

DUKE ENERGY CORPORATION (DUK)

Sector: Utilities

Industry: Electric Utilities

Recommendation: BUY

Presented By:

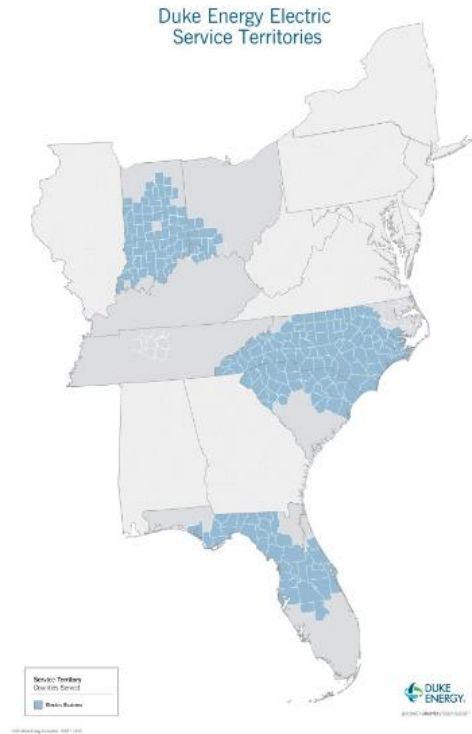
Noam Avraham, Krishna Patel, Stephanie Liu



AGENDA

- Overview of DUKE Energy Corporation
- Key Financial Statistics
- SWOT Analysis
- Sector & Industry Overview
- Competitor Analysis
- Catalysts
- Risks
- Investment Thesis
- Portfolio Considerations
- Valuation

Company Overview

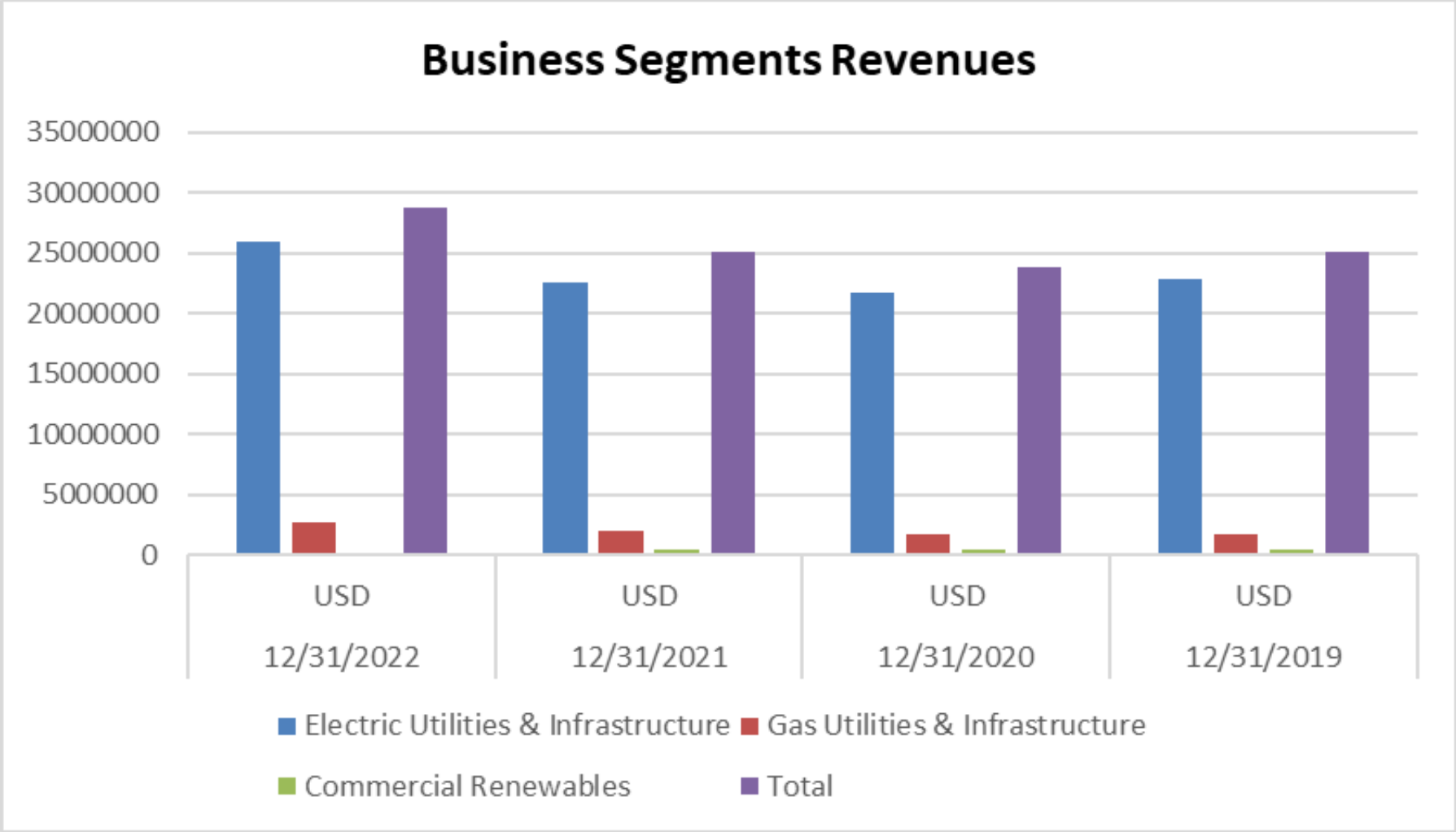


Duke Energy Corporation, a Fortune 150 company based in Charlotte, North Carolina, is one of the largest energy holding companies in the U.S., with an \$80 billion market cap as of December 2022. It provides electricity to approximately 8.2 million customers and natural gas to 1.6 million customers across six states. Its electric utilities own a substantial 50,000 megawatts of energy capacity, spanning a service area of 92,000 square miles.

