goal is growth of at least 5% and a payout ratio of 60%-70%. The payout ratio is below this range, so we estimate a $0.05-a-share (7.0%) increase in the quarterly disbursement.

Finances are sound. The fixed-charge coverage and common-equity ratio are above the utility norms. IDACORP expects no new equity over the five-year period, despite the utility's rising capital budget. No long-term debt is due until 2023.

IDACORP's strengths are reflected in the stock price. The dividend yield is low for a utility. The recent quotation is near the low end of our 2024-2026 Target Price Range, so total return potential is only modest over that time frame.

Paul E. Debbas, CFA *July 23, 2021*

(A) Diluted EPS. Excl. nonrecurring gain (loss): '05, (24¢); '06, 17¢. '19 earnings don't sum due to rounding. Next earnings report due late July. **(B)** Dividends historically paid in late Feb., May, Aug., and Nov. ■ Dividend reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. intangibles. In '20: $1495.5 mill., $26.31/sh. **(D)** In millions. **(E)** Rate base: Net original cost. Rate allowed on common equity in '12: 10% (imputed); earned on avg. com. eq., '20: 9.5%. Regulatory Climate: Above Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	100

ALLIANT ENERGY NDQ-LNT

RECENT PRICE 57.15 | P/E RATIO 22.0 (Trailing: 23.6 Median: 19.0) | RELATIVE P/E RATIO 1.03 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 3 Raised 4/30/21
SAFETY 2 Raised 9/28/07
TECHNICAL 3 Raised 6/4/21
BETA .85 (1.00 = Market)

18-Month Target Price Range

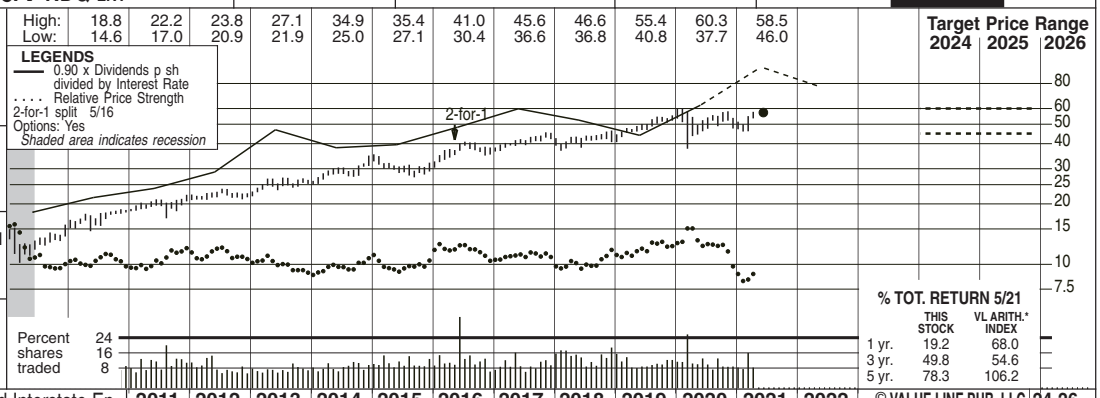
Low-High	Midpoint (% to Mid)
$42-$86	$64 (10%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+5%)	4%
Low	45	(-20%)	-2%

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	249	261	249
to Sell	219	241	253
Hld's(000)	182149	181812	188898



Alliant Energy, formerly called Interstate Energy Corporation, was formed on April 21, 1998 through the merger of WPL Holdings, IES Industries, and Interstate Power. WPL stockholders received one share of Interstate Energy stock for each WPL share, IES stockholders received 1.14 Interstate Energy shares for each IES share, and Interstate Power stockholders received 1.11 Interstate Energy shares for each Interstate Power share.

CAPITAL STRUCTURE as of 3/31/21
Total Debt $7115.0 mill. **Due in 5 Yrs** $1950.0 mill.
LT Debt $6471.0 mill. **LT Interest** $270.0 mill.
(LT interest earned: 3.1x)

Pension Assets-12/20 $984.0 mill. **Oblig.** $1351.0 mill.
Pfd Stock $400.0 mill. **Pfd Div'd** $10.2 mill.
16,000,000 shs.

Common Stock 250,134,552 shs.

MARKET CAP: $14.3 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+2.0	-2.2	-2.3
Avg. Indust. Use (MWH)	11830	11448	11134
Avg. Indust. Revs. per KWH (¢)	7.25	6.98	7.55
Capacity at Peak (Mw)	5459	5626	5496
Peak Load, Summer (Mw)	5459	5626	5496
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.4	+.6	+.6
Fixed Charge Cov. (%)	322	324	342

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-.5%	.5%	*1.0%*
"Cash Flow"	5.5%	4.5%	*4.0%*
Earnings	6.0%	6.0%	*5.5%*
Dividends	7.0%	7.0%	*6.0%*
Book Value	4.5%	5.5%	*6.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	916.3	816.1	928.6	873.5	3534.5
2019	987.2	790.2	990.2	880.1	3647.7
2020	915.7	763.1	920.0	817.2	3416.0
2021	901.0	***800***	***975***	***949***	***3625***
2022	***980***	***835***	***1015***	***970***	***3800***

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.52	.43	.87	.37	2.19
2019	.53	.40	.94	.46	2.33
2020	.72	.54	.94	.26	2.47
2021	.68	***.53***	***.95***	***.44***	***2.60***
2022	***.66***	***.56***	***1.05***	***.48***	***2.75***

Calendar	QUARTERLY DIVIDENDS PAID B ■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.315	.315	.315	.315	1.26
2018	.335	.335	.335	.335	1.34
2019	.355	.355	.355	.355	1.42
2020	.38	.38	.38	.38	1.52
2021	.403	.403			

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
	16.51	13.94	14.77	15.10	14.34	14.58	14.62	14.97	14.89	13.67	***14.20***	***14.60***	Revenues per sh	***15.50***
	2.75	2.95	3.34	3.44	3.45	3.45	3.10	4.32	4.59	4.92	***5.10***	***5.35***	"Cash Flow" per sh	***5.90***
	1.38	1.53	1.65	1.74	1.69	1.65	1.99	2.19	2.33	2.47	***2.60***	***2.75***	Earnings per sh A	***3.25***
	.85	.90	.94	1.02	1.10	1.18	1.26	1.34	1.42	1.52	***1.61***	***1.70***	Div'd Decl'd per sh B ■ †	***2.05***
	3.03	5.22	3.32	3.78	4.25	5.26	6.34	6.34	6.28	5.17	***5.25***	***5.40***	Cap'l Spending per sh	***5.55***
	13.57	14.12	14.79	15.54	16.41	16.96	17.21	19.43	21.24	22.76	***24.35***	***25.80***	Book Value per sh C	***30.00***
	222.04	221.97	221.89	221.87	226.92	227.67	231.35	236.06	245.02	249.87	***255.00***	***260.00***	Common Shs Outst'g D	***270.00***
	14.5	14.5	15.3	16.6	18.1	22.3	20.6	19.1	21.2	21.2	*Bold figures are*		Avg Ann'l P/E Ratio	***16.0***
	.91	.92	.86	.87	.91	1.17	1.04	1.03	1.13	1.02	*Value Line*		Relative P/E Ratio	***.90***
	4.3%	4.1%	3.7%	3.5%	3.6%	3.2%	3.1%	3.2%	2.9%	2.9%	*estimates*		Avg Ann'l Div'd Yield	***3.9%***
	3665.3	3094.5	3276.8	3350.3	3253.6	3320.0	3382.2	3534.5	3647.7	3416.0	***3625***	***3800***	Revenues ($mill)	***4180***
	304.4	337.8	382.1	385.5	380.7	373.8	455.9	512.1	557.2	614.0	***655***	***705***	Net Profit ($mill)	***865***
	19.0%	21.5%	12.4%	10.1%	15.3%	13.4%	12.5%	8.4%	10.8%	NMF	***NMF***	***NMF***	Income Tax Rate	***11.0%***
	--	--	--	--	6.5%	7.0%	7.6%	7.8%	7.8%	7.6%	***8.0%***	***8.0%***	AFUDC % to Net Profit	***8.0%***
	45.7%	48.4%	46.1%	49.7%	48.6%	52.8%	49.0%	53.4%	51.5%	54.3%	***54.0%***	***54.0%***	Long-Term Debt Ratio	***54.0%***
	50.9%	48.4%	50.8%	47.5%	51.4%	47.2%	48.6%	46.6%	48.5%	45.7%	***46.0%***	***46.0%***	Common Equity Ratio	***46.0%***
	5921.2	6476.6	6461.0	7257.2	7246.3	8177.6	8192.8	9832.0	10738	11362	***11500***	***12200***	Total Capital ($mill)	***14500***
	7037.1	7838.0	7147.3	6442.0	8970.2	9809.9	10798	12031	13087	13884	***14500***	***15100***	Net Plant ($mill)	***18150***
	6.4%	6.3%	7.0%	6.3%	6.3%	5.6%	6.8%	6.3%	6.4%	5.5%	***5.5%***	***6.0%***	Return on Total Cap'l	***6.0%***
	9.5%	10.1%	11.0%	10.6%	10.2%	9.7%	10.9%	11.2%	10.7%	10.8%	***10.5%***	***10.5%***	Return on Shr. Equity	***10.5%***
	9.5%	10.3%	11.3%	10.9%	10.2%	9.7%	6.4%	11.2%	10.7%	10.8%	***10.5%***	***10.5%***	Return on Com Equity E	***10.5%***
	3.3%	3.9%	4.9%	4.3%	3.6%	2.8%	4.0%	4.4%	4.2%	4.2%	***4.0%***	***4.0%***	Retained to Com Eq	***4.0%***
	67%	64%	57%	61%	65%	71%	63%	61%	61%	62%	***62%***	***62%***	All Div'ds to Net Prof	***63%***

BUSINESS: Alliant Energy Corp., formerly named Interstate Energy, is a holding company formed through the merger of WPL Holdings, IES Industries, and Interstate Power. Supplies electricity, gas, and other services in Wisconsin, Iowa, and Minnesota. Electric revenue by state: WI, 42%; IA, 57%; MN, 1%. Electric revenue: residential, 37%; commercial, 24%; industrial, 29%; wholesale, 7%; other, 3%. Fuel sources, 2020: coal, 23%; gas, 34%; other, 43%. Fuel costs: 41% of revs. 2020 depreciation rate: 6.4%. Estimated plant age: 18 years. Has approximately 3,375 employees. Chairman & Chief Executive Officer: John O. Larsen. Incorporated: Wisconsin. Address: 4902 N. Biltmore Lane, Madison, Wisconsin 53718. Telephone: 608-458-3311. Internet: www.alliantenergy.com.

Earnings at Alliant Energy are likely to rise 5%-6% in 2021 and 2022. As a reminder, the utility has reached an agreement in Wisconsin to hold rates steady in 2021 by using excess deferred tax benefits and fuel savings to offset a higher revenue requirement. The agreement with the Public Service Commission of Wisconsin will enable Alliant to earn a respectable return on investment without increasing base rates for the second-consecutive year. In Iowa, the company does not have any rate cases pending and does not intend to submit one for a while. This was made possible through an agreement with the Iowa Utilities Board and other stakeholders on a renewable energy rider. The program allows LNT to recover costs associated with various renewable energy projects without having to formally pursue a rate increase.

Alliant awaits a rate order in Wisconsin. The utility reached a settlement calling for annual base rate increases of $70 million and $15 million for WPL's retail electric and gas customers, respectively, covering the 2022/2023 period. Key drivers of the proposed rate hike include lower excess deferred income tax benefits and new investments in wind and solar power. If approved by the Public Service Commission of Wisconsin, the allowed ROE will be 10% and the common-equity ratio will be 54%. A ruling is expected later this year.

The company is expanding its clean energy portfolio. In Wisconsin, Alliant filed a request with the PSCW to construct up to 414 mw of new solar generation by the end of 2023. The proposal builds on the 675 mw of solar generation that the utility has already committed to in Wisconsin, bringing the total amount of new solar to 1,089 mw by 2023. The cost of both projects is expected to be around $940 million. In Iowa, Alliant plans to construct 400 mw of additional solar power by 2023, building on the 1,300 mw of wind generation that it already has in that state.

This neutrally ranked stock does not stand out at the moment. With the quotation near the high end of our 2024-2026 Target Price Range, long-term total return potential is low compared to the *Value Line* median. In addition, the dividend yield (2.8%) is below average for an electric utility.

Daniel Henigson, CFA *June 11, 2021*

(A) Diluted EPS. May not sum due to changes in share count. Excl. nonrecur. gains (losses): '11, (1¢); '12, (8¢). Next earnings rpt. due early August. **(B)** Dividends historically paid in mid-Feb., May, Aug., and Nov. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. **(C)** Incl. deferred chgs. In '20: $73.0 mill., $0.29/sh. **(D)** In millions, adjusted for split. **(E)** Rate base: Orig. cost. Rates all'd on com. eq. in IA in '20: 10.0%; in WI in '20 Regul. Clim.: WI, Above Avg.; IA, Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	75
Earnings Predictability	95

NORTHWESTERN NDQ-NWE

RECENT PRICE 61.42 | P/E RATIO 17.1 (Trailing: 18.6 Median: 17.0) | RELATIVE P/E RATIO 0.86 | DIV'D YLD 4.1% | VALUE LINE

TIMELINESS 3 Raised 6/4/21
SAFETY 2 Raised 7/27/18
TECHNICAL 2 Raised 7/23/21
BETA .95 (1.00 = Market)

18-Month Target Price Range

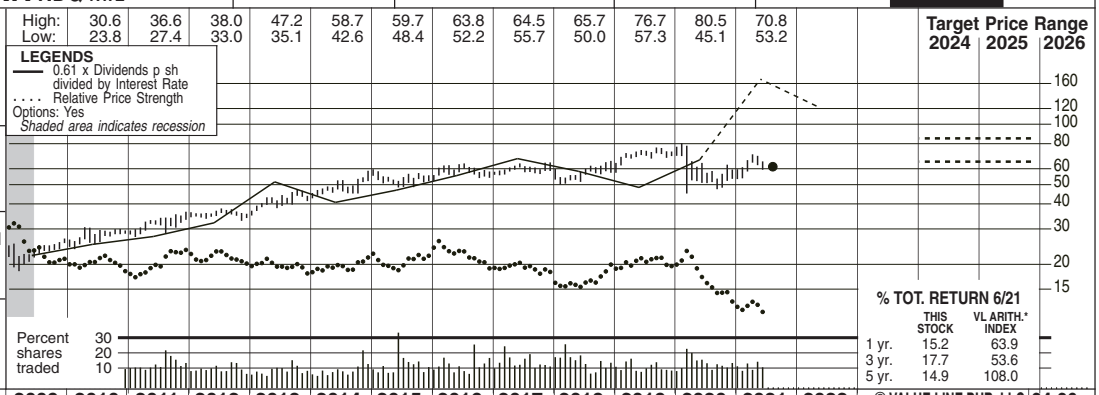
Low-High	Midpoint (% to Mid)
$33-$88	$61 (0%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	85	(+40%)	*12%*
Low	65	(+5%)	*6%*

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	134	116	114
to Sell	126	135	130
Hld's(000)	47772	47664	47776



2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
32.57	31.49	30.79	35.09	31.72	30.66	30.80	28.76	29.80	25.68	25.21	26.01	26.45	23.81	24.93	23.70	*25.25*	*24.30*	Revenues per sh	*26.50*
4.00	3.62	3.70	4.40	4.62	4.76	5.42	5.18	5.45	5.39	5.92	6.74	6.76	6.96	7.07	6.72	*7.30*	*7.35*	"Cash Flow" per sh	*8.25*
1.71	1.31	1.44	1.77	2.02	2.14	2.53	2.26	2.46	2.99	2.90	3.39	3.34	3.40	3.53	3.06	*3.60*	*3.70*	Earnings per sh [A]	*4.00*
1.00	1.24	1.28	1.32	1.34	1.36	1.44	1.48	1.52	1.60	1.92	2.00	2.10	2.20	2.30	2.40	*2.48*	*2.56*	Div'd Decl'd per sh [B] ■ †	*2.80*
2.26	2.81	3.00	3.47	5.26	6.30	5.20	5.89	5.95	5.76	5.89	5.96	5.60	5.64	6.26	8.02	*8.75*	*8.50*	Cap'l Spending per sh	*7.25*
20.60	20.65	21.12	21.25	21.86	22.64	23.68	25.09	26.60	31.50	33.22	34.68	36.44	38.60	40.42	41.10	*42.45*	*43.90*	Book Value per sh [C]	*47.75*
35.79	35.97	38.97	35.93	36.00	36.23	36.28	37.22	38.75	46.91	48.17	48.33	49.37	50.32	50.45	50.59	*51.50*	*53.50*	Common Shs Outst'g [D]	*54.50*
17.1	26.0	21.7	13.9	11.5	12.9	12.6	15.7	16.9	16.2	18.4	17.2	17.8	16.8	19.9	19.5	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*19.0*
.91	1.40	1.15	.84	.77	.82	.79	1.00	.95	.85	.93	.90	.90	.91	1.06	1.00			Relative P/E Ratio	*1.05*
3.4%	3.6%	4.1%	5.4%	5.7%	4.9%	4.5%	4.2%	3.7%	3.3%	3.6%	3.4%	3.5%	3.9%	3.3%	4.0%			Avg Ann'l Div'd Yield	*3.7%*
1117.3	1070.3	1154.5	1204.9	1214.3	1257.2	1305.7	1198.1	1257.9	1198.7	*1300*	*1300*	Revenues ($mill)	*1450*
92.6	83.7	94.0	120.7	138.4	164.2	162.7	171.1	179.3	155.2	*185*	*195*	Net Profit ($mill)	*225*
9.8%	9.6%	13.2%	--	13.7%	--	7.6%	--	1.6%	--	*Nil*	*5.0%*	Income Tax Rate	*12.0%*
3.3%	9.4%	8.7%	8.9%	9.8%	4.3%	5.2%	3.4%	4.6%	6.3%	*6.0%*	*6.0%*	AFUDC % to Net Profit	*4.0%*
52.2%	53.8%	53.5%	53.4%	53.1%	52.0%	50.2%	52.2%	52.5%	52.8%	*52.5%*	*50.0%*	Long-Term Debt Ratio	*49.0%*
47.8%	46.2%	46.5%	46.6%	46.9%	48.0%	49.8%	47.8%	47.5%	47.2%	*47.5%*	*50.0%*	Common Equity Ratio	*51.0%*
1797.1	2020.7	2215.7	3168.0	3408.6	3493.9	3614.5	4064.6	4289.8	4409.1	*4590*	*4675*	Total Capital ($mill)	*5100*
2213.3	2435.6	2690.1	3758.0	4059.5	4214.9	4358.3	4521.3	4700.9	4952.9	*5215*	*5470*	Net Plant ($mill)	*6050*
7.0%	5.5%	5.5%	4.8%	5.2%	5.9%	5.6%	5.2%	5.2%	4.5%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.5%*
10.8%	9.0%	9.1%	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.5%	*8.5%*	*8.5%*	Return on Shr. Equity	*8.5%*
10.8%	9.0%	9.1%	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.5%	*8.5%*	*8.5%*	Return on Com Equity [E]	*8.5%*
4.7%	3.2%	3.5%	3.8%	3.0%	4.1%	3.4%	3.2%	3.1%	1.7%	*2.5%*	*2.5%*	Retained to Com Eq	*2.5%*
56%	65%	61%	54%	65%	58%	62%	64%	64%	78%	*69%*	*69%*	All Div'ds to Net Prof	*68%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $2480.9 mill. **Due in 5 Yrs** $782.2 mill.
LT Debt $2478.2 mill. **LT Interest** $87.8 mill.
Incl. $14.1 mill. finance leases.
(LT interest earned: 2.8x)

Pension Assets-12/20 $688.5 mill.
Oblig $821.0 mill.

