**Company Overview**

Duke's utilities provide regulated electric and gas service to more than 4 million customers in North Carolina, South Carolina, Florida, Ohio, Kentucky and Indiana. It also has interests in power generation in Central and South America.

**Primary Subsidiaries Include**

- Progress Energy
- Duke Energy Carolinas
- Duke Energy Indiana
- Duke Energy Ohio

Various Affiliates Issuing Tax-Exempt Bonds on behalf of Duke and its subsidiaries.

**Parent Credit Ratings**

- Moody's: Baa1/Stable
- S&P: A-/Stable
- Fitch: BBB+/Negative

**Financial Data**

- Debt/Capital: 56%

**U.S. Recommended Corporate Bond Sector Weightings**

- Financial: 30%-45%
- Utilities: 10%-25%
- Industrial: 35%-55%

**U.S. Recommended Bond Ladder**

- Short-term (up to 5 years): 30%-40%
- Intermediate-term (6-15 years): 40%-50%
- Long-term (16+ years): 15%-25%

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**Appropriate for Income**

**Recommendation**

We consider bonds of Duke Energy (and its subsidiaries) to be an appropriate holding for Edward Jones clients who seek Income as an objective within a well-diversified portfolio.

**Edward Jones Credit Strength Assessment**

<table>
<thead>
<tr>
<th>Low</th>
<th>Below Average</th>
<th>Average</th>
<th>Above Average</th>
<th>High</th>
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</table>

**Investment Summary**

The majority of Duke's earnings are produced by the company's regulated businesses, and the company has a lengthy track record of solid performance. Duke also possesses a leveraged but solid balance sheet, a robust capital-spending program (which leads to an expanding rate base, and thus, future earnings power), and the ability to raise both debt and equity capital to fund its growth. In our view, Duke operates in a number of states that have some of the most constructive regulatory environments, including North Carolina, Florida and Indiana. We believe Duke is a sound corporate credit with the ability to meet its current and future debt obligations.

**Bond Strengths**

- We believe Duke's business model, which consists primarily of several regulated utilities and International Energy (nonregulated generation), will enable Duke to continue to produce consistent cash flows.
- Duke has a robust capital-spending program that will likely add to the company's asset, or rate, base. A utility is allowed to earn a specified return on its rate base.
- Duke is financed relatively conservatively given the stability of its cash flow, which we view as a positive for bondholders. Major debt-rating agencies have assigned the company's debt investment-grade ratings.
- For utilities, obtaining reasonable allowed returns and raising capital to run the business are key success factors. Duke operates in states that are considered friendly toward utilities, and the company has a lengthy history of raising capital in the debt market.

**Bond Weaknesses**

- Although a utility earns a return on its rate base, Duke's increased capital spending over the next several years could lead to a higher debt ratio and possibly a weaker financial position.
- Duke has over $43 billion in debt, compared with a recent cash balance of just $1 billion.
- Duke will probably have to raise additional capital over the next several years, as increasing capital expenditures will likely be higher than cash flows generated by operations.
Recent News and Analysis

8/3/17: Duke Energy reported second-quarter operating earnings per share (EPS) of $1.01, which matched the analyst consensus estimate and was down from $1.07 in the second quarter of 2016. The company affirmed its 2017 EPS guidance of $4.50 to $4.70. We view this as a good quarter for Duke overall. The company's earnings were down from the second quarter of 2016 primarily due to the sale of assets in its International Energy division, less favorable weather, and higher taxes. However, the sale of most of its International assets leads to better earnings quality, in our view, due to the vast majority of its earnings now coming from regulated utilities. The 2016 purchase of Piedmont Natural Gas also helped in this regard. From a bondholder's perspective, we like the direction in which Duke is moving as it transitions toward becoming a company that earns nearly all of its income from regulated utility operations. These earnings tend to be less volatile and, therefore, are more supportive of continued payment of interest and principal on bonds. Duke's debt-to-total-capitalization ratio has risen to 56% from 52% at the end of 2015, due in large part to the heavy debt financing used to purchase Piedmont Natural Gas. However, we see this as a reasonable level for a company that derives nearly all of its earnings from regulated utility operations. We continue to consider bonds of Duke Energy (and its subsidiaries) to be an appropriate holding for Edward Jones clients who seek Income as an objective within a well-diversified portfolio.