Business Segment

Duke Energy's segment structure includes two reportable business segments: Electric Utilities and Infrastructure (EU&I) and Gas Utilities and Infrastructure (GU&I). The remainder of Duke Energy's operations is presented as Other. Commercial Renewables is reported as discontinued operations and is no longer a reportable segment beginning in the fourth quarter of 2022.

Business Segments Revenues



SWOT ANALYSIS

SWOT ANALYSIS

STRENGTHS

- Expansive consumer base – spans multiple diverse industries
- Strong vertical integration and diversified generation portfolio. Revenue of US\$28.77Bn million, an increase of 15.4% from 2021
- Product/Service Diversity: Extensive service portfolio

WEAKNESSES

- Operations are heavily concentrated in EU&I.

OPPORTUNITIES

- US government incentives for renewable energy production
- Positive outlook for electricity sales to retail customers in the US
- Positive outlook for US renewable energy market

THREATS

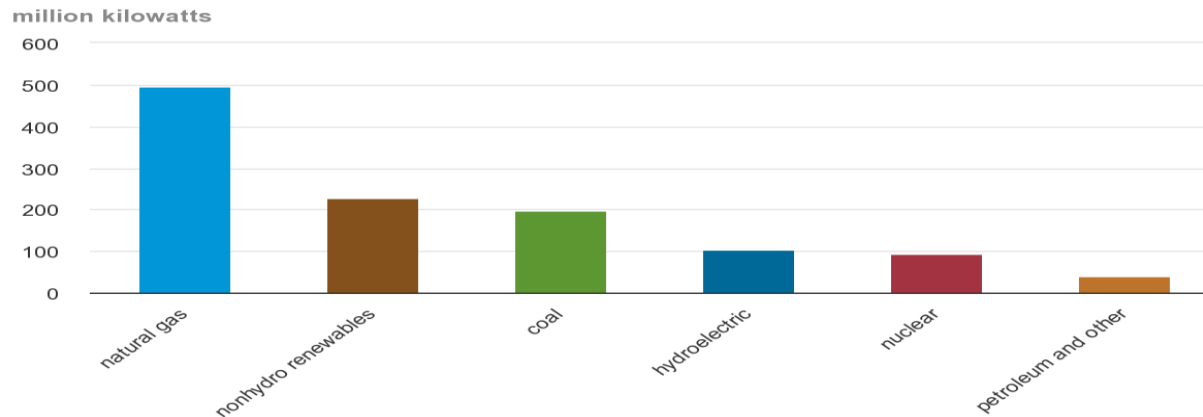
- Compliance with environmental laws and regulations
 - Intense competition
- Fluctuations in commodity prices



SECTOR & INDUSTRY OVERVIEW

- US electricity sales continued to rise in 2022 as the market continues to recover from the pandemic.
 - Sales increased 3.6% in the first 8 months compared to the prior year
- Sales growth suppressed by significant increase in costs (15.8% increase in Revenue)
 - Ex. Natural gas prices more than doubled due to global shortages exacerbated by the conflict with Russia
- In response to extreme climate, industry and policymakers worked to bolster reserves, deploy energy storage and microgrids, strengthen infrastructure, etc.
- Providing secure, reliable, affordable, and clean electricity is a rising problem as inflation, high fuel costs, and supply chain snags will keep electricity prices elevated
- Renewable energy experienced industry wide growth driven by soaring demand and attractive long-term incentives
- Renewable energy industry did incur a suppression in growth due to rising costs and delays, driven by supply chain disruption, trade policy uncertainty, inflation, rising interest rates, and interconnection delays.
- Many challenges in 2022 will carry over into 2023, but growth will be driven by demand and clean energy incentives in the Inflation Reduction Act (IRA)

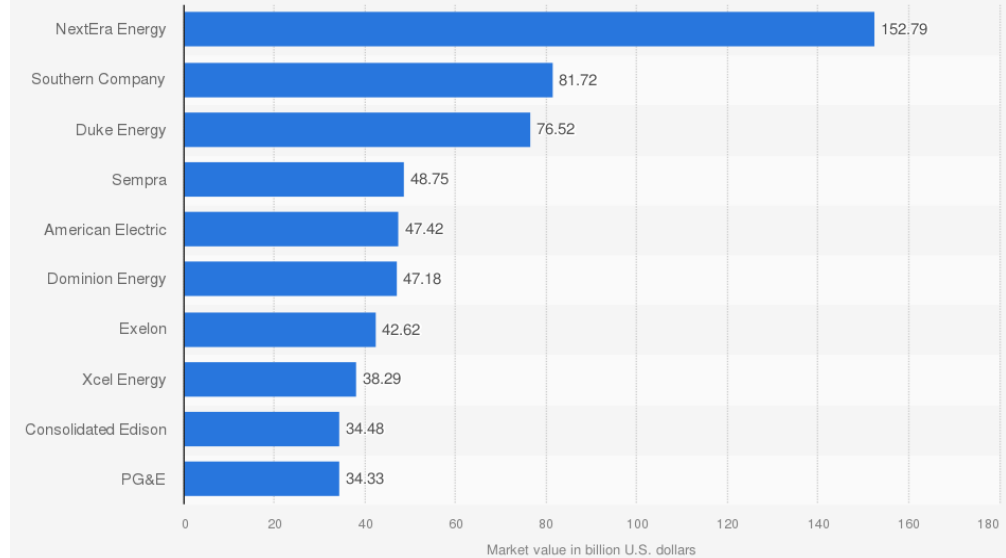
U.S. electricity generating capacity by major energy source, 2022



Data source: U.S. Energy Information Administration, *Electric Power Monthly*, February 2022, preliminary data
 Note: Includes net summer capacity of power plants with at least 1,000 kilowatts of generation capacity. Hydroelectric includes conventional and pumped-storage hydro.