Pfd Stock None

Common Stock 50,675,207 shs.
as of 4/16/21

MARKET CAP: $3.1 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+2.9	+4.6	-4.4
Avg. Indust. Use (MWH)	34573	37808	33526
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	2173	2237	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.2	+1.2	+1.2
Fixed Charge Cov. (%)	275	284	237

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-3.0%	-2.0%	*1.5%*
"Cash Flow"	4.0%	4.5%	*3.0%*
Earnings	5.5%	3.5%	*3.0%*
Dividends	5.5%	6.5%	*3.5%*
Book Value	6.0%	5.5%	*3.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	341.5	261.8	279.9	314.9	1198.1
2019	384.2	270.7	274.8	328.2	1257.9
2020	335.3	269.4	280.6	313.4	1198.7
2021	400.8	*284.2*	*290*	*325*	*1300*
2022	*370*	*295*	*300*	*335*	*1300*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	1.18	.61	.56	1.06	3.40
2019	1.44	.49	.42	1.18	3.53
2020	1.00	.43	.58	1.06	3.06
2021	1.24	*.50*	*.65*	*1.21*	*3.60*
2022	*1.30*	*.50*	*.65*	*1.25*	*3.70*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.525	.525	.525	.525	2.10
2018	.55	.55	.55	.55	2.20
2019	.575	.575	.575	.575	2.30
2020	.60	.60	.60	.60	2.40
2021	.62	.62			

BUSINESS: NorthWestern Corporation (doing business as NorthWestern Energy) supplies electricity & gas in the Upper Midwest and Northwest, serving 449,000 electric customers in Montana and South Dakota and 294,000 gas customers in Montana (85% of gross margin), South Dakota (14%), and Nebraska (1%). Electric revenue breakdown: residential, 39%; commercial, 47%; industrial, 4%; other, 10%. Generating sources: hydro, 33%; coal, 22%; wind, 7%; other, 3%; purchased, 35%. Fuel costs: 25% of revenues. '20 reported deprec. rate: 2.8%. Has 1,500 employees. Chairman: Stephen P. Adik. CEO: Robert C. Rowe. President & COO: Brian B. Bird. Inc.: DE. Address: 3010 West 69th Street, Sioux Falls, SD 57108. Tel.: 605-978-2900. Internet: www.northwesternenergy.com.

After a depressed tally in 2020, NorthWestern's earnings should return to a more-typical level this year. Management estimates that coronavirus-related effects reduced earnings by $0.09-$0.14 a share last year. Unfavorable weather patterns lowered the bottom line by $0.14 a share. Finally, a disallowance of power costs amounted to $0.15 a share in the fourth quarter. Earnings were much improved in the March period, and we raised our full-year estimate by $0.10 a share, to the top end of NorthWestern's targeted range of $3.40-$3.60.

We estimate 3% earnings growth in 2022. We figure there will be few, if any, coronavirus-related drag. However, average shares oustanding almost certainly will be higher due to expected equity issuances (see below). NorthWestern's goal for yearly profit growth is 3%-6%.

The utility plans to ask the Montana commission for permission to build a gas-fired generating plant. This would add 175 megawatts of capacity at an expected cost of $250 million. The facility is expected to be on line in late 2023 or early 2024. A decision from the regulators is expected by May of 2022.

NorthWestern is adding generating capacity in South Dakota, too. A 60-mw gas-fired unit is under construction at an expected cost of $80 million. Commercial operation is expected by yearend. The utility is planning to add 30 mw-40 mw in a different part of the state in 2023. The expected cost is about $60 million.

The company is issuing common equity. This will occur from time to time through a $200 million at-the-market program. The specific amount each year is uncertain, but the issuances are expected to occur over the next three years. NorthWestern's finances are sound, and its credit ratings are investment grade. However, the company has a negative outlook from Moody's due to a decline in the ratio of funds from operations to debt, which is a key metric for the rating agencies.

The stock's dividend yield is a cut above the utility mean. Total return potential to 2024-2026 is about average, but the equity lacks appeal for the 18-month span. The recent price is near the low end of our 3- to 5-year Target Price Range.

Paul E. Debbas, CFA *July 23, 2021*

(A) Diluted EPS. Excl. gain (loss) on disc. ops.: '05, (6¢); '06, 1¢; nonrec. gains: '12, 39¢ net; '15, 27¢; '18, 52¢; '19, 45¢. '18, '20 EPS don't sum due to rounding. Next earnings report due late Oct. **(B)** Div'ds historically paid in late Mar., June, Sept. & Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. def'd charges. In '20: $20.93/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq. in MT in '19 (elec.): 9.65%; in '17 (gas): 9.55%; in SD in '15: none spec.; in NE in '07: 10.4%; earned on avg. com. eq., '20: 7.5%. Reg. Climate: Below Avg.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	60
Earnings Predictability	85

OGE ENERGY CORP. NYSE-OGE

RECENT PRICE 34.50 | P/E RATIO 15.7 (Trailing: 16.4 Median: 17.0) | RELATIVE P/E RATIO 0.74 | DIV'D YLD 4.8% | VALUE LINE

TIMELINESS 5 Lowered 5/28/21
SAFETY 2 Lowered 12/18/15
TECHNICAL 5 Lowered 5/28/21
BETA 1.05 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$22-$52	$37 (5%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+60%)	*15%*
Low	40	(+15%)	*8%*

Institutional Decisions

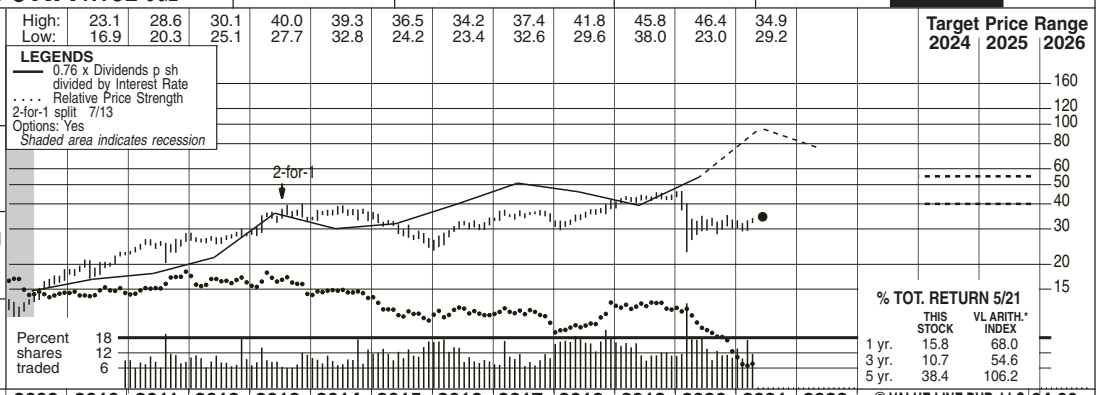
	3Q2020	4Q2020	1Q2021
to Buy	181	188	191
to Sell	195	193	201
Hld's(000)	126932	127332	128569

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	23.1	28.6	30.1	40.0	39.3	36.5	34.2	37.4	41.8	45.8	46.4	34.9						
Low:	16.9	20.3	25.1	27.7	32.8	24.2	23.4	32.6	29.6	38.0	23.0	29.2						

Target Price Range 2024 2025 2026

% TOT. RETURN 5/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	15.8	68.0
3 yr.	10.7	54.6
5 yr.	38.4	106.2



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	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
	32.83	21.96	20.68	21.77	14.79	19.04	19.96	18.58	14.45	12.30	11.00	11.31	11.32	11.37	11.15	10.61	*18.00*	*13.75*	Revenues per sh	*16.75*
	1.94	2.23	2.39	2.40	2.69	3.01	3.31	3.69	3.46	3.40	3.23	3.31	3.34	3.74	4.02	4.03	*4.25*	*4.55*	"Cash Flow" per sh	*5.50*
	.92	1.23	1.32	1.25	1.33	1.50	1.73	1.79	1.94	1.98	1.69	1.69	1.92	2.12	2.24	2.08	*2.20*	*2.40*	Earnings per sh A	*2.75*
	.67	.67	.68	.70	.71	.73	.76	.80	.85	.95	1.05	1.16	1.27	1.40	1.51	1.58	*1.64*	*1.69*	Div'd Decl'd per sh B ■	*1.95*
	1.65	2.67	3.04	4.01	4.37	4.36	6.48	5.85	4.99	2.86	2.74	3.31	4.13	2.87	3.18	3.25	*3.85*	*3.90*	Cap'l Spending per sh	*4.25*
	7.59	8.79	9.16	10.14	10.52	11.73	13.06	14.00	15.30	16.27	16.66	17.24	19.28	20.06	20.69	18.15	*18.65*	*19.30*	Book Value per sh C	*22.25*
	181.20	182.40	183.60	187.00	194.00	195.20	196.20	197.60	198.50	199.40	199.70	199.70	199.70	199.70	200.10	200.10	*200.10*	*200.10*	Common Shs Outst'g D	*200.10*
	14.9	13.7	13.8	12.4	10.8	13.3	14.4	15.2	17.7	18.3	17.7	17.7	18.3	16.5	19.0	16.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.0*
	.79	.74	.73	.75	.72	.85	.90	.97	.99	.96	.89	.93	.92	.89	1.01	.84			Relative P/E Ratio	*.95*
	4.9%	4.0%	3.8%	4.5%	5.0%	3.7%	3.1%	2.9%	2.5%	2.6%	3.5%	3.9%	3.6%	4.0%	3.5%	4.7%			Avg Ann'l Div'd Yield	*4.0%*
							3915.9	3671.2	2867.7	2453.1	2196.9	2259.2	2261.1	2270.3	2231.6	2122.3	*3600*	*2750*	Revenues ($mill)	*3350*
							342.9	355.0	387.6	395.8	337.6	338.2	384.3	425.5	449.6	415.9	*440*	*480*	Net Profit ($mill)	*560*
							30.7%	26.0%	24.9%	30.4%	29.2%	30.5%	32.5%	14.5%	7.4%	13.2%	*16.0%*	*14.0%*	Income Tax Rate	*14.0%*
							9.0%	2.7%	2.6%	1.7%	3.7%	6.4%	15.0%	8.3%	1.6%	1.6%	*2.0%*	*1.0%*	AFUDC % to Net Profit	*1.0%*
							51.6%	50.7%	43.1%	45.9%	44.3%	41.1%	41.7%	42.0%	43.6%	49.0%	*54.5%*	*48.5%*	Long-Term Debt Ratio	*47.5%*
							48.4%	49.3%	56.9%	54.1%	55.7%	58.9%	58.3%	58.0%	56.4%	51.0%	*45.5%*	*51.5%*	Common Equity Ratio	*52.5%*
							5300.4	5615.8	5337.2	5999.7	5971.6	5849.6	6600.7	6902.0	7334.7	7126.2	*8225*	*7505*	Total Capital ($mill)	*8275*
							7474.0	8344.8	6672.8	6979.9	7322.4	7696.2	8339.9	8643.8	9044.6	9374.6	*9745*	*10105*	Net Plant ($mill)	*11175*
							7.8%	7.7%	8.6%	7.8%	6.9%	7.0%	7.0%	7.3%	7.1%	6.9%	*6.0%*	*7.5%*	Return on Total Cap'l	*8.0%*
							13.4%	12.8%	12.8%	12.2%	10.2%	9.8%	10.0%	10.6%	10.9%	11.5%	*12.0%*	*12.5%*	Return on Shr. Equity	*13.0%*
							13.4%	12.8%	12.8%	12.2%	10.2%	9.8%	10.0%	10.6%	10.9%	11.5%	*12.0%*	*12.5%*	Return on Com Equity E	*13.0%*
							7.7%	7.2%	7.3%	6.5%	4.0%	3.3%	3.5%	3.8%	3.6%	2.8%	*3.0%*	*3.5%*	Retained to Com Eq	*4.0%*
							43%	44%	43%	47%	61%	67%	64%	64%	67%	76%	*74%*	*70%*	All Div'ds to Net Prof	*70%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $4773.0 mill. **Due in 5 Yrs** $1278.0 mill.
LT Debt $3495.0 mill. **LT Interest** $152.5 mill.
(LT interest earned: 4.1x)

Leases, Uncapitalized Annual rentals $6.3 mill.

Pension Assets-12/20 $570.3 mill.
Oblig $654.6 mill.

Pfd Stock None

Common Stock 200,173,981 shs.

MARKET CAP: $6.9 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+6.8	+1.1	-4.9
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	4.86	4.69	4.40
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	6863	6817	6437
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.9	+1.0	+1.1
Fixed Charge Cov. (%)	292	335	326

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-5.0%	-2.5%	*7.0%*
"Cash Flow"	4.0%	3.0%	*6.0%*
Earnings	4.5%	3.0%	*4.0%*
Dividends	7.5%	9.5%	*4.5%*
Book Value	6.0%	4.0%	*1.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	492.7	567.0	698.8	511.8	2270.3
2019	490.0	513.7	755.4	472.5	2231.6
2020	431.3	503.5	702.1	485.4	2122.3
2021	1630.6	*600*	*800*	*569.4*	*3600*
2022	*600*	*675*	*875*	*600*	*2750*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.27	.55	1.02	.27	2.12
2019	.24	.50	1.25	.26	2.24
2020	.23	.51	1.04	.30	2.08
2021	.26	*.50*	*1.19*	*.25*	*2.20*
2022	*.25*	*.55*	*1.30*	*.30*	*2.40*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.3025	.3025	.3025	.3325	1.24
2018	.3325	.3325	.3325	.365	1.36
2019	.365	.365	.365	.3875	1.48
2020	.3875	.3875	.3875	.4025	1.57
2021	.4025	.4025			

BUSINESS: OGE Energy Corp. is a holding company for Oklahoma Gas and Electric Company (OG&E), which supplies electricity to 872,000 customers in Oklahoma (84% of electric revenues) and western Arkansas (8%); wholesale is (8%). Owns 25.5% of Enable Midstream Partners. Electric revenue breakdown: residential, 41%; commercial, 23%; industrial, 9%; oilfield, 8%; other, 19%. Generating sources: gas, 38%; coal, 15%; wind, 5%; purchased, 42%. Fuel costs: 30% of revenues. '20 reported depreciation rate (utility): 2.6%. Has 2,400 employees. Chairman, President and Chief Executive Officer: Sean Trauschke. Incorporated: Oklahoma. Address: 321 North Harvey, P.O. Box 321, Oklahoma City, Oklahoma 73101-0321. Telephone: 405-553-3000. Internet: www.oge.com.

OGE Energy's utility subsidiary is dealing with the aftereffects of a cold spell in the region in February. This caused Oklahoma Gas and Electric to incur $930 million of excess gas costs. (Because these will be passed through to most customers, the top line soared to an unusually high level in the first quarter.) OG&E had to absorb these costs for customers on a guaranteed flat-bill program. This hurt the bottom line by $0.06 a share. The company was concerned that costs associated with $1 billion of financing would amount to an additional $0.03-$0.04 a share, but OG&E got permission from the regulators in Oklahoma and Arkansas to defer these for future recovery. The utility plans to recover the costs in each state through the issuance of securitized bonds.

Despite the aforementioned drag on the bottom line, first-quarter earnings easily topped our $0.15-a-share estimate. The equity income from OGE's stake in Enable Midstream Partners was far greater than we had expected. Thus, we raised our 2021 estimate by $0.10 a share, to $2.20.

Enable has agreed to be acquired by another natural gas master limited partnership in a deal that should close in 2021. OGE will wind up with a 3% stake in the acquiring company, and plans to sell this. The poor performance of Enable units last year hurt OGE's stock price, so management wants the company to be a pure-play utility. Our estimates and projections include Enable for now.

We look for a strong earnings increase in 2022. OG&E plans to file a general rate case in Oklahoma this year, so the utility should benefit from rate relief for part of 2022. OG&E will get rider (surcharge) recovery of grid enhancement spending in Oklahoma until the general rate increase takes effect. In addition, the utility obtains additional revenues in Arkansas every year through the state's formula rate plan. Through this plan, an increase of $6.7 million took effect on April 1st.