10/11/16: Less than a day after announcing the sale of its Brazilian business, Duke Energy has announced an agreement to sell the remainder of its Central and South American business for $1.2 billion to I Squared Capital (a private-equity investor). Importantly, as was the case with the Brazilian assets, Duke plans to use the proceeds of the sale to pay down debt. Duke recently closed its acquisition of Piedmont Natural Gas, but this purchase was primarily made with the proceeds from new debt issuance. The company plans to reduce a portion of this debt by using the proceeds from the sale of its Brazilian business. Duke's overall debt levels will remain higher than they were before either of these transactions. However, the purchase of Piedmont, which is primarily a regulated gas utility, and the sale of the Brazilian business, which is an unregulated international asset, improves Duke's overall business mix for bondholders by making it more regulated. The company expects to sell the remainder of its Central and South American assets in the future and has been in negotiations on these. We view the sale of the Brazilian business and the expected reduction of debt associated with it as a positive for bondholders.

Company Outlook

Duke's Business Segments Provide Geographic Diversification

U.S. Franchised Electric and Gas – These consist of the company's core electric and natural gas utilities in North and South Carolina, Florida, Indiana, Ohio and Kentucky. We expect this regulated core business to continue to generate the majority of earnings. We see Duke's relatively stable earnings and cash flow being generated mainly by this segment, with growth coming from customer growth and new investments in power plants, transmission and distribution lines, and environmental compliance projects.

Duke Energy International – Duke utility operations in the Central and South American countries. However, the company has entered agreements to sell its Central and South American businesses. Once these sales close, Duke's International business will consist of a 25% equity investment in National Methanol Company (Saudi Arabia).

Duke Positioned to Partake in Industry Growth – We expect Duke Energy to grow its rate base significantly over the next several years. In addition to continued investments in environmental projects, maintaining and upgrading transmission and distribution lines, and retrofits of existing power plants, Duke has embarked on several major projects that will take a couple of years to complete and will add to the company’s rate base. Overall, we expect Duke to spend over $6 billion on capital projects from 2015. (Please see Figure 1 for capital spending figures.) In addition to elevated capital spending, we believe Duke's growth will be aided by reasonable customer growth in its service area and ongoing cost-containment efforts.

Figure 1

Duke Energy Capital Expenditures

Source: Company reports, Edward Jones

Relationships With Regulators – Duke operates regulated utilities in North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky. Overall, we view the company's regulatory environment as generally supportive. We view North Carolina,
Florida and Indiana as particularly constructive regulatory environments, and we are encouraged that roughly 75% of Duke's customers are in these three states.

Following the Progress Energy merger, there had been uncertainty regarding Duke's relationship with the North Carolina Utilities Commission, which was related to the resignation of Bill Johnson, Progress Energy's CEO, who was picked to lead the combined company, and his replacement by Duke's CEO Jim Rogers. However, constructive settlements with the North Carolina Public Staff on rate cases at both Duke Energy Carolinas and Duke Energy Progress have eased some of our concern related to this. Overall, we view Duke's regulatory environment across the states in which it operates electric and gas utilities as quite strong.

Moving Toward a More Regulated Business Mix - Duke has made a decision to move its business mix almost entirely to the operation of regulated utilities. Transactions that have contributed to this include the sale of its Midwest generation business, the sale of its Central and South American businesses, and the purchase of Piedmont Natural Gas (which was primarily regulated). While the company has taken on some additional debt in these transactions, we view this move toward a heavier mix of regulated businesses as favorable for bondholders.