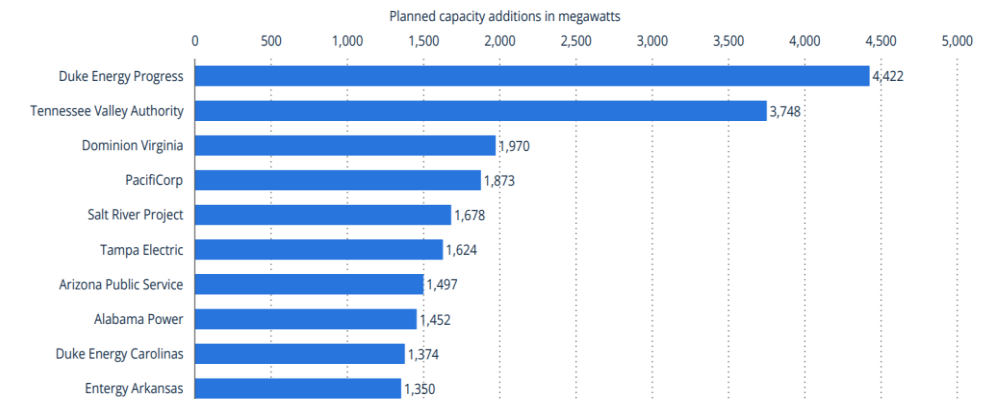
Source(s): Statista, IBIS, Statista, U.S. Energy Information Administration

Largest electric utilities based on market value in the United States as of June 2023 (in billion U.S. dollars)



Leading electric utilities by planned new natural gas power capacity in the United States between 2020 and 2030 (in megawatts)

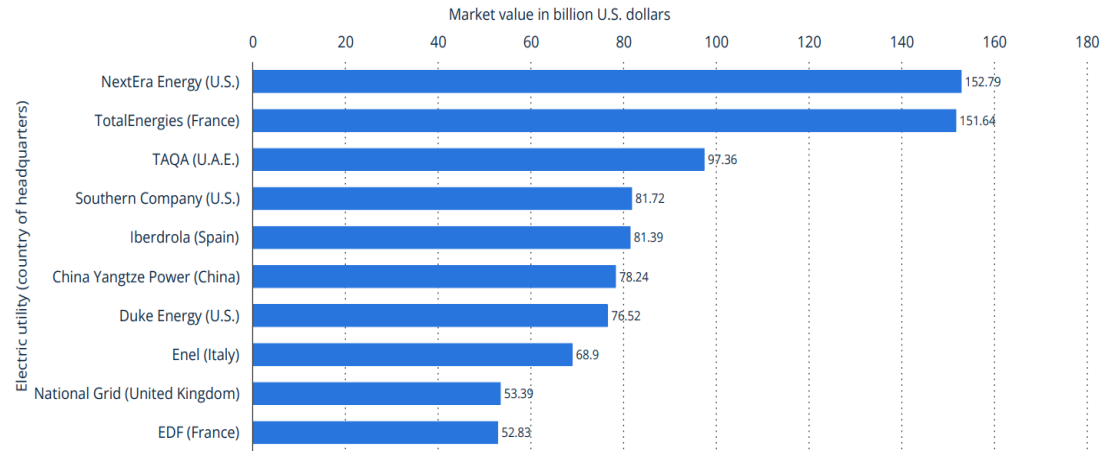
Planned gas power capacity additions in the U.S. 2020-2030, by utility



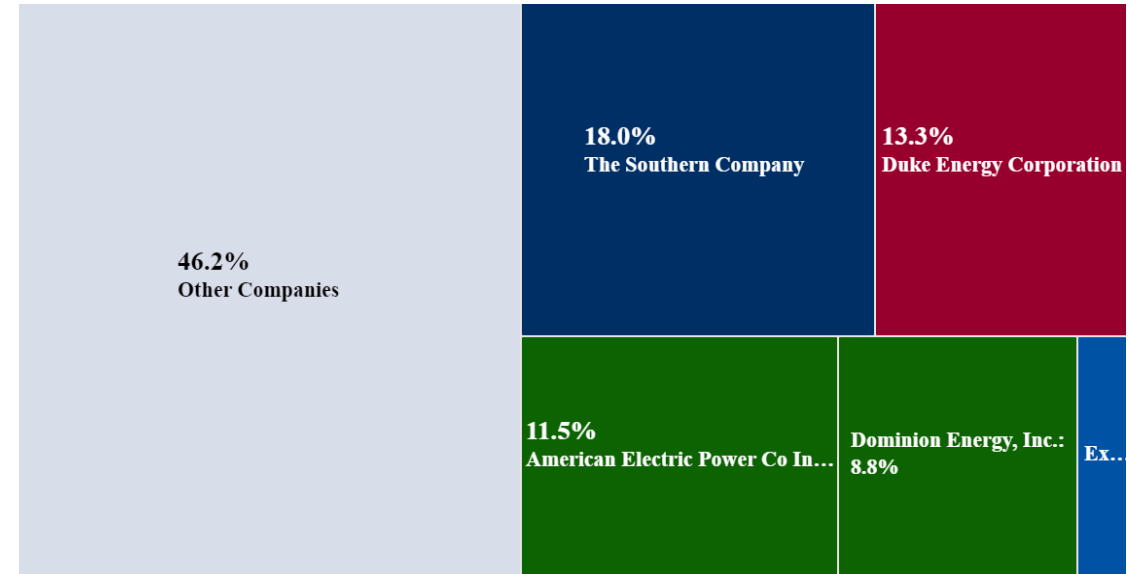
SECTOR & INDUSTRY OVERVIEW

Market value of largest electric utility companies worldwide as of June 2023 (in billion U.S. dollars)

Leading global electric utilities 2023, based on market value



Coal & Natural Gas Power in the US: Companies & Market Share (2023)

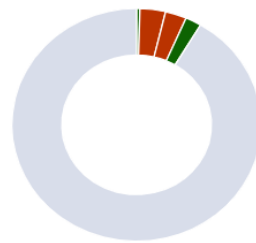


Wind Power Breakdown by Market Share



- 0.8% Avangrid, Inc.
- 0.3% Duke Energy Corporation
- 1.7% NextEra Energy Inc.
- 97.2% Other