The stock is untimely, but attractive for income-oriented investors. The dividend yield is more than one percentage point above the utility average. Total return potential is appealing for the 18-month span and the 3- to 5-year period.

Paul E. Debbas, CFA *June 11, 2021*

(A) Diluted EPS. Excl. nonrecurring gain (losses): '15, (33¢); '17, $1.18; '19, (8¢); '20, ($2.95); gains on discont. ops.: '05, 25¢; '06, 20¢. '18 & '19 EPS don't sum due to rounding. Next earnings report due early Aug. **(B)** Div'ds historically paid in late Jan., Apr., July, & Oct. ■ Div'd reinvestment plan avail. **(C)** Incl. deferred charges. In '20: $2.08/sh. **(D)** In mill., adj. for split. **(E)** Rate base: Net original cost. Rate allowed on com. eq. in OK in '19: 9.5%; in AR in '18: 9.5%; earned on avg. com. eq., '20: 9.9%. Regulatory Climate: Average.

Company's Financial Strength	A
Stock's Price Stability	80
Price Growth Persistence	25
Earnings Predictability	90

OTTER TAIL CORP. NDQ-OTTR

RECENT PRICE 47.97 | P/E RATIO 18.5 (Trailing: 19.4 Median: 21.0) | RELATIVE P/E RATIO 0.87 | DIV'D YLD 3.3% | VALUE LINE

TIMELINESS 3 Raised 5/14/21
SAFETY 2 Raised 6/17/16
TECHNICAL 3 Raised 5/21/21
BETA .90 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$35-$70	$53 (10%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+35%)	*11%*
Low	50	(+5%)	*5%*

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	71	89	75
to Sell	74	63	75
Hld's(000)	19002	19252	19116

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	25.4	23.5	25.3	31.9	32.7	33.4	42.6	48.7	51.9	57.7	56.9	49.4						
Low:	18.2	17.5	20.7	25.2	26.5	24.8	25.8	35.7	39.0	45.9	31.0	39.4						

Target Price Range 2024 2025 2026

% TOT. RETURN 5/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	15.8	68.0
3 yr.	13.3	54.6
5 yr.	88.8	106.2

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
35.59	37.43	41.50	37.06	29.03	31.08	29.86	23.76	24.63	21.48	20.60	20.42	21.47	23.10	22.90	21.46	*23.30*	*24.45*	Revenues per sh	*28.50*
3.35	3.39	3.55	2.81	2.76	2.60	2.36	2.71	3.02	3.09	3.14	3.44	3.70	3.96	4.11	4.29	*4.65*	*4.95*	"Cash Flow" per sh	*6.00*
1.78	1.69	1.78	1.09	.71	.38	.45	1.05	1.37	1.55	1.56	1.60	1.86	2.06	2.17	2.34	*2.60*	*2.75*	Earnings per sh A	*3.25*
1.12	1.15	1.17	1.19	1.19	1.19	1.19	1.19	1.19	1.21	1.23	1.25	1.28	1.34	1.40	1.48	*1.56*	*1.64*	Div'd Decl'd per sh B ■	*1.95*
2.04	2.35	5.43	7.51	4.95	2.38	2.04	3.20	4.53	4.40	4.23	4.10	3.36	2.66	5.16	8.96	*3.20*	*5.55*	Cap'l Spending per sh	*2.75*
15.80	16.67	17.55	19.14	18.78	17.57	15.83	14.43	14.75	15.39	15.98	17.03	17.62	18.38	19.46	21.00	*22.00*	*23.05*	Book Value per sh C	*26.50*
29.40	29.52	29.85	35.38	35.81	36.00	36.10	36.17	36.27	37.22	37.86	39.35	39.56	39.66	40.16	41.47	*41.60*	*41.70*	Common Shs Outst'g D	*42.00*
15.4	17.3	19.0	30.1	31.2	NMF	NMF	21.7	21.1	18.8	18.2	20.2	22.1	22.2	23.5	18.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.5*
.82	.93	1.01	1.81	2.08	NMF	NMF	1.38	1.19	.99	.92	1.06	1.11	1.20	1.25	.95			Relative P/E Ratio	*.95*
4.1%	3.9%	3.5%	3.6%	5.4%	5.7%	5.6%	5.2%	4.1%	4.1%	4.3%	3.9%	3.1%	2.9%	2.7%	3.5%			Avg Ann'l Div'd Yield	*3.5%*
1077.9	859.2	893.3	799.3	779.8	803.5	849.4	916.4	919.5	890.1	*970*	*1020*	Revenues ($mill)	*1200*
16.4	39.0	50.2	56.9	58.6	62.0	73.9	82.3	86.8	95.9	*110*	*115*	Net Profit ($mill)	*140*
14.5%	5.2%	21.3%	22.5%	27.0%	24.5%	25.5%	15.0%	16.7%	17.4%	*15.0%*	*15.0%*	Income Tax Rate	*15.0%*
3.8%	1.7%	5.6%	3.9%	3.5%	2.2%	2.3%	4.1%	4.9%	6.4%	*4.0%*	*4.0%*	AFUDC % to Net Profit	*2.0%*
44.6%	44.0%	42.1%	46.5%	42.4%	43.0%	41.3%	44.7%	46.9%	41.8%	*44.5%*	*46.0%*	Long-Term Debt Ratio	*40.0%*
54.0%	54.4%	57.9%	53.5%	57.6%	57.0%	58.7%	55.3%	53.1%	58.2%	*55.5%*	*54.0%*	Common Equity Ratio	*60.0%*
1058.9	959.2	924.4	1071.3	1051.0	1175.4	1187.3	1318.9	1471.1	1495.4	*1650*	*1785*	Total Capital ($mill)	*1850*
1077.5	1049.5	1167.0	1268.5	1387.8	1477.2	1539.6	1581.1	1753.8	2049.3	*2095*	*2235*	Net Plant ($mill)	*2325*
3.2%	5.7%	6.8%	6.7%	6.8%	6.5%	7.3%	7.3%	7.0%	7.4%	*7.5%*	*7.5%*	Return on Total Cap'l	*8.5%*
2.8%	7.3%	9.4%	9.9%	9.7%	9.3%	10.6%	11.3%	11.1%	11.0%	*12.0%*	*12.0%*	Return on Shr. Equity E	*12.5%*
2.7%	7.3%	9.3%	9.9%	9.7%	9.3%	10.6%	11.3%	11.1%	11.0%	*12.0%*	*12.0%*	Return on Com Equity	*12.5%*
NMF	NMF	1.2%	2.2%	2.0%	2.1%	3.3%	4.0%	4.0%	4.1%	*4.5%*	*5.0%*	Retained to Com Eq	*5.0%*
NMF	113%	87%	78%	79%	78%	69%	65%	64%	63%	*60%*	*59%*	All Div'ds to Net Prof	*59%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $899.3 mill. **Due in 5 Yrs** $305.0 mill.
LT Debt $624.5 mill. **LT Interest** $35.1 mill.
(LT interest earned: 4.7x)

Leases, Uncapitalized Annual rentals $5.4 mill.
Pension Assets-12/20 $360.7 mill.
Oblig $428.4 mill.

Pfd Stock None

Common Stock 41,538,084 shs.
as of 4/30/21

MARKET CAP: $2.0 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+3.4	-.2	-3.9
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	5.97	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	912	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.2	+.1	NA
Fixed Charge Cov. (%)	409	407	405

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-3.5%	- -	*4.0%*
"Cash Flow"	4.0%	6.0%	*6.5%*
Earnings	11.5%	8.0%	*7.0%*
Dividends	1.5%	3.0%	*5.5%*
Book Value	.5%	5.0%	*5.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	241.2	226.3	227.7	221.2	916.4
2019	246.0	229.2	228.6	215.7	919.5
2020	234.7	192.8	235.8	226.8	890.1
2021	261.7	*233.3*	*245*	*230*	*970*
2022	*265*	*245*	*260*	*250*	*1020*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.66	.47	.58	.35	2.06
2019	.66	.39	.62	.51	2.17
2020	.60	.42	.87	.45	2.34
2021	.73	*.50*	*.87*	*.50*	*2.60*
2022	*.75*	*.55*	*.90*	*.55*	*2.75*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.32	.32	.32	.32	1.28
2018	.335	.335	.335	.335	1.34
2019	.35	.35	.35	.35	1.40
2020	.37	.37	.37	.37	1.48
2021	.39	.39			

BUSINESS: Otter Tail Corporation is the parent of Otter Tail Power Company, which supplies electricity to 133,000 customers in Minnesota (53% of retail electric revenues), North Dakota (38%), and South Dakota (9%). Electric rev. breakdown: residential, 32%; commercial & farms, 36%; industrial, 30%; other, 2%. Generating sources: coal, 38%; wind & other, 18%; purchased, 44%. Fuel costs: 12% of revenues. Also has operations in manufacturing and plastics (30% of '20 operating income). '20 deprec. rate: 2.7%. Has 2,100 employees. Chairman: Nathan I. Partain. President & CEO: Charles S. MacFarlane. Inc.: Minnesota. Address: 215 South Cascade St., P.O. Box 496, Fergus Falls, Minnesota 56538-0496. Tel.: 866-410-8780. Internet: www.ottertail.com.

Otter Tail Corporation raised its 2021 earnings guidance upon reporting first-quarter results. The Plastics division fared much better than expected after the cold snap in the Gulf Coast disrupted the supply of PVC resin. This led to higher prices for PVC pipe, and thus higher margins for Otter Tail's subsidiary. Management expects high prices to persist over the remainder of the year, and thus raised its share-profit expectation for this segment from $0.52-$0.56 to $0.73-$0.77 (versus $0.67 in 2020). Otter Tail raised its share-net target for the entire company from $2.39-$2.54 to $2.47-$2.62, despite its expectation that utility income will be less than it expected due in part to first-quarter weather patterns. We lifted our estimate by $0.15, to $2.60. Because we now figure that income at the Plastics operation in 2022 will be better than we expected three months ago, we also boosted our share-net estimate for next year by $0.15, to $2.75.

Otter Tail Power revised its rate case in Minnesota. Initially, the utility filed for an increase of $14.5 million (6.8%). Due to the expectation of lower depreciation rates and lower pension expense, the company reduced its requested increase to $8.2 million (3.8%). The requested return on equity and common-equity ratio remain 10.2% and 52.5%, respectively. An interim hike of $6.9 million (3.2%) took effect at the start of 2021. An order is expected in late 2021 or early 2022.

Despite the company's improved prospects, there are some causes for concern. Conditions in the Plastics division can change quickly, and the possibility exists that resin availability eventually affects the company. The Manufacturing segment is facing rising steel prices and a labor shortage. Finally, a possible elimination of a half percentage point ROE "adder" by the Federal Energy Regulatory Commission would have a slight negative effect on Otter Tail's earning power.

The stock has performed well of late. The price is up nearly 16% since our mid-March report and 12% year to date. The dividend yield is about average for a utility. However, total return potential does not stand out for the 18-month or 3- to 5-year periods.

Paul E. Debbas, CFA *June 11, 2021*

(A) Dil. EPS. Excl. nonrec. gains (loss): '10, (44¢); '11, 26¢; '13, 2¢; gains (losses) from disc. ops.: '05, 33¢; '06, 1¢; '11, ($1.11); '12, ($1.22); '13, 2¢; '14, 2¢; '15, 2¢; '16, 1¢; '17, 1¢. '19 EPS don't sum due to rounding. Next earnings report due early Aug. **(B)** Div'ds histor. pd. in early Mar., Jun., Sept., & Dec. ■ Div'd reinv. plan avail. **(C)** Incl. intang. In '20: $5.21/sh. **(D)** In mill. **(E)** Rate all'd on com. eq. in MN in '17: 9.41%; in ND in '18: 9.77%; in SD in '19: 8.75%; earn. avg. com. eq., '20: 11.6%. Reg. Clim.: MN, ND, Avg.; SD, Above Avg.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	65
Earnings Predictability	95

PINNACLE WEST NYSE-PNW

RECENT PRICE **83.78** | P/E RATIO **16.4** (Trailing: 17.0 Median: 17.0) | RELATIVE P/E RATIO **0.83** | DIV'D YLD **4.1%** | **VALUE LINE**

TIMELINESS 3 Lowered 3/5/21
SAFETY 1 Raised 5/3/13
TECHNICAL 3 Raised 7/2/21
BETA .90 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$59-$126 $93 (10%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	125	(+50%)	*14%*
Low	105	(+25%)	*10%*

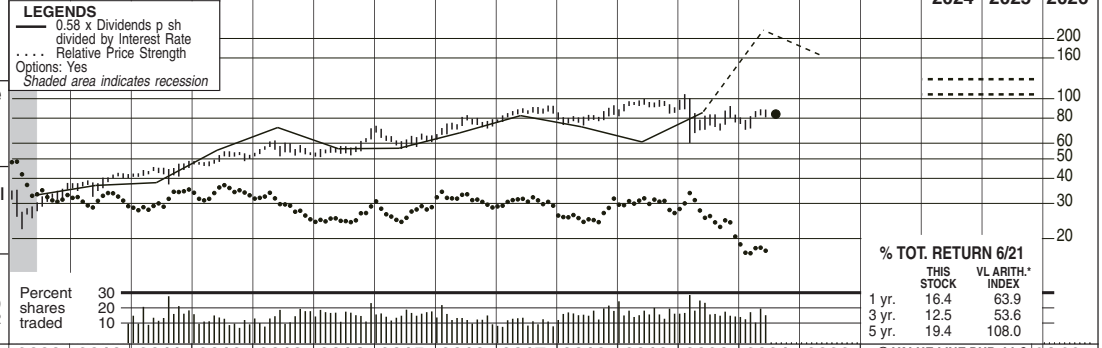
Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	237	238	230
to Sell	229	222	242
Hld's(000)	93145	93836	94642

	42.7	48.9	54.7	61.9	71.1	73.3	82.8	92.5	92.6	99.8	105.5	88.5
High:	32.3	37.3	45.9	51.5	51.2	56.0	62.5	75.8	73.4	81.6	60.1	69.9

LEGENDS
0.58 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2024 2025 2026



% TOT. RETURN 6/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	16.4	63.9
3 yr.	12.5	53.6
5 yr.	19.4	108.0

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
30.16	34.03	35.07	33.37	32.50	30.01	29.67	30.09	31.35	31.58	31.50	31.42	31.90	32.93	30.87	31.81	*31.85*	*31.80*	Revenues per sh	*35.00*
5.76	9.70	9.29	8.13	8.08	6.85	7.52	7.92	8.15	8.09	9.09	9.39	9.79	11.41	11.13	10.86	*11.50*	*11.90*	"Cash Flow" per sh	*14.50*
2.24	3.17	2.96	2.12	2.26	3.08	2.99	3.50	3.66	3.58	3.92	3.95	4.43	4.54	4.77	4.87	*5.10*	*5.45*	Earnings per sh A	*6.50*
1.93	2.03	2.10	2.10	2.10	2.10	2.10	2.67	2.23	2.33	2.44	2.56	2.70	2.87	3.04	3.23	*3.42*	*3.63*	Div'd Decl'd per sh B ■	*4.25*
6.39	7.59	9.37	9.46	7.64	7.03	8.26	8.24	9.36	8.38	9.84	11.64	12.80	10.73	10.76	11.93	*13.90*	*13.30*	Cap'l Spending per sh	*12.00*
34.57	34.48	35.15	34.16	32.69	33.86	34.98	36.20	38.07	39.50	41.30	43.15	44.80	46.59	48.30	49.96	*51.55*	*54.35*	Book Value per sh C	*61.50*
99.08	99.96	100.49	100.89	101.43	108.77	109.25	109.74	110.18	110.57	110.98	111.34	111.75	112.10	112.44	112.76	*113.00*	*118.00*	Common Shs Outst'g D	*120.00*
19.2	13.7	14.9	16.1	13.7	12.6	14.6	14.3	15.3	15.9	16.0	18.7	19.3	17.8	19.4	16.7	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.5*
1.02	.74	.79	.97	.91	.80	.92	.91	.86	.84	.81	.98	.97	.96	1.03	.86			Relative P/E Ratio	*.95*
4.5%	4.7%	4.8%	6.2%	6.8%	5.4%	4.8%	5.3%	4.0%	4.1%	3.9%	3.5%	3.2%	3.5%	3.3%	4.0%			Avg Ann'l Div'd Yield	*3.7%*
3241.4	3301.8	3454.6	3491.6	3495.4	3498.7	3565.3	3691.2	3471.2	3587.0	*3600*	*3750*	Revenues ($mill)	*4250*
328.2	387.4	406.1	397.6	437.3	442.0	497.8	511.0	538.3	550.6	*580*	*630*	Net Profit ($mill)	*775*
34.0%	36.2%	34.4%	34.2%	34.3%	33.9%	32.5%	20.2%	20.2%	12.1%	*12.0%*	*12.0%*	Income Tax Rate	*12.0%*
12.8%	9.7%	10.0%	11.6%	11.8%	14.1%	13.9%	15.2%	9.3%	9.5%	*12.0%*	*11.0%*	AFUDC % to Net Profit	*6.0%*
44.1%	44.6%	40.0%	41.0%	43.0%	45.6%	48.9%	47.0%	47.1%	52.8%	*55.0%*	*54.5%*	Long-Term Debt Ratio	*56.0%*
55.9%	55.4%	60.0%	59.0%	57.0%	54.4%	51.1%	53.0%	52.9%	47.2%	*45.0%*	*45.5%*	Common Equity Ratio	*44.0%*
6840.9	7171.9	6990.9	7398.7	8046.3	8825.4	9796.4	9861.1	10263	11948	*12975*	*14075*	Total Capital ($mill)	*16750*
9962.3	10396	10889	11194	11809	12714	13445	14030	14523	15159	*16000*	*16800*	Net Plant ($mill)	*18500*
6.4%	6.8%	7.1%	6.4%	6.4%	6.0%	6.1%	6.2%	6.3%	5.5%	*5.5%*	*5.5%*	Return on Total Cap'l	*5.5%*
8.6%	9.8%	9.7%	9.1%	9.5%	9.2%	9.9%	9.8%	9.9%	9.8%	*10.0%*	*10.0%*	Return on Shr. Equity	*10.5%*
8.6%	9.8%	9.7%	9.1%	9.5%	9.2%	9.9%	9.8%	9.9%	9.8%	*10.0%*	*10.0%*	Return on Com Equity E	*10.5%*
2.8%	4.1%	4.1%	3.5%	3.9%	3.5%	4.2%	3.9%	3.8%	3.5%	*3.5%*	*3.5%*	Retained to Com Eq	*3.5%*
68%	58%	58%	62%	59%	62%	58%	60%	61%	64%	*67%*	*66%*	All Div'ds to Net Prof	*65%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $6679.8 mill. **Due in 5 Yrs** $1618.8 mill.
LT Debt $6465.0 mill. **LT Interest** $232.7 mill.
Incl. $13.4 mill. Palo Verde sale leaseback lessor notes.
(LT interest earned: 3.9x)
Leases, Uncapitalized Annual rentals $14.5 mill.
Pension Assets-12/20 $3886.5 mill.
Oblig $3902.9 mill.
Pfd Stock None