Financial Strength

We believe Duke's financial condition is solid. The company weathered the storm of the most recent recession relatively unscathed, with no material decline in cash flows. Duke finished 2015 with nearly $1 billion of cash on its balance sheet and a debt-to-total-capitalization ratio of 52%, lower than many utilities. Duke has not experienced any problems raising new debt or rolling over existing debt in the credit markets, and spreads on Duke bonds versus Treasuries have narrowed after spiking during the financial crisis, indicating investors' increasing confidence in the company's ability to make debt payments. (Please see Figure 3, which represents a Duke Energy Carolinas bond — one maturing in April 2038, but which is callable before that date.) We expect continued healthy capital spending to maintain and upgrade current transmission and distribution infrastructure, and to finance retrofits and construction of new power plants. We also expect Duke will continue to increase its dividend to shareholders.

Duke Subsidiary Municipal Bond Offerings – Duke is permitted to offer tax-free municipal bonds through affiliates. It and its subsidiaries have issued several of these bonds. They are not explicitly listed as Duke bonds, but are obligations of the company's operating subsidiaries, may be secured by a pledge of revenues, and are typically rated equal to or slightly higher than Duke's corporate debt by rating agencies.

Industry Outlook

Our outlook for the electric utility sector is positive overall, with an improved growth outlook relative to the recent past. This improved outlook primarily reflects our expectations for more spending on utility infrastructure after many years of neglect. The need for additional power plants and transmission lines appears great, and we expect this need will continue for many years to come. Some estimates suggest the costs to update and expand the nation's utility infrastructure could be several hundreds of billions of dollars over the next two to three decades.

Additionally, environmental concerns resulting from the issue of global warming are driving increased spending to reduce emissions from existing power plants. Investments in renewable energy (especially windpower), new nuclear plants, and modifications to existing coal-fired plants are proving to be quite costly. As utilities spend on infrastructure and environmental needs, they can earn a regulated return on the invested capital. As a result, earnings can grow faster than they otherwise would.
Required Research Disclosures

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### Appropriate for Income
- **We consider bonds to be an appropriate holding for investors seeking income within a well-diversified portfolio. Our time horizon is 3-5 years.**

### Appropriate for Aggressive Income
- **We consider bonds appropriate only as a small Aggressive Income portion within a well-diversified portfolio. Bonds within this category are riskier, with a higher possibility of loss due to default, than bonds classified as Income. Our time horizon is 3-5 years.**

### Sell
- **We recommend investors sell these bonds. We believe these bonds are no longer an appropriate fixed-income holding because, in our opinion, they offer an unattractive risk/reward scenario at current prices. Our time horizon is 3-5 years.**

### FYI
- **FYI - For informational purposes only, factual, no opinion.**

Initiated Coverage (Appropriate for Income) 12/22/10

**Analyst Certification**

- I certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers; and no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in the research report. Mike Doyle, CFA

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- Edward Jones trades as principal in the debt securities that are the subject of this research report.

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- When investing in issuers incorporated outside your own country of residence, you should consider all other material risks such as currency risk, political risk, liquidity risk and accounting rules differences, which can adversely affect the value of your investment. Please consult your Financial Advisor for more information.
- Edward Jones Credit Strength Assessment: Low – Our opinion is that these credits are of low financial quality. We believe these credits are the most likely to default and experience the most financial hardship. Below Average – Our opinion is that these credits are of below-average financial quality. We believe these credits are more likely to default or experience financial hardship than the average. Average – Our opinion is that these credits are of average financial quality. We believe these credits have a low probability of default or low chance of experiencing financial hardship. Above Average – Our opinion is that these credits are of above-average financial quality. We believe these credits are less likely to default or experience financial hardship than the average. High – Our opinion is that these credits are of the highest financial quality. We believe these credits have the lowest probability of default and will experience the least financial hardship.
- Ratings from Standard & Poor's (“S&P”), Moody's and Fitch may be shown for certain securities. S&P requires we inform you: (1) Ratings are NOT recommendations to buy, hold, sell or make any investment decisions and DO NOT address suitability or future performance; (2) S&P DOES NOT guarantee the accuracy, completeness, or availability of any ratings and is NOT responsible for results obtained from the use of any ratings. Certain disclaimers related to its ratings are more specifically stated at http://www.standardandpoors.com/disclaimers.