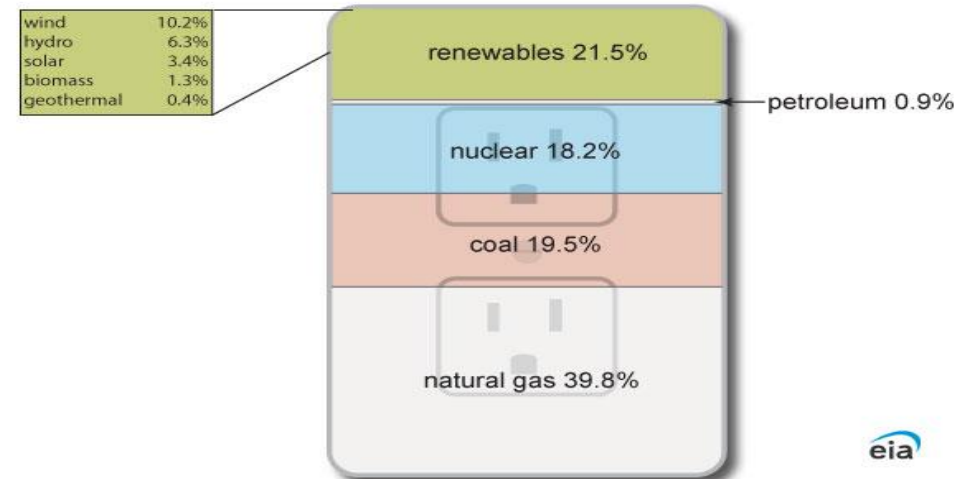
Utilities Sector Breakdown by Market Share



- 0.4% American Water Works Company, Inc.
- 3.3% Exelon Corporation
- 2.8% Duke Energy Corporation
- 2.1% NextEra Energy Inc.
- 91.4% Other

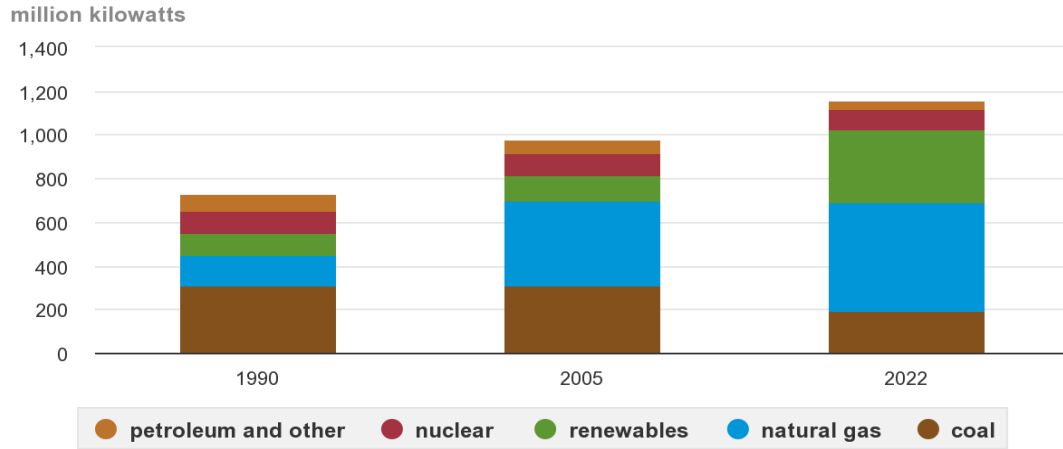
Sources of U.S. electricity generation, 2022

Total = 4.24 trillion kilowatthours

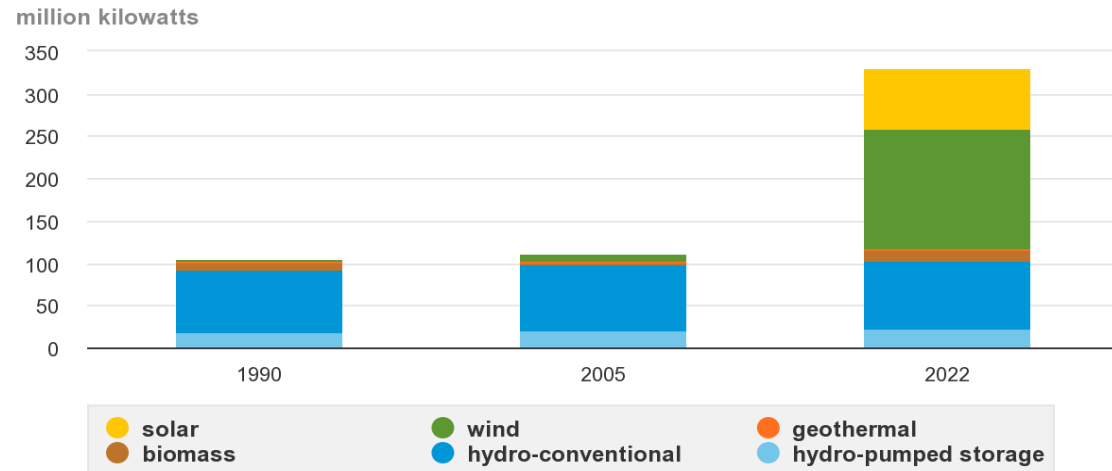


SECTOR & INDUSTRY OVERVIEW

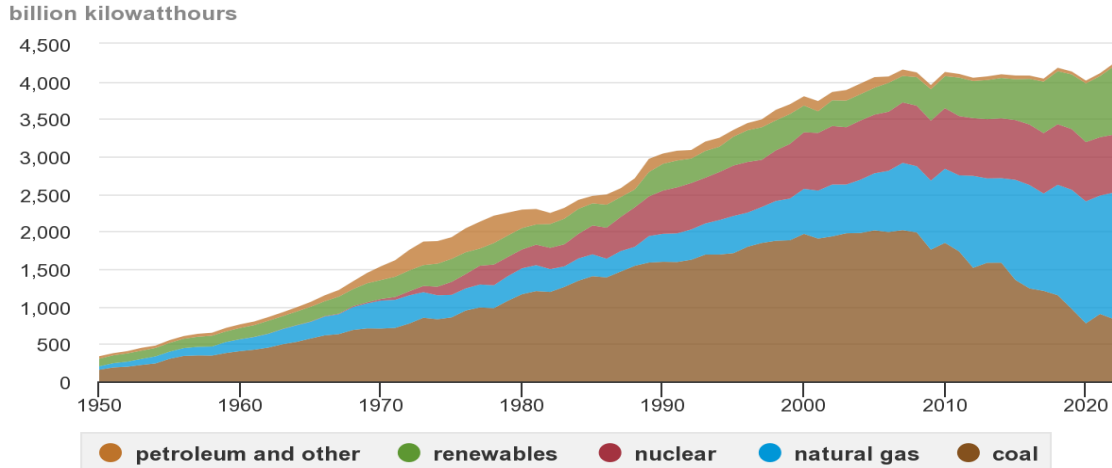
U.S. electricity generation capacity by major energy source, 1990, 2005, and 2022