Common Stock 112,750,962 shs.
as of 4/28/21
MARKET CAP: $9.5 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	-.3	-.4	+5.4
Avg. Indust. Use (MWH)	662	714	583
Avg. Indust. Revs. per KWH (¢)	8.40	7.88	7.49
Capacity at Peak (Mw)	8643	8241	9094
Peak Load, Summer (Mw)	7320	7115	7660
Annual Load Factor (%)	47.0	47.1	45.5
% Change Customers (yr-end)	+2.0	+2.0	+2.1
Fixed Charge Cov. (%)	318	286	318

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	- -	- -	*1.5%*
"Cash Flow"	4.0%	5.5%	*4.0%*
Earnings	6.5%	5.0%	*5.0%*
Dividends	4.0%	5.5%	*5.5%*
Book Value	3.5%	4.0%	*4.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	692.7	974.1	1268.0	756.4	3691.2
2019	740.5	869.5	1190.8	670.4	3471.2
2020	661.9	929.6	1254.5	741.0	3587.0
2021	696.5	*903.5*	*1250*	*750*	*3600*
2022	*725*	*950*	*1300*	*775*	*3750*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.03	1.48	2.80	.23	4.54
2019	.16	1.28	2.77	.57	4.77
2020	.27	1.71	3.07	d.17	4.87
2021	.32	*1.50*	*2.93*	*.35*	*5.10*
2022	*.30*	*1.65*	*3.15*	*.35*	*5.45*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.655	.655	.655	.695	2.66
2018	.695	.695	.695	.737	2.82
2019	.7375	.7375	.7375	.7825	3.00
2020	.7825	.7825	.7825	.83	3.18
2021	.83	.83			

BUSINESS: Pinnacle West Capital Corporation is a holding company for Arizona Public Service Company (APS), which supplies electricity to 1.3 million customers in most of Arizona, except about half of the Phoenix metro area, the Tucson metro area, and Mohave County in northwestern Arizona. Discontinued SunCor real estate subsidiary in '10. Electric revenue breakdown: residential, 51%; commercial, 38%; industrial, 5%; other, 6%. Generating sources: gas & other, 33%; nuclear, 27%; coal, 19%; purchased, 21%. Fuel costs: 28% of revenues. '20 reported deprec. rate: 2.8%. Has 6,000 employees. Chairman, President & CEO: Jeffrey B. Guldner. Inc.: AZ. Address: 400 North Fifth St., P.O. Box 53999, Phoenix, AZ 85072-3999. Tel.: 602-250-1000. Internet: www.pinnaclewest.com.

A decision on the rate case of Pinnacle West's utility subsidiary is possible this quarter. The proceedings have been delayed since Arizona Public Service filed its application in October of 2019. The utility is requesting an increase of $169 million (5.1%), based on a 10% return on equity (the same as is currently allowed) and a 54.7% common-equity ratio (versus 55.8% currently). The staff of the Arizona Corporation Commission (ACC) is recommending a hike of $59.8 million (1.8%), based on a 9.4% ROE and a 54.7% common-equity ratio. The state's Residential Utility Consumer Office is proposing a *decrease* of $50.1 million (1.5%), based on an 8.72% ROE and a 54.7% common-equity ratio. An administrative law judge will make a recommendation, then the ACC will issue its order.

Much will depend on the outcome of this rate case. Pinnacle West hasn't provided earnings guidance because the case hasn't been concluded. The company's financing plans (both debt and equity) and the timing of APS next rate application will also depend on what the ACC does.

We have raised our 2021 and 2022 earnings estimates by $0.05 a share each year. First-quarter profits were better than we expected. The fourth-quarter comparison will be easy because a year ago the company booked a charge for the refund of previously collected revenues. We note that our 2021 estimate might well prove optimistic if new tariffs don't take effect until the seasonally strong third quarter is over. The utility is benefiting from solid economic growth in its service territory. Some customers are adding facilities that will begin operating as early as in 2022. Arizona has also become attractive for data centers.

Finances are in good shape. The fixed-charge coverage and common-equity ratio are superior to those of most utilities. Pinnacle West has a Financial Strength rating of A+, our second highest.

This top-quality equity has an attractive dividend yield. This is nearly one percentage point above the utility average. Total return potential to 2024-2026 is of note, especially for conservative investors. This issue doesn't stand out for the next 18 months, however.

Paul E. Debbas, CFA *July 23, 2021*

(A) Diluted EPS. Excl. nonrec. gain (loss): '09, ($1.45); '17, 8¢; gains (losses) from discont. ops.: '05, (36¢); '06, 10¢; '08, 28¢; '09, (13¢); '10, 18¢; '11, 10¢; '12, (5¢). '19, '20 EPS don't sum due to rounding. Next earnings report due early Aug. **(B)** Div'ds historically paid in early Mar., June, Sept., & Dec. There were 5 declarations in '12. ■ Div'd reinvestment plan avail. **(C)** Incl. deferred charges. In '20: $19.31/sh. **(D)** In mill. **(E)** Rate base: Fair value. Rate allowed on com. eq. in '17: 10.0%; earned on avg. com. eq., '20: 10.0%. Regul. Climate: Avg.

Company's Financial Strength	A+
Stock's Price Stability	90
Price Growth Persistence	60
Earnings Predictability	100

PORTLAND GENERAL NYSE-POR

RECENT PRICE 46.30 | P/E RATIO 17.5 (Trailing: 24.6 Median: 18.0) | RELATIVE P/E RATIO 0.88 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 3 Raised 6/18/21
SAFETY 3 Lowered 9/4/20
TECHNICAL 3 Lowered 6/25/21
BETA .90 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$24-$63	$44 (-5%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+50%)	*14%*
Low	45	(-5%)	*4%*

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	147	165	165
to Sell	180	140	149
Hld's(000)	81534	82680	82978

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	22.7	26.0	28.1	33.3	40.3	41.0	45.2	50.1	50.4	58.4	63.1	51.6						
Low:	17.5	21.3	24.3	27.4	29.0	33.0	35.3	42.4	39.0	44.0	32.0	40.8						

LEGENDS
0.63 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2024 2025 2026
128 96 80 64 48 40 32 24 16 12

Percent shares traded 21 14 7

% TOT. RETURN 6/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	14.6	63.9
3 yr.	19.2	53.6
5 yr.	22.8	108.0

© VALUE LINE PUB. LLC 24-26

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
	23.14	24.32	27.87	27.89	23.99	23.67	24.06	23.89	23.18	24.29	21.38	21.62	22.54	22.30	23.75	23.96	*24.80*	*25.90*	Revenues per sh
	4.75	4.64	5.21	4.71	4.07	4.82	4.96	5.15	4.93	6.08	5.37	5.78	6.16	6.65	6.97	6.80	*7.35*	*7.70*	"Cash Flow" per sh
	1.02	1.14	2.33	1.39	1.31	1.66	1.95	1.87	1.77	2.18	2.04	2.16	2.29	2.37	2.39	1.72	*2.65*	*2.80*	Earnings per sh A
	- -	.68	.93	.97	1.01	1.04	1.06	1.08	1.10	1.12	1.18	1.26	1.34	1.43	1.52	1.59	*1.70*	*1.80*	Div'd Decl'd per sh B ■ †
	4.08	5.94	7.28	6.12	9.25	5.97	3.98	4.01	8.40	12.87	6.73	6.57	5.77	6.67	6.78	8.76	*8.05*	*6.30*	Cap'l Spending per sh
	19.15	19.58	21.05	21.64	20.50	21.14	22.07	22.87	23.30	24.43	25.43	26.35	27.11	28.07	28.99	29.18	*30.10*	*31.05*	Book Value per sh C
	62.50	62.50	62.53	62.58	75.21	75.32	75.36	75.56	78.09	78.23	88.79	88.95	89.11	89.27	89.39	89.54	*89.65*	*89.80*	Common Shs Outst'g D
	- -	23.4	11.9	16.3	14.4	12.0	12.4	14.0	16.9	15.3	17.7	19.1	20.0	18.4	22.3	26.6	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio
	- -	1.26	.63	.98	.95	.76	.78	.89	.95	.81	.89	1.00	1.01	.99	1.19	1.36			Relative P/E Ratio
	- -	2.5%	3.3%	4.3%	5.4%	5.2%	4.4%	4.1%	3.7%	3.3%	3.3%	3.1%	2.9%	3.3%	2.8%	3.5%			Avg Ann'l Div'd Yield
							1813.0	1805.0	1810.0	1900.0	1898.0	1923.0	2009.0	1991.0	2123.0	2145.0	*2225*	*2325*	Revenues ($mill)
							147.0	141.0	137.0	175.0	172.0	193.0	204.0	212.0	214.0	155.0	*240*	*255*	Net Profit ($mill)
							28.3%	31.4%	23.2%	26.0%	20.7%	20.6%	25.3%	7.4%	11.2%	- -	*12.5%*	*12.5%*	Income Tax Rate
							5.4%	7.1%	14.6%	33.7%	19.8%	16.6%	8.8%	8.0%	7.0%	15.5%	*8.0%*	*6.0%*	AFUDC % to Net Profit
							49.6%	47.1%	51.3%	52.7%	47.8%	48.4%	50.1%	46.5%	51.3%	53.6%	*55.5%*	*55.5%*	Long-Term Debt Ratio
							50.4%	52.9%	48.7%	47.3%	52.2%	51.6%	49.9%	53.5%	48.7%	46.4%	*44.5%*	*44.5%*	Common Equity Ratio
							3298.0	3264.0	3735.0	4037.0	4329.0	4544.0	4842.0	4684.0	5323.0	5628.0	*6065*	*6255*	Total Capital ($mill)
							4285.0	4392.0	4880.0	5679.0	6012.0	6434.0	6741.0	6887.0	7161.0	7539.0	*7840*	*7965*	Net Plant ($mill)
							6.2%	5.9%	5.1%	5.8%	5.4%	5.6%	5.5%	5.8%	5.1%	4.0%	*5.0%*	*5.0%*	Return on Total Cap'l
							8.8%	8.2%	7.5%	9.2%	7.6%	8.2%	8.4%	8.5%	8.3%	5.9%	*9.0%*	*9.0%*	Return on Shr. Equity
							8.8%	8.2%	7.5%	9.2%	7.6%	8.2%	8.4%	8.5%	8.3%	5.9%	*9.0%*	*9.0%*	Return on Com Equity E
							4.1%	3.5%	2.9%	4.6%	3.3%	3.5%	3.6%	3.5%	3.1%	.6%	*3.0%*	*3.5%*	Retained to Com Eq
							54%	57%	61%	50%	56%	57%	58%	59%	63%	90%	*64%*	*64%*	All Div'ds to Net Prof

CAPITAL STRUCTURE as of 3/31/21
Total Debt $3250 mill. **Due in 5 Yrs** $373 mill.
LT Debt $3014 mill. **LT Interest** $124 mill.
Incl. $128 mill. finance leases.
(LT interest earned: 2.0x)
Leases, Uncapitalized Annual rentals $8 mill.
Pension Assets-12/20 $753 mill.
Oblig $1010 mill.
Pfd Stock None

Common Stock 89,605,758 shs.
as of 4/26/21

MARKET CAP: $4.1 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	-2.5	+1.2	+.4
Avg. Indust. Use (MWH)	16207	17827	18472
Avg. Indust. Revs. per KWH (¢)	4.79	4.75	4.99
Capacity at Peak (Mw)	4859	NA	NA
Peak Load, Summer (Mw)	3816	3765	3771
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.1	+1.1	+1.5
Fixed Charge Cov. (%)	266	265	187

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-1.0%	.5%	*3.0%*
"Cash Flow"	4.0%	4.5%	*5.0%*
Earnings	4.0%	1.5%	*8.5%*
Dividends	4.0%	6.0%	*5.5%*
Book Value	3.0%	3.5%	*3.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	493	449	525	524	1991
2019	573	460	542	548	2123
2020	573	469	547	556	2145
2021	609	*475*	*566*	*575*	*2225*
2022	*625*	*495*	*600*	*605*	*2325*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.72	.51	.59	.55	2.37
2019	.82	.28	.61	.68	2.39
2020	.91	.43	d.19	.57	1.72
2021	1.07	*.45*	*.60*	*.53*	*2.65*
2022	*.95*	*.48*	*.65*	*.72*	*2.80*

QUARTERLY DIVIDENDS PAID B ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.32	.32	.34	.34	1.32
2018	.34	.34	.3625	.3625	1.41
2019	.3625	.3625	.385	.385	1.50
2020	.385	.385	.385	.4075	1.56
2021	.4075	.4075	.43		

BUSINESS: Portland General Electric Company (PGE) provides electricity to 908,000 customers in 51 cities in a 4,000-square-mile area of Oregon, including Portland and Salem. The company is in the process of decommissioning the Trojan nuclear plant, which it closed in 1993. Electric revenue breakdown: residential, 49%; commercial, 29%; industrial, 10%; other, 12%. Generating sources: gas, 33%; coal, 13%; wind, 9%; hydro, 5%; purchased, 40%. Fuel costs: 33% of revenues. '20 reported depreciation rate: 3.5%. Has 2,900 full-time employees. Chairman: Jack E. Davis. President and Chief Executive Officer: Maria M. Pope. Incorporated: Oregon. Address: 121 S.W. Salmon Street, Portland, Oregon 97204. Telephone: 503-464-8000. Internet: www.portlandgeneral.com.

Portland General Electric has filed a general rate case. The utility is seeking an increase of $99 million, based on a return on equity of 9.5% and a common-equity ratio of 50%. PGE is seeking to place its integrated operations center, scheduled for completion in the fourth quarter of 2021 at a cost of $200 million, in the rate base, effective on May 1st.

Earnings will likely return to normal in 2021. The bottom line fell into the red in the third quarter due to a trading loss that amounted to $1.03 a share. We assume no such loss this year. Another positive factor is a rise in kilowatt-hour sales. On the other hand, some tax credits that led to a zero tax rate in 2020 are not expected to recur this year. Also, last year was exceptionally good for wind production, which made power costs lower than normal. Putting it all together, we are sticking with our share-earnings estimate of $2.65, which is within PGE's targeted range of $2.55-$2.70.

We expect modest profit growth in 2022. A partial year of rate relief will help. Also, volume increases are likely as the economy continues to recover.

The utility has deferred some expenses for future recovery. In February, PGE's service area was hit by a severe winter storm. The utility incurred capital and operating costs. As of March 31st, $45 million of expenses were deferred, with more to come. The company will ask the Oregon commission for permission to recover these costs. Separately, PGE has deferred $22 million of wildfire-related expenses and $10 million of coronavirus-related costs (mostly bad-debt expense). When these will be recovered is to be determined.

The board of directors raised the dividend, effective with the July payment. The hike was $0.09 a share (5.5%) annually. PGE's goals are a payout ratio of 60%-70% and an annual growth rate of 5%-7%.

This equity has a dividend yield that is about average for a utility. The stock price has risen more than 40% from its 52-week low in September, when investor concern about the aforementioned trading loss weighed on the quotation. Total return potential to 2024-2026 is about average.

Paul E. Debbas, CFA *July 23, 2021*

(A) Diluted EPS. Excl. nonrecurring losses: '13, 42¢; '17, 19¢. Next earnings report due late July. **(B)** Div'ds paid mid-Jan., Apr., July, and Oct. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. **(C)** Incl. deferred charges. In '20: $569 mill., $6.35/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq. in '19: 9.5%; earned on avg. com. eq., '20: 6.0%. Regulatory Climate: Average. **(F)** '05 per-share data are pro forma, based on shs. outstanding when stock began trading in '06.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	65
Earnings Predictability	90

XCEL ENERGY NDQ-XEL

RECENT PRICE 67.84 | P/E RATIO 23.0 (Trailing: 23.5 Median: 17.0) | RELATIVE P/E RATIO 1.16 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 3 Lowered 3/19/21
SAFETY 1 Raised 5/1/15
TECHNICAL 3 Lowered 7/23/21
BETA .80 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$53-$110	$82 (20%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+10%)	*5%*
Low	60	(-10%)	*Nil*

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	356	411	348
to Sell	362	350	396
Hld's(000)	407854	405434	405318

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
23.86	24.16	23.40	24.69	21.08	21.38	21.90	20.76	21.92	23.11	21.72	21.90	22.46	22.44	21.98	21.45	*23.15*	*23.00*	Revenues per sh	*25.25*
3.28	3.61	3.45	3.50	3.48	3.51	3.79	4.00	4.10	4.28	4.56	5.04	5.47	5.92	6.25	6.61	*7.10*	*7.55*	"Cash Flow" per sh	*9.00*
1.20	1.35	1.35	1.46	1.49	1.56	1.72	1.85	1.91	2.03	2.10	2.21	2.30	2.47	2.64	2.79	*2.95*	*3.10*	Earnings per sh [A]	*3.75*
.85	.88	.91	.94	.97	1.00	1.03	1.07	1.11	1.20	1.28	1.36	1.44	1.52	1.62	1.72	*1.83*	*1.94*	Div'd Decl'd per sh [B] ■	*2.30*
3.25	4.00	4.89	4.66	3.91	4.60	4.53	5.27	6.82	6.33	7.26	6.42	6.54	7.70	8.05	9.99	*8.30*	*8.70*	Cap'l Spending per sh	*8.50*
13.37	14.28	14.70	15.35	15.92	16.76	17.44	18.19	19.21	20.20	20.89	21.73	22.56	23.78	25.24	27.12	*28.45*	*29.85*	Book Value per sh [C]	*34.50*
403.39	407.30	428.78	453.79	457.51	482.33	486.49	487.96	497.97	505.73	507.54	507.22	507.76	514.04	524.54	537.44	*540.00*	*544.00*	Common Shs Outst'g [D]	*553.00*
15.4	14.8	16.7	13.7	12.7	14.1	14.2	14.8	15.0	15.4	16.5	18.5	20.2	18.9	22.3	23.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
.82	.80	.89	.82	.85	.90	.89	.94	.84	.81	.83	.97	1.02	1.02	1.19	1.23			Relative P/E Ratio	*1.00*
4.6%	4.4%	4.0%	4.7%	5.1%	4.5%	4.2%	3.9%	3.9%	3.8%	3.7%	3.3%	3.1%	3.3%	2.7%	2.6%			Avg Ann'l Div'd Yield	*3.4%*
10655	10128	10915	11686	11024	11107	11404	11537	11529	11526	*12500*	*12500*	Revenues ($mill)	*14000*
841.4	905.2	948.2	1021.3	1063.6	1123.4	1171.0	1261.0	1372.0	1473.0	*1590*	*1690*	Net Profit ($mill)	*2080*
35.8%	33.2%	33.8%	33.9%	35.8%	34.1%	30.7%	12.6%	8.5%	- -	*NMF*	*NMF*	Income Tax Rate	*NMF*
9.4%	10.8%	13.4%	12.5%	7.7%	7.8%	9.4%	12.4%	8.3%	10.7%	*7.0%*	*7.0%*	AFUDC % to Net Profit	*6.0%*
51.1%	53.3%	53.3%	53.0%	54.1%	56.3%	55.9%	56.4%	56.8%	57.4%	*58.0%*	*57.5%*	Long-Term Debt Ratio	*58.0%*
48.9%	46.7%	46.7%	47.0%	45.9%	43.7%	44.1%	43.6%	43.2%	42.6%	*42.0%*	*42.5%*	Common Equity Ratio	*42.0%*
17331	19018	20477	21714	23092	25216	25975	28025	30646	34220	*36425*	*38100*	Total Capital ($mill)	*45200*
22353	23809	26122	28757	31206	32842	34329	36944	39483	42950	*45175*	*47525*	Net Plant ($mill)	*53600*
6.5%	6.1%	6.0%	6.0%	5.8%	5.7%	5.8%	5.7%	5.6%	5.4%	*5.5%*	*5.5%*	Return on Total Cap'l	*5.5%*
9.9%	10.2%	9.9%	10.0%	10.0%	10.2%	10.2%	10.3%	10.4%	10.1%	*10.5%*	*10.5%*	Return on Shr. Equity	*11.0%*
9.9%	10.2%	9.9%	10.0%	10.0%	10.2%	10.2%	10.3%	10.4%	10.1%	*10.5%*	*10.5%*	Return on Com Equity [E]	*11.0%*
4.3%	4.7%	4.5%	4.5%	4.3%	4.0%	3.9%	4.3%	4.4%	4.2%	*4.0%*	*4.0%*	Retained to Com Eq	*4.0%*
56%	54%	54%	55%	57%	61%	62%	58%	58%	58%	*62%*	*62%*	All Div'ds to Net Prof	*61%*

CAPITAL STRUCTURE as of 3/31/21
Total Debt $22968 mill. **Due in 5 Yrs** $4904 mill.
LT Debt $21470 mill. **LT Interest** $800 mill.
Incl. $73 mill. finance leases.
(LT interest earned: 2.8x)

Leases, Uncapitalized Annual rentals $273 mill.
Pension Assets-12/20 $3599 mill.
Oblig $3964 mill.

Pfd Stock None

Common Stock 538,206,800 shs.
as of 4/22/21
MARKET CAP: $37 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2018	2019	2020
% Change Retail Sales (KWH)	+3.2	-1.2	-2.3
Large C & I Use (MWH)	23004	NA	NA
Large C & I Revs. per KWH (¢)	5.91	5.96	5.78
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	20293	20146	19665
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.1	+1.0	NA
Fixed Charge Cov. (%)	281	272	252

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	- -	-.5%	*2.5%*
"Cash Flow"	6.0%	7.5%	*6.0%*
Earnings	6.0%	5.5%	*6.0%*
Dividends	5.5%	6.0%	*6.0%*
Book Value	4.5%	5.0%	*5.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	2951	2658	3048	2880	11537
2019	3141	2577	3013	2798	11529
2020	2811	2586	3182	2947	11526
2021	3541	*2700*	*3209*	*3050*	*12500*
2022	*3250*	*2750*	*3300*	*3200*	*12500*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.57	.52	.96	.42	2.47
2019	.61	.46	1.01	.56	2.64
2020	.56	.54	1.14	.54	2.79
2021	.67	*.55*	*1.15*	*.58*	*2.95*
2022	*.70*	*.55*	*1.20*	*.65*	*3.10*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.34	.36	.36	.36	1.42
2018	.36	.38	.38	.38	1.50
2019	.38	.405	.405	.405	1.60
2020	.405	.43	.43	.43	1.70
2021	.43	.4575	.4575		

BUSINESS: Xcel Energy Inc. is the parent of Northern States Power, which supplies electricity to Minnesota, Wisconsin, North Dakota, South Dakota & Michigan & gas to Minnesota, Wisconsin, North Dakota & Michigan; P.S. of Colorado, which supplies electricity & gas to Colorado; & Southwestern Public Service, which supplies electricity to Texas & New Mexico. Customers: 3.7 mill. elec., 2.1 mill. gas. Elec. rev. breakdown: res'l, 31%; sm. comm'l & ind'l, 36%; lg. comm'l & ind'l, 18%; other, 15%. Generating sources not avail. Fuel costs: 36% of revs. '20 reported depr. rate: 3.4%. Has 11,400 empls. Chairman & CEO: Ben Fowke. President & COO: Bob Frenzel. Inc.: MN. Address: 414 Nicollet Mall, Minneapolis, MN 55401. Tel.: 612-330-5500. Internet: www.xcelenergy.com.

As usual, Xcel Energy has a lot of regulatory matters pending. The company is awaiting orders on electric rate cases in Wisconsin, North Dakota, Texas, and New Mexico. In Wisconsin, Northern States Power reached a settlement calling for raises in electric rates of $35 million in 2022 and $18 million in 2023, respectively, and gas hikes of $10 million in 2022 and $3 million in 2023. The allowed return on equity would be 9.8% in 2022 and 10% in 2023. In North Dakota, NSP reached a settlement calling for an increase of $7 million, based on a 9.5% ROE. Orders are expected in the fourth quarter of 2021. Southwestern Public Service is asking the commissions in Texas and New Mexico for hikes of $143 million and $88 million, respectively, based on a 10.35% ROE. Orders are expected in the fourth quarter and first quarter in New Mexico and Texas, respectively. Public Service of Colorado filed for a $470 million base rate increase (including $127 million that is already being recovered through riders on customers' bills), based on a 10% ROE. The company is asking the regulators in Minnesota and Colorado to approve integrated resource plans. Xcel is asking regulators to approve the recovery of $936 million of higher gas costs stemming from a winter storm in February. The commissions in Wisconsin and New Mexico have already given their approval, and Xcel is waiting to hear from three other states. Finally, the company might file an electric rate case in Minnesota later this year.

We expect a continuation of steady profit growth in 2021 and 2022. Rate relief and effective expense control are key factors. The company got off to a good start in the March quarter. Our estimate remains at the midpoint of the company's targeted range of $2.90-$3.00 a share. We estimate a 5% increase, to $3.10 a share, in 2022. This can be considered conservative, as Xcel's goal for annual earnings growth is 5%-7%.

Top-quality Xcel stock has a high valuation. The dividend yield is below average for a utility. Total return potential is appealing for the next 18 months, but not for the 3- to 5-year period. The recent quotation is well within our 2024-2026 Target Price Range.

Paul E. Debbas, CFA *July 23, 2021*

(A) Diluted EPS. Excl. nonrecurring gain (losses): '10, 5¢; '15, (16¢); '17, (5¢); gains (loss) on discontinued ops.: '05, 3¢; '06, 1¢; '09, (1¢); '10, 1¢. '20 EPS don't sum due to rounding. Next earnings report due late July.
(B) Div'ds historically paid mid-Jan., Apr., July, and Oct. ■ Div'd reinvestment plan available.
(C) Incl. intangibles. In '20: $2373 mill., $4.42/sh.
(D) In mill. **(E)** Rate base: Varies. Rate allowed on com. eq. (blended): 9.6%; earned on avg. com. eq., '20: 10.6%. Regulatory Climate: Average.

Company's Financial Strength	A+
Stock's Price Stability	95
Price Growth Persistence	65
Earnings Predictability	100

Duke Energy Ohio, Inc.
Summary of Risk Premium Models for the
Proxy Group of Fourteen Electric Companies

	Proxy Group of Fourteen Electric Companies
Predictive Risk Premium Model (PRPM) (1)	10.88 %
Risk Premium Using an Adjusted Total Market Approach (2)	10.68 %
Average	10.78 %

Notes:
(1) From page 2 of this Attachment.
(2) From page 3 of this Attachment.

Duke Energy Ohio, Inc.
Indicated ROE
Derived by the Predictive Risk Premium Model (1)

Proxy Group of Fourteen Electric Companies	[1] LT Average Predicted Variance	[2] Spot Predicted Variance	[3] Recommended Variance (2)	[4] GARCH Coefficient	[5] Predicted Risk Premium (3)	[6] Risk-Free Rate (4)	[7] Indicated ROE (5)
Alliant Energy Corporation	0.27%	0.34%	0.31%	2.7403	10.59%	2.70%	13.29%
Ameren Corporation	0.23%	0.32%	0.28%	2.0383	6.98%	2.70%	9.68%
Duke Energy Corporation	0.31%	0.31%	0.31%	1.8669	7.19%	2.70%	9.89%
Edison International	0.43%	0.49%	0.46%	1.4734	8.44%	2.70%	11.14%
Entergy Corporation	0.40%	0.51%	0.46%	2.2355	13.00%	2.70%	15.70%
Evergy, Inc.	0.36%	0.37%	0.36%	1.5092	6.78%	2.70%	9.48%
Eversource Energy	0.31%	0.30%	0.30%	1.6900	6.35%	2.70%	9.05%
IDACORP, Inc.	0.29%	0.41%	0.35%	2.2119	9.61%	2.70%	12.31%
NorthWestern Corporation	0.34%	0.26%	0.30%	2.3747	8.93%	2.70%	11.63%
OGE Energy Corporation	0.31%	0.24%	0.28%	2.1950	7.50%	2.70%	10.20%
Otter Tail Corporation	0.37%	0.26%	0.32%	1.7137	6.71%	2.70%	9.41%
Pinnacle West Capital Corporation	0.60%	0.34%	0.47%	1.2594	7.35%	2.70%	10.05%
Portland General Electric Company	0.28%	0.34%	0.31%	2.1651	8.28%	2.70%	10.98%
Xcel Energy, Inc.	0.28%	0.34%	0.31%	2.8250	10.91%	2.70%	13.61%
						Average	11.17%
						Median	10.59%
						Average of Mean and Median	10.88%

Notes:
(1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Service.
(2) Average of Columns [1] and [2].
(3) (1+(Column [3] * Column [4])^12) - 1.
(4) From note 2 on page 2 of Attachment DWD-4.
(5) Column [5] + Column [6].

Duke Energy Ohio, Inc.
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Fourteen Electric Companies	
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	3.41	%
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds	0.38	(2)
3.	Adjusted Prospective Yield on A2 Rated Public Utility Bonds	3.79	%
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	0.08	(3)
5.	Adjusted Prospective Bond Yield	3.87	%
6.	Equity Risk Premium (4)	6.81	
7.	Risk Premium Derived Common Equity Cost Rate	10.68	%

Notes:
(1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 10 and 11 of this Attachment).
(2) The average yield spread of A2 rated public utility bonds over Aaa rated corporate bonds of 0.38% from page 4 of this Attachment.
(3) Adjustment to reflect the A3 Moody's LT issuer rating of the Utility Proxy Group as shown on page 5 of this Attachment. The 0.08% upward adjustment is derived by taking 1/3 of the spread between A2 and Baa2 Public Utility Bonds (1/3 * 0.25% = 0.08%) as derived from page 4 of this Attachment.
(4) From page 7 of this Attachment.

Duke Energy Ohio, Inc.
Interest Rates and Bond Spreads for
Moody's Corporate and Public Utility Bonds

Selected Bond Yields

	[1] Aaa Rated Corporate Bond	[2] A2 Rated Public Utility Bond	[3] Baa2 Rated Public Utility Bond
Aug-2021	2.55 %	2.95 %	3.19 %
Jul-2021	2.57	2.95	3.20
Jun-2021	2.79	3.16	3.41
Average	2.64 %	3.02 %	3.27 %

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds: 0.38 % (1)

Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds: 0.25 % (2)

Notes:
(1) Column [2] - Column [1].
(2) Column [3] - Column [2].

Source of Information:
Bloomberg Professional Service

Duke Energy Ohio, Inc.
Comparison of Long-Term Issuer Ratings for
Proxy Group of Fourteen Electric Companies

	Moody's		Standard & Poor's	
	Long-Term Issuer Rating		Long-Term Issuer Rating	
	August 2021		August 2021	
Proxy Group of Fourteen Electric Companies	Long-Term Issuer Rating (1)	Numerical Weighting (2)	Long-Term Issuer Rating (1)	Numerical Weighting (2)
Alliant Energy Corporation	A3/Baa1	7.5	A/A-	6.5
Ameren Corporation	A3	7.0	BBB+	8.0
Duke Energy Corporation	A3	7.0	BBB+	8.0
Edison International	Baa2	9.0	BBB	9.0
Entergy Corporation	Baa1/Baa2	8.5	BBB+	8.0
Evergy, Inc.	Baa1	8.0	A-	7.0
Eversource Energy	A3	7.0	A-	7.0
IDACORP, Inc.	A3	7.0	BBB	9.0
NorthWestern Corporation	Baa2	9.0	BBB	9.0
OGE Energy Corporation	A3	7.0	A-	7.0
Otter Tail Corporation	A3	7.0	BBB+	8.0
Pinnacle West Capital Corporation	A2	6.0	A-	7.0
Portland General Electric Company	A3	7.0	BBB+	8.0
Xcel Energy, Inc.	A3	7.0	A-	7.0
Average	A3	7.4	BBB+	7.8

Notes:

(1) Ratings are that of the average of each company's utility operating subsidiaries.
(2) From page 6 of this Attachment.

Source Information: Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Numerical Assignment for
Moody's and Standard & Poor's Bond Ratings

Moody's Bond Rating	Numerical Bond Weighting	Standard & Poor's Bond Rating
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-
B1	14	B+
B2	15	B
B3	16	B-

Duke Energy Ohio, Inc.
Judgment of Equity Risk Premium for
Proxy Group of Fourteen Electric Companies

Line No.		Proxy Group of Fourteen Electric Companies
1.	Calculated equity risk premium based on the total market using the beta approach (1)	9.01 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A2 rated bonds (2)	5.62
3.	Predicted Equity Risk Premium Based on Regression Analysis of 1,183 Fully-Litigated Electric Utility Rate Cases	5.81
4.	Average equity risk premium	6.81 %

Notes: (1) From page 8 of this Attachment.
(2) From page 12 of this Attachment.
(3) From page 13 of this Attachment.

Duke Energy Ohio, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Fourteen Electric Companies

Line No.	Equity Risk Premium Measure	Proxy Group of Fourteen Electric Companies
	Ibbotson-Based Equity Risk Premiums:	
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.87
3.	Ibbotson Equity Risk Premium based on PRPM (3)	7.88
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	5.54
5.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	11.64
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	14.76
7.	Conclusion of Equity Risk Premium	9.10 %
8.	Adjusted Beta (7)	0.99
9.	Forecasted Equity Risk Premium	9.01 %

Notes provided on page 9 of this Attachment.

Duke Energy Ohio, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Fourteen Electric Companies

Notes:

(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2021 Market Report minus the arithmetic mean monthly yield of Moody's average Aaa and Aa2 corporate bonds from 1928-2020.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's average Aaa and Aa2 rated corporate bond yields from 1928-2020 referenced in Note 1 above.

(3) The Predictive Risk Premium Model (PRPM) is discussed in the accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Ibbotson large company common stock monthly returns and average Aaa and Aa2 corporate monthly bond yields, from January 1928 through August 2021.

(4) The equity risk premium based on the Value Line Summary and Index is derived by subtracting the average consensus forecast of Aaa corporate bonds of 3.41% (from page 3 of this Attachment) from the projected 3-5 year total annual market return of 8.95% (described fully in note 1 on page 2 of Attachment DWD-4).

(5) Using data from Value Line for the S&P 500, an expected total return of 15.05% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 3.41% results in an expected equity risk premium of 11.64%.

(6) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 18.17% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 3.41% results in an expected equity risk premium of 14.76%.

(7) Average of mean and median beta from Attachment DWD-4.