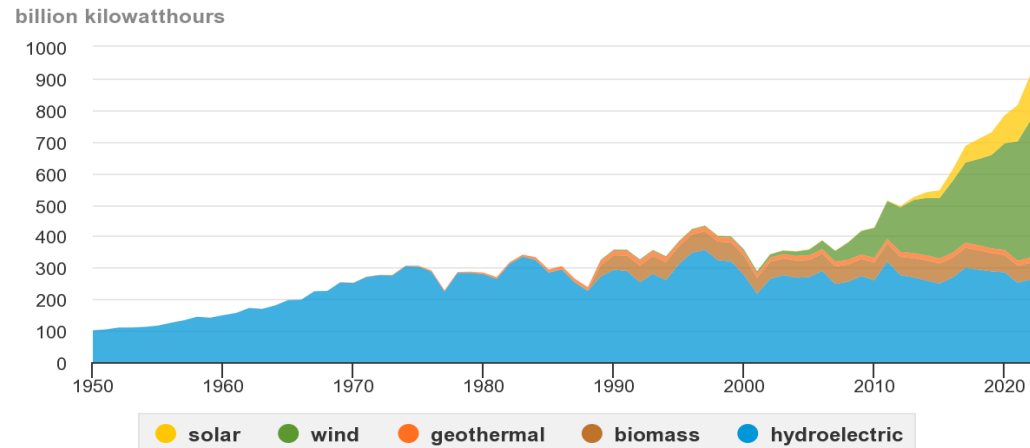
U.S. renewable electricity generation capacity by type, 1990, 2005, and 2022



U.S. electricity generation by major energy source, 1950-2022



U.S. electricity generation from renewable energy sources, 1950-2022



Data source: U.S. Energy Information Administration, *Monthly Energy Review* and *Electric Power Monthly*, February 2023, preliminary data for 2022

Note: Includes generation from power plants with at least 1 megawatt electric generation capacity.

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COMPETITOR ANALYSIS

Industry: Electric Utilities

1. The Southern Company (SO) (Market Cap: \$78.89B)

- Revenue: \$29.27B (23.68% increase from 2021)
- Business Segments: Gas Distribution Operations, Gas Pipeline Investments, Gas Marketing Services

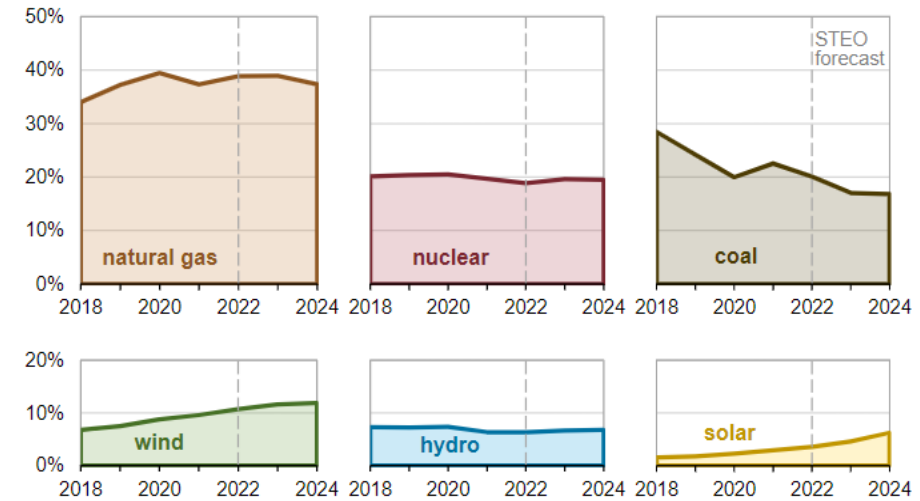
2. NextEra Energy (NEE) (Market Cap: \$147.27B)

- Revenue: \$20.97B (22.77% increase from 2021)
- Business Segments: Operates through subsidiaries – Generates, transmits, distributes, sells electric power in North America (retail, wholesale)

3. American Electric Power Company (AEP) (Market Cap: \$44.006B)

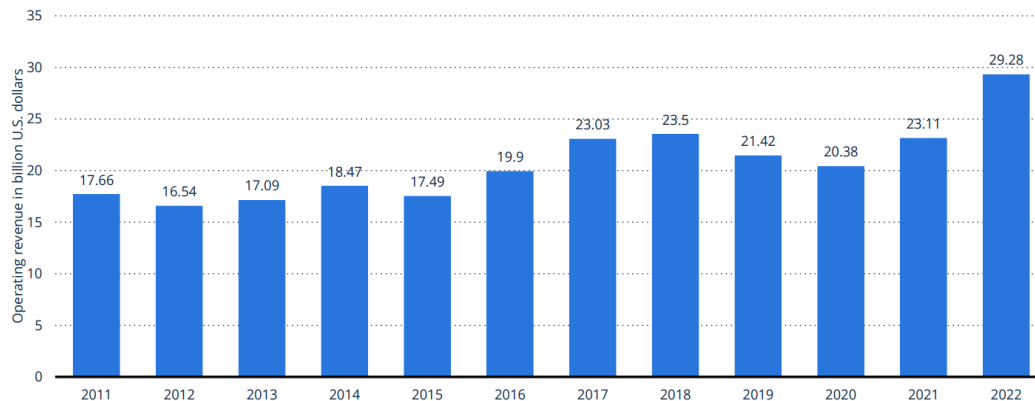
- Revenue: \$19.64B (16.96% increase from 2021)
- Business Segments: Vertically Integrated Utilities, Transmission & Distribution Utilities, AEP Transmission Holdco, Generations & Marketing