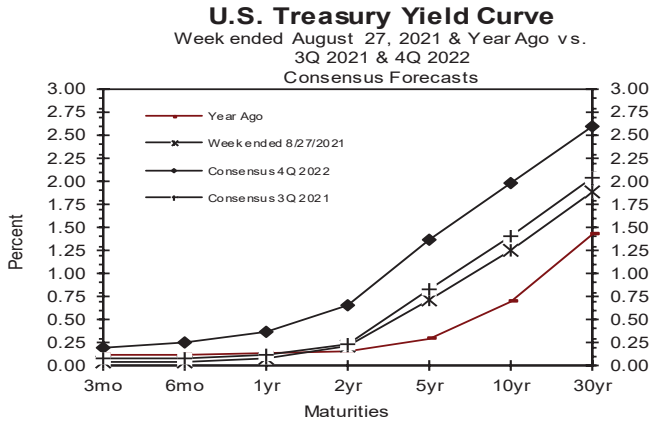
Sources of Information:

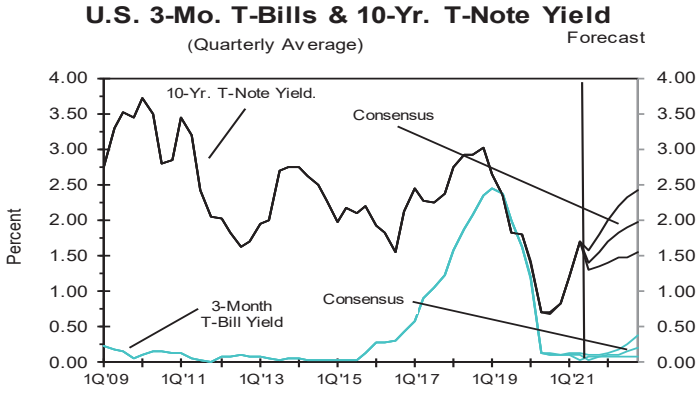
Stocks, Bonds, Bills, and Inflation - 2021 SBBI Yearbook, John Wiley & Sons, Inc.
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, September 1, 2021 and June 1, 2021
Bloomberg Professional Service

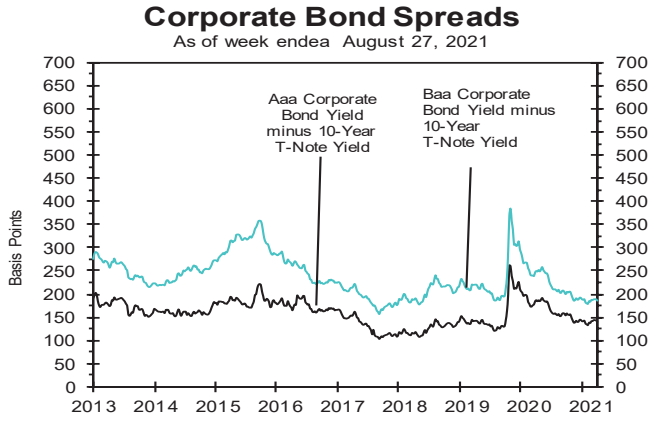
Consensus Forecasts of U.S. Interest Rates and Key Assumptions

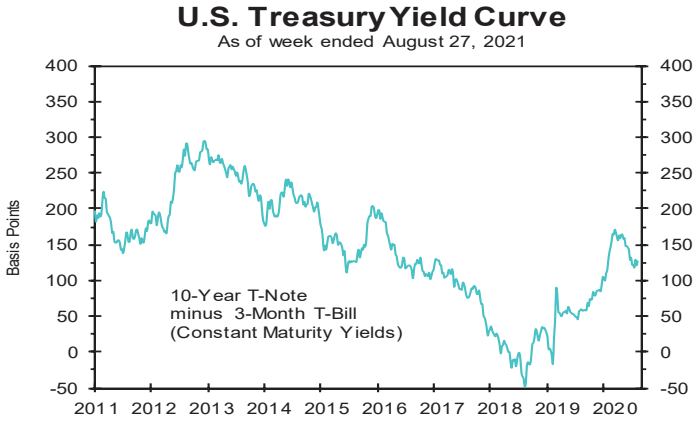
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			*Latest Qtr*	3Q	4Q	1Q	2Q	3Q	4Q
Interest Rates	Aug 27	Aug 20	Aug 13	Aug 6	Jul	Jun	May	2Q 2021	2021	2021	2022	2022	2022	2022
Federal Funds Rate	0.09	0.10	0.10	0.09	0.10	0.08	0.06	0.07	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	**3.3**	**3.3**	**3.3**	**3.3**	**3.3**	**3.3**
LIBOR, 3-mo.	0.12	0.13	0.12	0.12	0.13	0.13	0.15	0.16	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	**0.3**
Commercial Paper, 1-mo.	0.05	0.06	0.06	0.05	0.05	0.04	0.10	0.06	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**
Treasury bill, 3-mo.	0.05	0.06	0.06	0.05	0.05	0.04	0.02	0.03	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**
Treasury bill, 6-mo.	0.06	0.05	0.06	0.06	0.05	0.05	0.04	0.04	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.3**
Treasury bill, 1 yr.	0.07	0.07	0.08	0.08	0.08	0.07	0.05	0.06	**0.1**	**0.1**	**0.2**	**0.2**	**0.3**	**0.4**
Treasury note, 2 yr.	0.23	0.22	0.23	0.19	0.22	0.20	0.16	0.17	**0.2**	**0.3**	**0.4**	**0.5**	**0.5**	**0.6**
Treasury note, 5 yr.	0.81	0.78	0.81	0.69	0.76	0.84	0.82	0.84	**0.8**	**0.9**	**1.1**	**1.2**	**1.3**	**1.4**
Treasury note, 10 yr.	1.31	1.26	1.34	1.22	1.32	1.52	1.62	1.59	**1.4**	**1.6**	**1.7**	**1.8**	**1.9**	**2.0**
Treasury note, 30 yr.	1.92	1.90	1.98	1.87	1.94	2.16	2.32	2.26	**2.1**	**2.2**	**2.3**	**2.5**	**2.5**	**2.6**
Corporate Aaa bond	2.72	2.70	2.79	2.67	2.72	2.91	3.06	3.00	**2.7**	**2.9**	**3.0**	**3.1**	**3.2**	**3.3**
Corporate Baa bond	3.17	3.15	3.23	3.11	3.17	3.35	3.52	3.46	**3.4**	**3.7**	**3.9**	**4.0**	**4.1**	**4.2**
State & Local bonds	2.64	2.65	2.65	2.63	2.60	2.64	2.64	2.65	**2.3**	**2.5**	**2.5**	**2.6**	**2.7**	**2.7**
Home mortgage rate	2.87	2.86	2.87	2.77	2.87	2.98	2.96	3.00	**3.0**	**3.1**	**3.2**	**3.3**	**3.5**	**3.5**
	History								Consensus Forecasts-Quarterly					
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Key Assumptions	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021	2022	2022	2022	2022
Fed's AFE $ Index	110.6	110.5	111.4	112.4	107.3	105.2	103.4	102.9	**105.0**	**105.2**	**105.0**	**104.7**	**104.5**	**104.3**
Real GDP	2.8	1.9	-5.1	-31.2	33.8	4.5	6.3	6.6	**6.4**	**5.4**	**4.1**	**3.4**	**2.9**	**2.4**
GDP Price Index	1.4	1.5	1.6	-1.5	3.6	2.2	4.3	6.1	**4.2**	**2.8**	**2.4**	**2.3**	**2.4**	**2.3**
Consumer Price Index	1.3	2.6	1.0	-3.1	4.7	2.4	3.7	8.4	**5.5**	**2.4**	**2.2**	**2.3**	**2.4**	**2.2**
PCE Price Index	1.1	1.7	1.3	-1.6	3.7	1.5	3.8	6.5	**4.3**	**2.3**	**2.1**	**2.1**	**2.2**	**2.2**

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, PCE Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; LIBOR quotes from Intercontinental Exchange. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).









Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2022 through 2027 and averages for the five-year periods 2023-2027 and 2028-2032. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

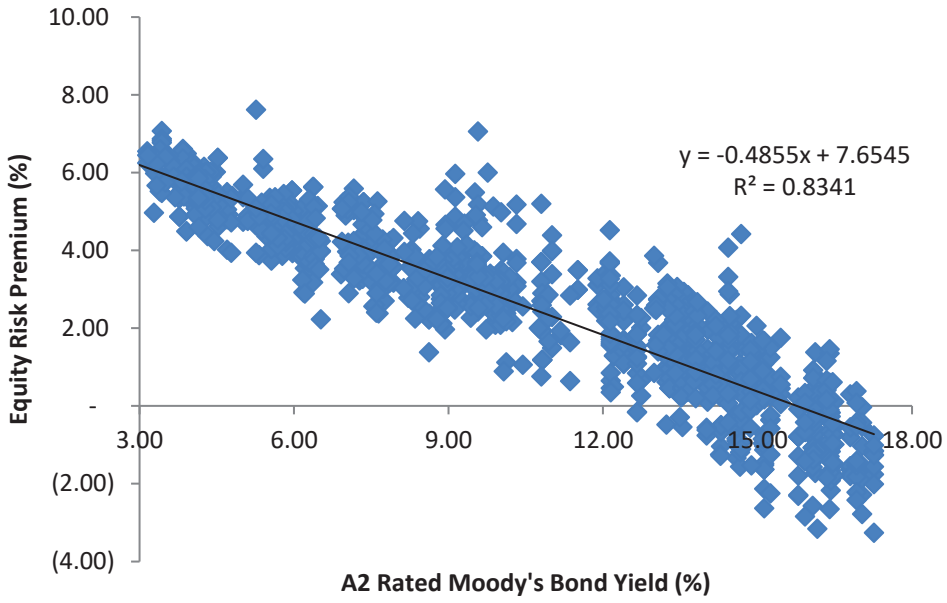
		Average For The Year						Five-Year Averages	
		2022	2023	2024	2025	2026	2027	2023-2027	2028-2032
1. Federal Funds Rate	**CONSENSUS**	**0.1**	**0.4**	**1.0**	**1.6**	**1.9**	**2.1**	**1.4**	**2.2**
	Top 10 Average	0.2	0.7	1.6	2.4	2.6	2.7	2.0	2.7
	Bottom 10 Average	0.1	0.1	0.5	0.9	1.3	1.5	0.9	1.6
2. Prime Rate	**CONSENSUS**	**3.3**	**3.5**	**4.2**	**4.7**	**5.0**	**5.2**	**4.5**	**5.2**
	Top 10 Average	3.4	3.8	4.7	5.4	5.7	5.8	5.1	5.8
	Bottom 10 Average	3.2	3.3	3.7	4.0	4.4	4.6	4.0	4.7
3. LIBOR, 3-Mo.	**CONSENSUS**	**0.4**	**0.6**	**1.3**	**1.8**	**2.1**	**2.3**	**1.6**	**2.4**
	Top 10 Average	0.5	1.0	1.8	2.4	2.7	2.9	2.2	3.0
	Bottom 10 Average	0.2	0.4	0.8	1.2	1.6	1.7	1.1	1.8
4. Commercial Paper, 1-Mo	**CONSENSUS**	**0.2**	**0.6**	**1.3**	**1.8**	**2.1**	**2.3**	**1.6**	**2.4**
	Top 10 Average	0.4	0.9	1.6	2.3	2.6	2.8	2.0	2.8
	Bottom 10 Average	0.1	0.3	0.9	1.3	1.8	1.9	1.2	2.0
5. Treasury Bill Yield, 3-Mo	**CONSENSUS**	**0.2**	**0.5**	**1.0**	**1.6**	**1.9**	**2.1**	**1.4**	**2.2**
	Top 10 Average	0.3	0.8	1.6	2.2	2.5	2.7	1.9	2.7
	Bottom 10 Average	0.1	0.2	0.6	0.9	1.3	1.5	0.9	1.6
6. Treasury Bill Yield, 6-Mo	**CONSENSUS**	**0.2**	**0.5**	**1.1**	**1.6**	**2.0**	**2.2**	**1.5**	**2.3**
	Top 10 Average	0.3	0.8	1.7	2.3	2.6	2.7	2.0	2.8
	Bottom 10 Average	0.1	0.3	0.6	1.0	1.4	1.6	1.0	1.7
7. Treasury Bill Yield, 1-Yr	**CONSENSUS**	**0.3**	**0.7**	**1.2**	**1.8**	**2.1**	**2.3**	**1.6**	**2.4**
	Top 10 Average	0.5	1.0	1.8	2.4	2.8	2.9	2.2	3.0
	Bottom 10 Average	0.2	0.3	0.7	1.1	1.5	1.7	1.1	1.8
8. Treasury Note Yield, 2-Yr	**CONSENSUS**	**0.5**	**0.9**	**1.5**	**2.0**	**2.3**	**2.5**	**1.8**	**2.6**
	Top 10 Average	0.7	1.3	2.1	2.7	3.0	3.1	2.5	3.3
	Bottom 10 Average	0.3	0.5	0.9	1.3	1.6	1.8	1.2	1.9
9. Treasury Note Yield, 5-Yr	**CONSENSUS**	**1.2**	**1.6**	**2.1**	**2.5**	**2.8**	**2.8**	**2.4**	**3.0**
	Top 10 Average	1.5	2.0	2.8	3.3	3.5	3.5	3.0	3.6
	Bottom 10 Average	0.9	1.2	1.5	1.8	2.0	2.2	1.7	2.3
10. Treasury Note Yield, 10-Yr	**CONSENSUS**	**2.0**	**2.4**	**2.7**	**3.0**	**3.2**	**3.3**	**2.9**	**3.3**
	Top 10 Average	2.3	2.8	3.4	3.8	4.0	3.9	3.6	4.0
	Bottom 10 Average	1.7	1.9	2.1	2.3	2.5	2.6	2.3	2.7
11. Treasury Bond Yield, 30-Yr	**CONSENSUS**	**2.6**	**2.9**	**3.3**	**3.6**	**3.8**	**3.8**	**3.5**	**3.9**
	Top 10 Average	3.0	3.5	4.0	4.5	4.6	4.5	4.2	4.6
	Bottom 10 Average	2.3	2.4	2.5	2.7	2.9	3.1	2.7	3.2
12. Corporate Aaa Bond Yield	**CONSENSUS**	**3.3**	**3.7**	**4.1**	**4.5**	**4.7**	**4.7**	**4.3**	**4.8**
	Top 10 Average	3.6	4.2	4.7	5.2	5.4	5.4	5.0	5.4
	Bottom 10 Average	3.1	3.2	3.4	3.7	3.9	4.1	3.7	4.2
13. Corporate Baa Bond Yield	**CONSENSUS**	**4.3**	**4.7**	**5.1**	**5.4**	**5.6**	**5.7**	**5.3**	**5.8**
	Top 10 Average	4.6	5.1	5.6	6.1	6.3	6.2	5.9	6.4
	Bottom 10 Average	4.0	4.3	4.5	4.7	4.9	5.2	4.7	5.2
14. State & Local Bonds Yield	**CONSENSUS**	**2.9**	**3.2**	**3.6**	**3.9**	**4.1**	**4.2**	**3.8**	**4.2**
	Top 10 Average	3.2	3.5	4.1	4.5	4.7	4.7	4.3	4.8
	Bottom 10 Average	2.6	2.9	3.1	3.4	3.7	3.7	3.3	3.8
15. Home Mortgage Rate	**CONSENSUS**	**3.6**	**4.0**	**4.4**	**4.7**	**4.9**	**5.0**	**4.6**	**5.0**
	Top 10 Average	4.0	4.5	5.0	5.5	5.6	5.6	5.2	5.7
	Bottom 10 Average	3.2	3.6	3.8	4.0	4.2	4.3	4.0	4.4
A. Fed's AFE Nominal $ Index	**CONSENSUS**	**103.7**	**103.7**	**104.0**	**103.7**	**103.6**	**103.3**	**103.7**	**103.1**
	Top 10 Average	105.3	106.0	106.8	107.0	107.3	107.5	106.9	107.9
	Bottom 10 Average	102.0	101.5	101.4	100.8	100.4	100.0	100.8	99.4
		Year-Over-Year, % Change						Five-Year Averages	
		2022	2023	2024	2025	2026	2027	2023-2027	2028-2032
B. Real GDP	**CONSENSUS**	**4.2**	**2.6**	**2.3**	**2.2**	**2.1**	**2.1**	**2.2**	**2.1**
	Top 10 Average	5.3	3.3	2.7	2.5	2.4	2.4	2.7	2.5
	Bottom 10 Average	2.9	2.0	1.9	1.8	1.8	1.7	1.8	1.7
C. GDP Chained Price Index	**CONSENSUS**	**2.3**	**2.3**	**2.2**	**2.1**	**2.2**	**2.1**	**2.2**	**2.1**
	Top 10 Average	2.6	2.6	2.4	2.4	2.4	2.4	2.4	2.3
	Bottom 10 Average	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9
D. Consumer Price Index	**CONSENSUS**	**2.4**	**2.4**	**2.2**	**2.2**	**2.2**	**2.2**	**2.2**	**2.2**
	Top 10 Average	2.8	2.7	2.5	2.5	2.5	2.4	2.5	2.4
	Bottom 10 Average	2.1	2.1	1.9	1.9	2.0	1.9	2.0	1.9
E. PCE Price Index	**CONSENSUS**	**2.3**	**2.2**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**
	Top 10 Average	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.3
	Bottom 10 Average	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

Duke Energy Ohio, Inc.
Derivation of Mean Equity Risk Premium Based Studies
Using Holding Period Returns and
Projected Market Appreciation of the S&P Utility Index

Line No.		Implied Equity Risk Premium
	Equity Risk Premium based on S&P Utility Index Holding Period Returns (1):	
1.	Historical Equity Risk Premium	4.16 %
2.	Regression of Historical Equity Risk Premium (2)	6.51
3.	Forecasted Equity Risk Premium Based on PRPM (3)	4.94
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	7.15
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	5.32
6.	Average Equity Risk Premium (6)	5.62 %

Notes:
(1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2020. Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.
(2) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A2 rated public utility bond yields from 1928 - 2020 referenced in note 1 above.
(3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A2 rated public utility bonds from January 1928 - August 2021.
(4) Using data from Value Line for the S&P Utilities Index, an expected return of 10.94% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 3.79%, calculated on line 3 of page 3 of this Attachment results in an equity risk premium of 7.15%. (10.94% - 3.79% = 7.15%).
(5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 9.11% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 3.79%, calculated on line 3 of page 3 of this Attachment results in an equity risk premium of 5.32%. (9.11% - 3.79% = 5.32%).
(6) Average of lines 1 through 5.

Duke Energy Ohio, Inc.
Prediction of Equity Risk Premiums Relative to
Moody's A2 Rated Utility Bond Yields



Constant	Slope	Prospective A2 Rated Utility Bond (1)	Prospective Equity Risk Premium
7.654483 %	-0.48549	3.79 %	5.81 %

Notes:
(1) From line 3 of page 3 of this Attachment.

Source of Information: Regulatory Research Associates

Duke Energy Ohio, Inc.
Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

Proxy Group of Fourteen Electric Companies	[1] Value Line Adjusted Beta	[2] Bloomberg Adjusted Beta	[3] Average Beta	[4] Market Risk Premium (1)	[5] Risk-Free Rate (2)	[6] Traditional CAPM Cost Rate	[7] ECAPM Cost Rate	[8] Indicated Common Equity Cost Rate (3)
Alliant Energy Corporation	0.85	1.03	0.94	9.93 %	2.70 %	12.03 %	12.18 %	12.11 %
Ameren Corporation	0.80	0.95	0.88	9.93	2.70	11.44	11.73	11.59
Duke Energy Corporation	0.90	0.98	0.94	9.93	2.70	12.03	12.18	12.11
Edison International	0.95	1.10	1.02	9.93	2.70	12.83	12.78	12.80
Entergy Corporation	0.95	1.19	1.07	9.93	2.70	13.32	13.15	13.24
Evergy, Inc.	0.95	1.07	1.01	9.93	2.70	12.73	12.70	12.72
Eversource Energy	0.90	1.06	0.98	9.93	2.70	12.43	12.48	12.45
IDACORP, Inc.	0.85	1.04	0.95	9.93	2.70	12.13	12.26	12.19
NorthWestern Corporation	0.95	1.27	1.11	9.93	2.70	13.72	13.45	13.58
OGE Energy Corporation	1.05	1.28	1.16	9.93	2.70	14.22	13.82	14.02
Otter Tail Corporation	0.90	1.07	0.98	9.93	2.70	12.43	12.48	12.45
Pinnacle West Capital Corporation	0.90	1.16	1.03	9.93	2.70	12.93	12.85	12.89
Portland General Electric Company	0.90	1.06	0.98	9.93	2.70	12.43	12.48	12.45
Xcel Energy, Inc.	0.80	0.99	0.89	9.93	2.70	11.54	11.81	11.67
Mean			1.00			12.59 %	12.60 %	12.59 %
Median			0.98			12.43 %	12.48 %	12.45 %
Average of Mean and Median			0.99			12.51 %	12.54 %	12.52 %

Notes on page 2 of this Attachment.

Duke Energy Ohio, Inc.
Notes to Accompany the Application of the CAPM and ECAPM

Notes:

(1) The market risk premium (MRP) is derived by using six different measures from three sources: Ibbotson, Value Line, and Bloomberg as illustrated below:

Historical Data MRP Estimates:

Measure 1: Ibbotson Arithmetic Mean MRP (1926-2020)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2020:	12.20 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	5.05
MRP based on Ibbotson Historical Data:	7.15 %

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data (1926-2020) 9.57 %

Measure 3: Application of the PRPM to Ibbotson Historical Data: (January 1926 - August 2021) 8.77 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending September 03, 2021)

Total projected return on the market 3-5 years hence*:	8.95 %
Projected Risk-Free Rate (see note 2):	2.70
MRP based on Value Line Summary & Index:	6.25 %

*Forcasted 3-5 year capital appreciation plus expected dividend yield

Measure 5: Value Line Projected Return on the Market based on the S&P 500

Total return on the Market based on the S&P 500:	15.05 %
Projected Risk-Free Rate (see note 2):	2.70
MRP based on Value Line data	12.35 %

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	18.17 %
Projected Risk-Free Rate (see note 2):	2.70
MRP based on Bloomberg data	15.47 %

Average of Value Line, Ibbotson, and Bloomberg MRP: 9.93 %

(2) For reasons explained in the direct testimony, the appropriate risk-free rate for cost of capital purposes is the average forecast of 30 year Treasury Bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts. (See pages 10 and 11 of Attachment DWD-3.) The projection of the risk-free rate is illustrated below:

Third Quarter 2021	2.10 %
Fourth Quarter 2021	2.20
First Quarter 2022	2.30
Second Quarter 2022	2.50
Third Quarter 2022	2.50
Fourth Quarter 2022	2.60
2023-2027	3.50
2028-2032	3.90
	2.70 %

(3) Average of Column 6 and Column 7.

Sources of Information:
Value Line Summary and Index
Blue Chip Financial Forecasts, September 1, 2021 and June 1, 2021
Bonds,
Bloomberg Professional Services

Duke Energy Ohio, Inc.
Basis of Selection of the Group of Non-Price Regulated Companies
Comparable in Total Risk to the Utility Proxy Group

The criteria for selection of the proxy group of fifty non-price regulated companies was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The Non-Price Regulated Proxy Group were then selected based on the unadjusted beta range of 0.68 – 0.96 and residual standard error of the regression range of 2.5646 – 3.0586 of the Utility Proxy Group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

The standard deviation of the Utility Proxy Group's residual standard error of the regression is 0.1235. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1235 = \frac{2.8116}{\sqrt{518}} = \frac{2.8116}{22.7596}$$

Source of Information: Value Line, Inc., June 2021
Value Line Investment Survey (Standard Edition)

Duke Energy Ohio, Inc.
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

Proxy Group of Fourteen Electric Companies	[1] Value Line Adjusted Beta	[2] Unadjusted Beta	[3] Residual Standard Error of the Regression	[4] Standard Deviation of Beta
Alliant Energy Corporation	0.85	0.72	2.7798	0.0694
Ameren Corporation	0.80	0.69	2.6359	0.0658
Duke Energy Corporation	0.85	0.77	2.7562	0.0688
Edison International	0.95	0.91	3.2779	0.0818
Entergy Corporation	0.95	0.88	2.7090	0.0676
Evergy, Inc.	0.95	0.90	3.2697	0.0861
Eversource Energy	0.90	0.84	3.0312	0.0756
IDACORP, Inc.	0.85	0.70	2.5983	0.0648
NorthWestern Corporation	0.95	0.89	2.8009	0.0699
OGE Energy Corporation	1.05	1.06	2.7189	0.0678
Otter Tail Corporation	0.90	0.79	2.4385	0.0608
Pinnacle West Capital Corporation	0.90	0.84	2.7822	0.0694
Portland General Electric Company	0.90	0.79	2.8356	0.0707
Xcel Energy, Inc.	0.80	0.66	2.7280	0.0681
Average	0.90	0.82	2.8116	0.0705
Beta Range (+/- 2 std. Devs. of Beta)	0.68	0.96		
2 std. Devs. of Beta	0.14			
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.5646	3.0586		
Std. dev. of the Res. Std. Err.	0.1235			
2 std. devs. of the Res. Std. Err.	0.2470			

Source of Information: Valueline Proprietary Database, June 2021

Duke Energy Ohio, Inc.
Proxy Group of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Fourteen Electric Companies

Proxy Group of Fifty Non-Price Regulated Companies	[1] VL Adjusted Beta	[2] Unadjusted Beta	[3] Residual Standard Error of the Regression	[4] Standard Deviation of Beta
Agilent Technologies	0.90	0.79	2.5758	0.0643
Abbott Labs.	0.90	0.84	2.7516	0.0687
Analog Devices	0.95	0.87	2.7247	0.0680
Assurant Inc.	0.90	0.84	2.8245	0.0705
Smith (A.O.)	0.85	0.75	2.7193	0.0678
Air Products & Chem.	0.90	0.79	2.6162	0.0653
Brown-Forman 'B'	0.90	0.81	2.7054	0.0675
Broadridge Fin'l	0.80	0.69	2.7697	0.0691
Brady Corp.	1.00	0.94	2.9465	0.0735
CACI Int'l	0.95	0.89	2.9930	0.0747
Cerner Corp.	0.90	0.82	2.6729	0.0667
Chemed Corp.	0.85	0.70	2.6649	0.0665
Cooper Cos.	0.95	0.90	2.6935	0.0672
CSW Industrials	0.90	0.82	2.8095	0.0701
Quest Diagnostics	0.80	0.69	2.9288	0.0731
Dolby Labs.	0.95	0.90	2.6027	0.0649
Lauder (Estee)	0.95	0.91	2.8562	0.0713
Exponent, Inc.	0.90	0.81	2.9605	0.0739
FactSet Research	1.00	0.95	2.6488	0.0661
Gentex Corp.	0.95	0.92	2.7712	0.0691
Hershey Co.	0.85	0.74	2.6733	0.0667
Ingredion Inc.	0.90	0.84	2.8771	0.0718
Hunt (J.B.)	0.95	0.87	2.8702	0.0716
J&J Snack Foods	0.95	0.86	2.9559	0.0738
Henry (Jack) & Assoc	0.85	0.71	2.8328	0.0707
L3Harris Technologie	1.00	0.93	2.7401	0.0772
Lennox Int'l	1.00	0.92	2.6639	0.0665
McCormick & Co.	0.80	0.68	2.7869	0.0695
Monster Beverage	0.85	0.76	3.0195	0.0753
Altria Group	0.95	0.86	2.9525	0.0737
MSA Safety	1.00	0.94	3.0342	0.0757
MSCI Inc.	0.95	0.87	2.9742	0.0742
Motorola Solutions	0.90	0.79	2.7312	0.0681
Mettler-Toledo Int'l	0.95	0.90	2.6192	0.0653
Northrop Grumman	0.85	0.72	2.8865	0.0720
Old Dominion Freight	0.95	0.86	2.9913	0.0746
Packaging Corp.	1.00	0.92	2.8690	0.0716
PerkinElmer Inc.	0.90	0.82	3.0422	0.0759
Post Holdings	0.95	0.87	2.9481	0.0736
Rollins, Inc.	0.85	0.73	2.9580	0.0738
Sherwin-Williams	0.95	0.85	2.6598	0.0664
Selective Ins. Group	0.90	0.80	2.9918	0.0746
Sirius XM Holdings	0.95	0.88	2.8551	0.0712
Synopsys, Inc.	0.95	0.91	2.8936	0.0722
Texas Instruments	0.85	0.76	2.6736	0.0667
AMERCO	0.95	0.89	2.6678	0.0666
UniFirst Corp.	1.00	0.92	2.7694	0.0691
VeriSign Inc.	0.90	0.79	2.6717	0.0667
Waters Corp.	0.95	0.87	2.7917	0.0697
Watsco, Inc.	0.85	0.73	2.7408	0.0684
Average	0.92	0.83	2.8100	0.0700
Proxy Group of Fourteen Electric Companies	0.90	0.82	2.8116	0.0705

Source of Information: Valueline Proprietary Database, June 2021

Duke Energy Ohio, Inc.
Summary of Cost of Equity Models Applied to
Proxy Group of Fifty Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Fifty Non-Price Regulated Companies

Principal Methods		Proxy Group of Fifty Non-Price Regulated Companies	
Discounted Cash Flow Model (DCF) (1)		12.92	%
Risk Premium Model (RPM) (2)		12.64	%
Capital Asset Pricing Model (CAPM) (3)		12.00	%
	Mean	12.52	%
	Median	12.64	%
	Average of Mean and Median	12.58	%

Notes:
(1) From page 2 of this Attachment.
(2) From page 3 of this Attachment.
(3) From page 6 of this Attachment.

Duke Energy Ohio, Inc.
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Fifty Non-Price Regulated Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Fifty Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate (1)
Agilent Technologies	0.51 %	11.50 %	13.00 %	53.30 %	25.93 %	0.57 %	26.50 %
Abbott Labs.	1.52	11.50	11.90	12.53	11.98	1.61	13.59
Analog Devices	1.66	8.50	12.30	13.52	11.44	1.75	13.19
Assurant Inc.	1.66	11.50	17.90	17.90	15.77	1.79	17.56
Smith (A.O.)	1.48	9.50	9.00	8.00	8.83	1.54	10.37
Air Products & Chem.	2.10	12.00	10.50	11.96	11.49	2.22	13.71
Brown-Forman 'B'	0.99	13.00	NA	8.44	10.72	1.05	11.77
Broadridge Fin'l	1.52	8.50	NA	11.80	10.15	1.60	11.75
Brady Corp.	1.61	7.50	7.00	7.00	7.17	1.66	8.83
CACI Int'l	-	13.50	5.40	1.44	6.78	-	NA
Cerner Corp.	1.11	9.00	12.30	11.81	11.04	1.18	12.22
Chemed Corp.	0.30	9.00	7.50	7.55	8.02	0.32	8.34
Cooper Cos.	0.01	14.50	10.00	10.00	11.50	0.02	11.52
CSW Industrials	0.49	11.50	NA	12.00	11.75	0.52	12.27
Quest Diagnostics	1.78	7.00	26.50	(8.60)	16.75	1.93	18.68
Dolby Labs.	0.89	9.50	13.00	16.00	12.83	0.95	13.78
Lauder (Estee)	0.66	11.00	11.30	18.71	13.67	0.71	14.38
Exponent, Inc.	0.80	12.00	NA	15.00	13.50	0.86	14.36
FactSet Research	0.94	9.50	8.00	6.29	7.93	0.98	8.91
Gentex Corp.	1.47	12.00	10.50	15.80	12.77	1.56	14.33
Hershey Co.	2.04	5.50	7.70	8.82	7.34	2.12	9.46
Ingredion Inc.	2.87	7.50	NA	1.90	4.70	2.93	7.63
Hunt (J.B.)	0.72	8.00	15.00	20.50	14.50	0.77	15.27
J&J Snack Foods	1.50	10.00	NA	6.00	8.00	1.56	9.56
Henry (Jack) & Assoc	1.08	9.50	11.00	9.64	10.05	1.14	11.19
L3Harris Technologie	1.81	NMF	8.60	10.21	9.41	1.89	11.30
Lennox Int'l	1.11	9.00	NA	16.72	12.86	1.18	14.04
McCormick & Co.	1.57	6.00	6.80	6.50	6.43	1.62	8.05
Monster Beverage	-	11.50	14.70	14.85	13.68	-	NA
Altria Group	7.52	6.00	4.00	4.67	4.89	7.70	12.59
MSA Safety	1.08	6.50	NA	18.00	12.25	1.15	13.40
MSCI Inc.	0.73	16.00	NA	17.79	16.90	0.79	17.69
Motorola Solutions	1.27	7.00	9.00	13.73	9.91	1.33	11.24
Mettler-Toledo Int'l	-	12.00	17.00	17.80	15.60	-	NA
Northrop Grumman	1.72	7.00	9.00	NA	8.00	1.79	9.79
Old Dominion Freight	0.30	9.50	22.70	6.66	12.95	0.32	13.27
Packaging Corp.	2.86	5.00	5.00	22.70	10.90	3.01	13.91
PerkinElmer Inc.	0.17	11.00	37.90	16.86	21.92	0.19	22.11
Post Holdings	-	9.50	NA	37.90	23.70	-	NA
Rollins, Inc.	0.88	11.50	NA	28.20	19.85	0.97	20.82
Sherwin-Williams	0.77	10.50	12.60	8.20	10.43	0.81	11.24
Selective Ins. Group	1.25	9.50	12.40	11.87	11.26	1.32	12.58
Sirius XM Holdings	0.91	31.50	12.20	10.00	17.90	0.99	18.89
Synopsys, Inc.	-	13.00	16.00	10.05	13.02	-	NA
Texas Instruments	2.16	8.50	9.30	16.00	11.27	2.28	13.55
AMERCO	-	13.50	NA	10.00	11.75	-	NA
UniFirst Corp.	0.45	5.50	NA	15.00	10.25	0.47	10.72
VeriSign Inc.	-	8.50	NA	10.00	9.25	-	NA
Waters Corp.	-	6.00	9.40	8.00	7.80	-	NA
Watsco, Inc.	2.77	8.00	NA	9.30	8.65	2.88	11.53
						Mean	13.24 %
						Median	12.59 %
						Average of Mean and Median	12.92 %

NA= Not Available
NMF= Not Meaningful Figure

(1) The application of the DCF model to the domestic, non-price regluated comparable risk companies is identical to the application of the DCF to the Utility Proxy Group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of August 31, 2021. The dividend yield is then adjusted by 1/2 the average projected growth rate in EPS, which is calculated by averaging the 5 year projected growth in EPS provided by Value Line, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2021
www.yahoo.com Downloaded on 08/31/2021
Bloomberg Professional Services

Duke Energy Ohio, Inc.
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Fifty Non-Price Regulated Companies
1.	Prospective Yield on Baa2 Rated Corporate Bonds (1)	4.30 %
2.	Adjustment to Reflect Proxy Group Bond Rating (2)	(0.12)
3.	Prospective Bond Rating	4.18
4.	Equity Risk Premium (3)	8.46
5	Risk Premium Derived Common Equity Cost Rate	12.64 %

Notes: (1) Average forecast of Baa2 corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated September 1, 2021 and June 1, 2021 (see pages 10 and 11 of Attachment DWD-3). The estimates are detailed below.