Annual share of U.S. electricity generation, power sector only (2018–2024)
percentage of total



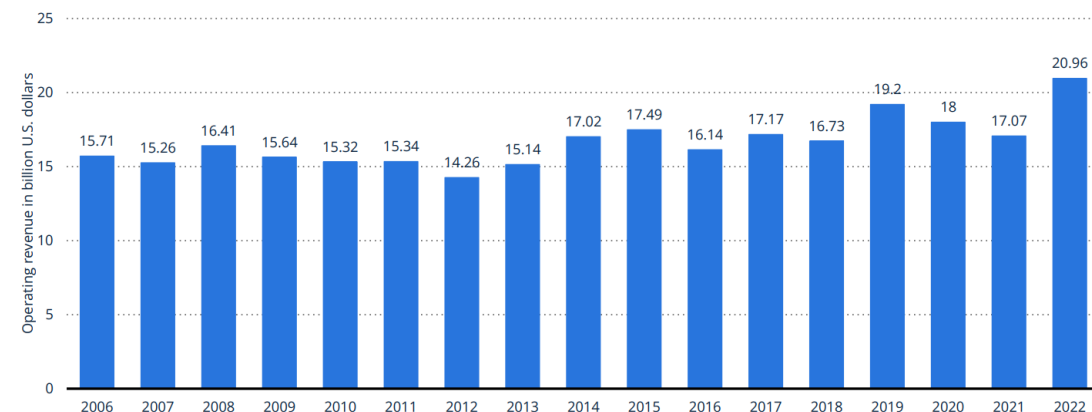
Operating revenue of Southern Company from FY 2011 to FY 2022 (in billion U.S. dollars)

Southern Company's operating revenue 2011-2022

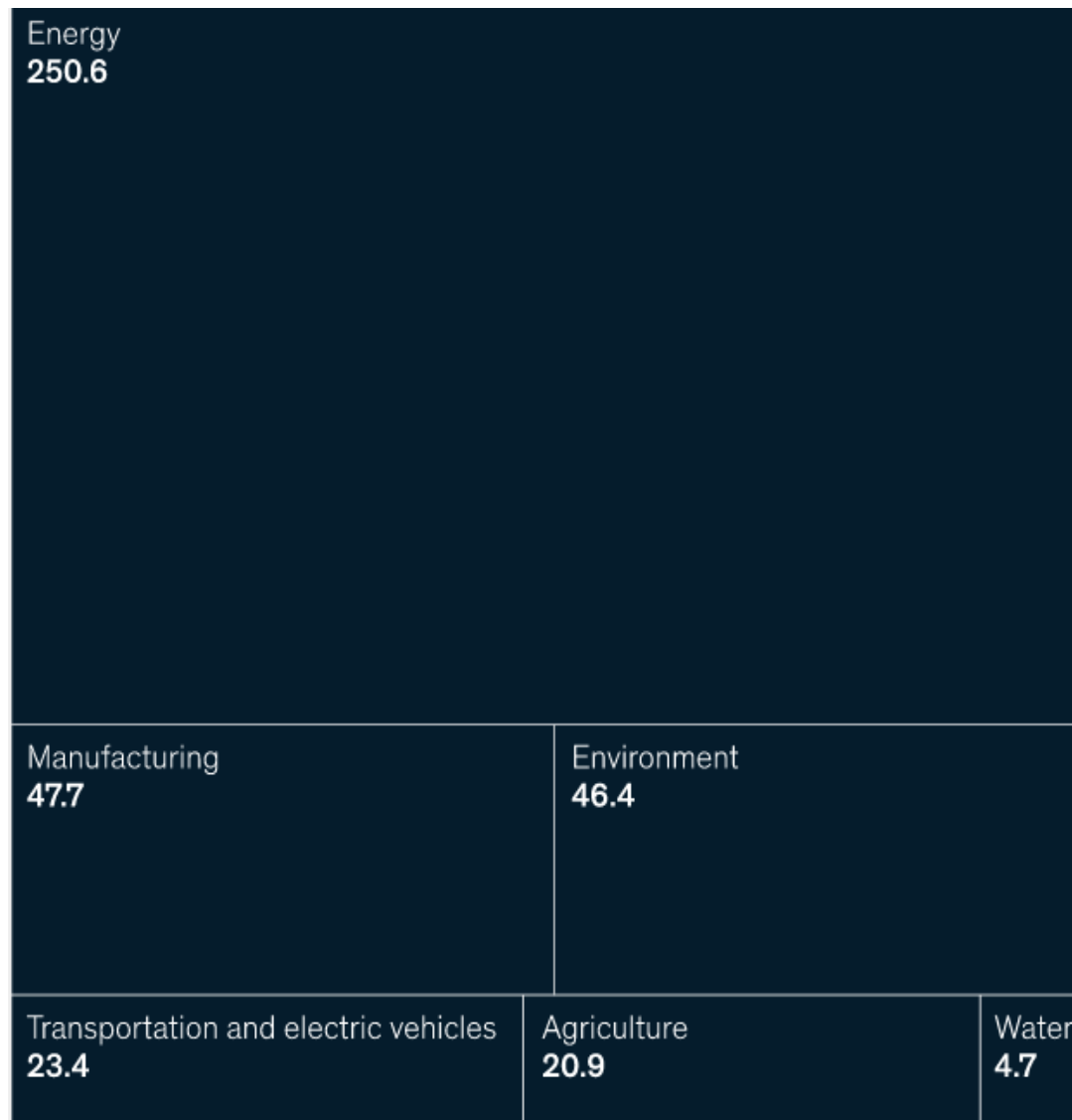


Operating revenue of NextEra Energy from financial year 2006 to 2022 (in billion U.S. dollars)

NextEra Energy's revenue FY 2006-2022



Industry Factors



1. Inflation reduction act (IRA)

The bill allocates 369\$ billion towards us energy security and climate change initiatives

Duke

- Executing an aggressive clean energy transition
- Investing in electric grid enhancements and energy storage

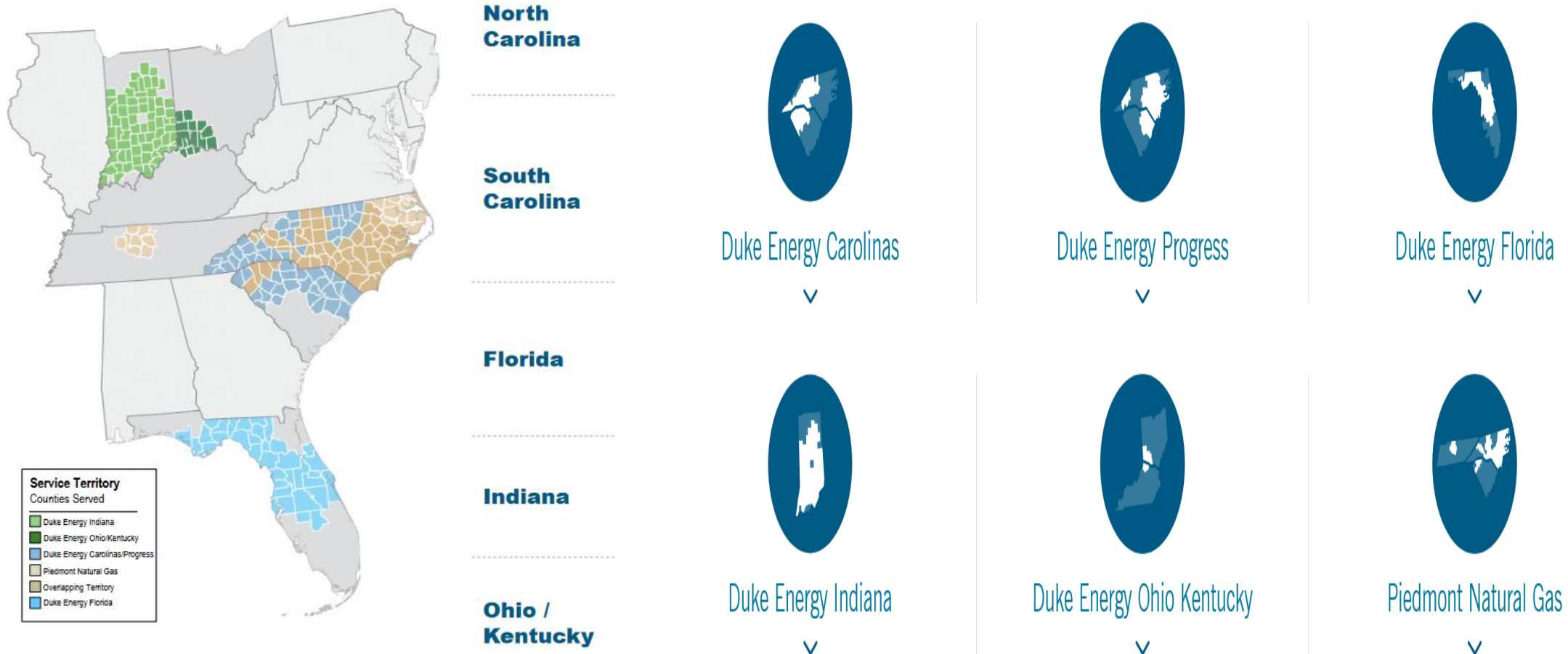
CATALYST

- North Carolina Carbon Plan
70% carbon reduction by 2030
- Plans to add regulated
renewables at a record rate.
30,000 megawatts by 2035.
- Modernizing the grid – In
Indiana completed the TDSIC
plan

Investment Thesis

Duke Energy regulated utility - monopoly in the regions where it operates

- Growth will be modest. - reliable income, that's not a bad balance.
- Defensive stock – will reduce the impact of other volatile stocks in the fund
- The proceeds from two pending renewable deals - \$1.4 billion - to strengthen balance sheet without issuing more equity



Investment Thesis

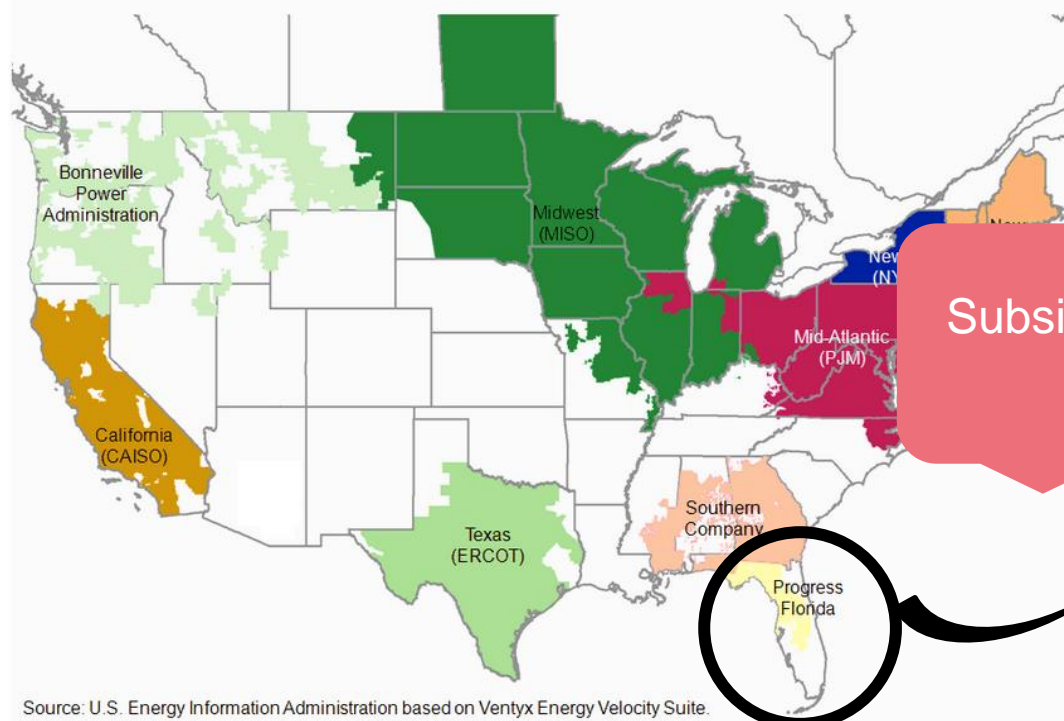
Industry: Electric Utilities

High demand levels exceeding 90% of annual highs were recorded not just the customers.. Energy consumption also increasing