Third Quarter 2021	3.40 %
Fourth Quarter 2021	3.70
First Quarter 2022	3.90
Second Quarter 2022	4.00
Third Quarter 2022	4.10
Fourth Quarter 2022	4.20
2023-2027	5.30
2028-2032	5.80
Average	4.30 %

(2) To reflect the Baa1 average rating of the non-utility proxy group, the prosepctive yield on Baa2 corporate bonds must be adjusted downward by 1/3 of the spread between A2 and Baa2 corporate bond yields as shown below:

	A2 Corp. Bond Yield	Baa2 Corp. Bond Yield	Spread
Aug-2021	2.89 %	3.24 %	0.35 %
Jul-2021	2.89	3.24	0.35
Jun-2021	3.10	3.45	0.35
	Average yield spread		0.35 %
		1/3 of spread	0.12 %

(3) From page 5 of this Attachment.

Duke Energy Ohio, Inc.
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Fifty Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Fifty Non-Price Regulated Companies

	Moody's Long-Term Issuer Rating August 2021		Standard & Poor's Long-Term Issuer Rating August 2021	
Proxy Group of Fifty Non-Price Regulated Companies	Long-Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
Agilent Technologies	Baa2	9.0	BBB+	8.0
Abbott Labs.	A2	6.0	A+	5.0
Analog Devices	Baa1	8.0	BBB+	8.0
Assurant Inc.	Baa3	10.0	BBB	9.0
Smith (A.O.)	NA	--	NA	--
Air Products & Chem.	A2	6.0	A	6.0
Brown-Forman 'B'	A1	5.0	A-	7.0
Broadridge Fin'l	Baa1	8.0	BBB+	8.0
Brady Corp.	NA	--	NA	--
CACI Int'l	NA	--	BB+	11.0
Cerner Corp.	NA	--	NA	--
Chemed Corp.	WR	--	NR	--
Cooper Cos.	WR	--	NR	--
CSW Industrials	NA	--	NA	--
Quest Diagnostics	Baa2	9.0	BBB+	8.0
Dolby Labs.	NA	--	NA	--
Lauder (Estee)	A1	5.0	A+	5.0
Exponent, Inc.	NA	--	NA	--
FactSet Research	NA	--	NA	--
Gentex Corp.	NA	--	NA	--
Hershey Co.	A1	5.0	A	6.0
Ingredion Inc.	Baa1	8.0	BBB	9.0
Hunt (J.B.)	Baa1	8.0	BBB+	8.0
J&J Snack Foods	NA	--	NA	--
Henry (Jack) & Assoc	NA	--	NA	--
L3Harris Technologie	Baa2	9.0	BBB	9.0
Lennox Int'l	Baa2	9.0	BBB	9.0
McCormick & Co.	Baa2	9.0	BBB	9.0
Monster Beverage	NA	--	NA	--
Altria Group	A3	7.0	BBB	9.0
MSA Safety	NA	--	NA	--
MSCI Inc.	Ba1	11.0	BB+	11.0
Motorola Solutions	Baa3	10.0	BBB-	10.0
Mettler-Toledo Int'l	WR	--	NR	--
Northrop Grumman	Baa1	8.0	BBB+	8.0
Old Dominion Freight	NA	--	NA	--
Packaging Corp.	Baa2	9.0	BBB	9.0
PerkinElmer Inc.	Baa3	10.0	BBB	9.0
Post Holdings	B2	15.0	B+	14.0
Rollins, Inc.	NA	--	NA	--
Sherwin-Williams	Baa2	9.0	BBB	9.0
Selective Ins. Group	Baa2	9.0	BBB	9.0
Sirius XM Holdings	NA	--	BB	12.0
Synopsys, Inc.	NA	--	NA	--
Texas Instruments	A1	5.0	A+	5.0
AMERCO	WR	--	NR	--
UniFirst Corp.	NA	--	NA	--
VeriSign Inc.	Baa3	10.0	BBB	9.0
Waters Corp.	NA	--	NA	--
Watsco, Inc.	NA	--	NA	--
Average	Baa1	8.3	BBB+/BBB	8.5

Notes:
(1) From page 6 of Attachment DWD-3.

Source of Information:
Bloomberg Professional Services

Duke Energy Ohio, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Proxy Group of Fifty Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Fifty Non-Price Regulated Companies

Line No.	Equity Risk Premium Measure	Proxy Group of Fifty Non-Price Regulated Companies
	Ibbotson-Based Equity Risk Premiums:	
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.87
3.	Ibbotson Equity Risk Premium based on PRPM (3)	7.88
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	5.54
5	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	11.64
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	14.76
7.	Conclusion of Equity Risk Premium	9.10 %
8.	Adjusted Beta (7)	0.93
9.	Forecasted Equity Risk Premium	8.46 %

Notes:
(1) From note 1 of page 9 of Attachment DWD-3.
(2) From note 2 of page 9 of Attachment DWD-3.
(3) From note 3 of page 9 of Attachment DWD-3.
(4) From note 4 of page 9 of Attachment DWD-3.
(5) From note 5 of page 9 of Attachment DWD-3.
(6) From note 6 of page 9 of Attachment DWD-3.
(7) Average of mean and median beta from page 6 of this Attachment.

Sources of Information:
Stocks, Bonds, Bills, and Inflation - 2021 SBBI Yearbook, John Wiley & Sons, Inc.
Value Line Summary and Index
Blue Chip Financial Forecasts, September 1, 2021 and June 1, 2021
Bloomberg Professional Services

Duke Energy Ohio, Inc.

Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the Proxy Group of Fifty Non-Price Regulated Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Fifty Non-Price Regulated Companies	Value Line Adjusted Beta	Bloomberg Beta	Average Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate	ECAPM Cost Rate	Indicated Common Equity Cost Rate (3)
Agilent Technologies	0.90	0.86	0.88	9.93 %	2.70 %	11.44 %	11.74 %	11.59 %
Abbott Labs.	0.90	0.84	0.87	9.93	2.70	11.34	11.66	11.50
Analog Devices	0.95	1.02	0.98	9.93	2.70	12.43	12.48	12.45
Assurant Inc.	0.90	1.01	0.95	9.93	2.70	12.13	12.26	12.19
Smith (A.O.)	0.85	1.00	0.93	9.93	2.70	11.93	12.11	12.02
Air Products & Chem.	0.90	0.90	0.90	9.93	2.70	11.64	11.88	11.76
Brown-Forman 'B'	0.90	0.97	0.93	9.93	2.70	11.93	12.11	12.02
Broadridge Fin'l	0.85	0.83	0.84	9.93	2.70	11.04	11.44	11.24
Brady Corp.	1.00	1.07	1.04	9.93	2.70	13.03	12.93	12.98
CACI Int'l	0.95	1.00	0.98	9.93	2.70	12.43	12.48	12.45
Cerner Corp.	0.90	0.89	0.89	9.93	2.70	11.54	11.81	11.67
Chemed Corp.	0.85	0.92	0.89	9.93	2.70	11.54	11.81	11.67
Cooper Cos.	0.95	0.94	0.95	9.93	2.70	12.13	12.26	12.19
CSW Industrials	0.90	1.05	0.98	9.93	2.70	12.43	12.48	12.45
Quest Diagnostics	0.80	0.97	0.88	9.93	2.70	11.44	11.74	11.59
Dolby Labs.	0.95	0.94	0.94	9.93	2.70	12.03	12.18	12.11
Lauder (Estee)	0.95	1.01	0.98	9.93	2.70	12.43	12.48	12.45
Exponent, Inc.	0.90	0.96	0.93	9.93	2.70	11.93	12.11	12.02
FactSet Research	1.00	0.98	0.99	9.93	2.70	12.53	12.55	12.54
Gentex Corp.	0.95	1.07	1.01	9.93	2.70	12.73	12.70	12.72
Hershey Co.	0.85	0.85	0.85	9.93	2.70	11.14	11.51	11.33
Ingredion Inc.	0.90	0.93	0.91	9.93	2.70	11.74	11.96	11.85
Hunt (J.B.)	0.95	0.94	0.94	9.93	2.70	12.03	12.18	12.11
J&J Snack Foods	0.95	0.81	0.88	9.93	2.70	11.44	11.74	11.59
Henry (Jack) & Assoc	0.85	0.88	0.87	9.93	2.70	11.34	11.66	11.50
L3Harris Technologie	1.00	1.00	1.00	9.93	2.70	12.63	12.63	12.63
Lennox Int'l	1.00	1.04	1.02	9.93	2.70	12.83	12.78	12.80
McCormick & Co.	0.80	0.70	0.75	9.93	2.70	10.15	10.77	10.46
Monster Beverage	0.85	0.97	0.91	9.93	2.70	11.74	11.96	11.85
Altria Group	0.95	0.91	0.93	9.93	2.70	11.93	12.11	12.02
MSA Safety	1.00	1.00	1.00	9.93	2.70	12.63	12.63	12.63
MSCI Inc.	0.95	0.93	0.94	9.93	2.70	12.03	12.18	12.11
Motorola Solutions	0.90	0.96	0.93	9.93	2.70	11.93	12.11	12.02
Mettler-Toledo Int'l	0.95	0.90	0.93	9.93	2.70	11.93	12.11	12.02
Northrop Grumman	0.85	0.79	0.82	9.93	2.70	10.84	11.29	11.06
Old Dominion Freight	0.90	0.98	0.94	9.93	2.70	12.03	12.18	12.11
Packaging Corp.	1.00	0.79	0.90	9.93	2.70	11.64	11.88	11.76
PerkinElmer Inc.	0.90	0.80	0.85	9.93	2.70	11.14	11.51	11.33
Post Holdings	0.95	0.90	0.92	9.93	2.70	11.83	12.03	11.93
Rollins, Inc.	0.85	0.69	0.77	9.93	2.70	10.35	10.92	10.63
Sherwin-Williams	0.95	0.99	0.97	9.93	2.70	12.33	12.41	12.37
Selective Ins. Group	0.90	0.99	0.94	9.93	2.70	12.03	12.18	12.11
Sirius XM Holdings	0.95	1.12	1.04	9.93	2.70	13.03	12.93	12.98
Synopsys, Inc.	0.95	1.02	0.98	9.93	2.70	12.43	12.48	12.45
Texas Instruments	0.85	0.89	0.87	9.93	2.70	11.34	11.66	11.50
AMERCO	0.95	1.08	1.01	9.93	2.70	12.73	12.70	12.72
UniFirst Corp.	0.95	1.13	1.04	9.93	2.70	13.03	12.93	12.98
VeriSign Inc.	0.90	0.77	0.84	9.93	2.70	11.04	11.44	11.24
Waters Corp.	0.95	0.85	0.90	9.93	2.70	11.64	11.88	11.76
Watsco, Inc.	0.85	0.80	0.83	9.93	2.70	10.94	11.36	11.15
Mean			0.92			11.88 %	12.07 %	11.97 %
Median			0.93			11.93 %	12.11 %	12.02 %
Average of Mean and Median			0.93			11.91 %	12.09 %	12.00 %

Notes:

(1) From note 1 of page 2 of Attachment DWD-4.

(2) From note 2 of page 2 of Attachment DWD-4.

(3) Average of CAPM and ECAPM cost rates.

Duke Energy Ohio, Inc.
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.		[1] Market Capitalization on August 31, 2021 (1) (millions)	(times larger)	[2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1.	Duke Energy Ohio, Inc.	$ 3,517.131		5	1.09%	
2.	Proxy Group of Fourteen Electric Companies	$ 15,358.236	4.4 x	2	0.49%	0.60%
			[A]	[B]	[C]	[D]

	Decile	Market Capitalization of Smallest Company (millions)	Market Capitalization of Largest Company (millions)	Size Premium (Return in Excess of CAPM)*
Largest	1	$ 29,025.803	$ 1,966,078.882	-0.22%
	2	13,178.743	28,808.073	0.49%
	3	6,743.361	13,177.828	0.71%
	4	3,861.858	6,710.676	0.75%
	5	2,445.693	3,836.536	1.09%
	6	1,591.865	2,444.745	1.37%
	7	911.586	1,591.765	1.54%
	8	451.955	911.103	1.46%
	9	190.019	451.800	2.29%
Smallest	10	2.194	189.831	5.01%

*From 2021 Duff & Phelps Cost of Capital Navigator

Notes:

(1) From page 2 of this Attachment.

(2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].

(3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.

(4) Line No. 1 Column [3] – Line No. 2 Column [3]. For example, the 0.60% in Column [4], Line No. 2 is derived as follows 0.60% = 1.09% - 0.49%.

Duke Energy Ohio, Inc.
Market Capitalization of Duke Energy Ohio, Inc. and the
Proxy Group of Fourteen Electric Companies

Company	Exchange	[1] Common Stock Shares Outstanding at Fiscal Year End 2020 (millions)	[2] Book Value per Share at Fiscal Year End 2020 (1)	[3] Total Common Equity at Fiscal Year End 2020 (millions)	[4] Closing Stock Market Price on August 31, 2021	[5] Market-to-Book Ratio on August 31, 2021 (2)	[6] Market Capitalization on August 31, 2021 (3) (millions)
Duke Energy Ohio, Inc.		NA	NA	1,768.291 (4)	NA		
Based upon Proxy Group of Fourteen Electric Companies						198.9 (5)	$ 3,517.131 (6)
Proxy Group of Fourteen Electric Companies							
Alliant Energy Corporation	NASDAQ	249.868	$ 22.764	$ 5,688.000	$ 60.790	267.0 %	$ 15,189.501
Ameren Corporation	NYSE	253.355	35.279	8,938.000	87.720	248.6	22,224.310
Duke Energy Corporation	NYSE	769.000	59.821	46,002.000	104.660	175.0	80,483.540
Edison International	NYSE	378.907	37.075	14,048.000	57.840	156.0	21,915.989
Entergy Corporation	NYSE	200.245	54.564	10,926.142	110.610	202.7	22,149.081
Evergy, Inc.	NYSE	226.837	38.501	8,733.400	68.450	177.8	15,526.970
Eversource Energy	NYSE	342.214	41.096	14,063.566	90.730	220.8	31,049.067
IDACORP, Inc.	NYSE	50.469	50.724	2,559.980	105.350	207.7	5,316.934
NorthWestern Corporation	NASDAQ	54.145	38.399	2,079.095	63.600	165.6	3,443.608
OGE Energy Corporation	NYSE	200.021	18.157	3,631.800	35.410	195.0	7,082.749
Otter Tail Corporation	NASDAQ	41.470	21.002	870.966	54.870	261.3	2,275.452
Pinnacle West Capital Corporation	NYSE	112.760	49.960	5,633.503	76.900	153.9	8,671.248
Portland General Electric Company	NYSE	89.537	29.183	2,613.000	51.350	176.0	4,597.742
Xcel Energy, Inc.	NASDAQ	537.438	27.119	14,575.000	68.750	253.5	36,948.890
Median		213.541	$ 37.737	$ 7,210.700	$ 68.600	198.9 %	$ 15,358.236

NA= Not Available

Notes: (1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 1 * Column 4.
(4) Company provided
(5) The market-to-book ratio of Duke Energy Ohio, Inc. on August 31, 2021 is assumed to be equal to the market-to-book ratio of Proxy Group of Fourteen Electric Companies on August 31, 2021 as appropriate.
(6) Column [3] multiplied by Column [5].

Source of Information: 2020 Annual Forms 10K
www.yahoo.finance.com Downloaded on 08/31/2021
Bloomberg Professional

Duke Energy Ohio, Inc.
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

Equity Issuances since 2010

Date of Offering	Transaction (1)	[Column 1] Shares Issued	[Column 2] Market Price per Share	[Column 3] Average Offering Price per Share	[Column 4] Market Pressure (2)	[Column 5] Total Offering Expense per Share	[Column 6] Net Proceeds per Share (3)	[Column 7] Gross Equity Issue before Costs (4)	[Column 8] Total Net Proceeds (5)	[Column 9] Total Flotation Costs (6)	[Column 10] Flotation Cost Percentage (7)
11/18/19	Equity Offering	28,750,000	$ 88.65	$ 85.99	$ 2.66	$ 0.021	$ 85.9694	$ 2,548,687,500	$ 2,471,620,500	$ 77,067,000	3.02%
03/06/18	Equity Offering	21,275,000	$ 75.86	$ 74.07	$ 1.79	$ 0.021	$ 74.0508	$ 1,613,921,500	$ 1,575,431,800	$ 38,489,700	2.38%
03/01/16	Equity Offering	10,637,500	$ 73.35	$ 69.84	$ 3.51	$ 0.038	$ 69.8024	$ 780,260,625	$ 742,523,000	$ 37,737,625	4.84%
								$ 4,942,869,625	$ 4,789,575,300	$ 153,294,325	3.10%

Flotation Cost Adjustment

	Average Dividend Yield	Average Projected EPS Growth Rate	Adjusted Dividend Yield	Average DCF Cost Rate Unadjusted for Flotation (8)	DCF Cost Rate Adjusted for Flotation (9)	Flotation Cost Adjustment (10)
Proxy Group of Fourteen Electric Companies	3.44 %	5.29 %	3.53 %	8.82 %	8.93 %	0.11 %

See page 2 of this Attachment for notes.

Source of Information: Company SEC filings

Duke Energy Ohio, Inc.
Notes to Accompany the
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

(1) Company SEC Filings.

(2) Column 2 – Column 3.

(3) Column 1 * Column 2.

(4) Column1 * Column 4.

(5) Column 1 * Column 3.

(6) Column 5 – Column 6

(7) (Column 5 – Column 6) divided by Column 5.

(8) Using the average growth rate from page 1 of Attachment DWD-2.

(9) Adjustment for flotation costs based on adjusting the average DCF constant growth cost rate in accordance with the following:

$$K = \frac{D(1+0.5g)}{P(1-F)} + g,$$

where g is the growth factor and F is the percentage of flotation costs.

(10) Flotation cost adjustment of 0.11% equals the difference between the flotation adjusted average DCF cost rate of 8.93% and the unadjusted average DCF cost rate of 8.82% of the Utility Proxy Group.

Source of Information:

Company SEC Filings.

Summary: Testimony Direct Testimony of Dylan W. D'Ascendis electronically filed by Mrs. Tammy M. Meyer on behalf of Duke Energy Ohio Inc. and D'Ascenzo, Rocco and Kingery, Jeanne W. and Vaysman, Larisa and Elizabeth M. Brama