Key indicators

	December 2022	% Change from December 2021
Total net generation (thousand MWh)	363,625	7.8%
Residential retail price (cents/kwh)	14.96	9.0%
Retail sales (thousand MWh)	325,753	6.0%
Heating degree-days	814	30.7%
Natural gas price, Henry Hub (\$/mmBtu)	5.74	50.0%
Coal stocks (thousand tons)	89,963	-2.1%
Coal consumption (thousand tons)	41,491	20.4%
Natural gas consumption (Mcf)	1,016,315	12.3%
Nuclear net generation (thousand MWh)	69,094	-2.3%

Electric Systems Selected for Daily Peak Demand



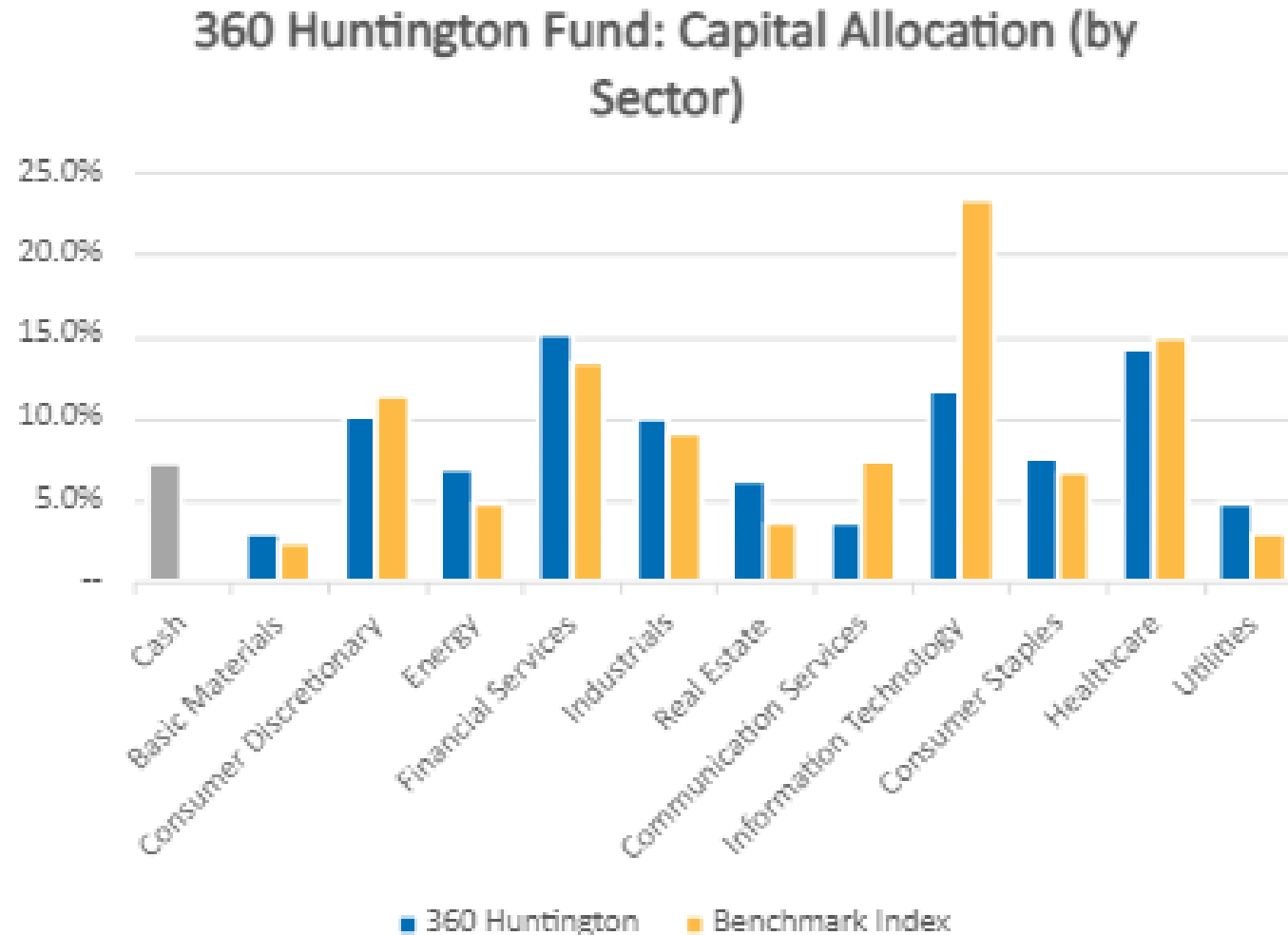
Electricity demand set a new 12-month high on the Bonneville Power Administration (BPA) system on December 22 at 11,068 MW. Temperatures across the BPA system set or approached record lows and were 30 degrees or more colder-than-normal on the date. High demand levels exceeding 90% of annual highs were recorded in the Mid-Atlantic (PJM), Southern Company, Progress Florida, and Texas (ERCOT). On the other end of the demand spectrum, one of the warmest Decembers on record kept temperatures mild and demand abnormally low on the New England (ISONE) and New York State (NYISO) systems.

Risks

Competition – not just in utility but also increasing competition in the clean energy space

Regulators to approve the company's capital spending plan and its rate

Portfolio Considerations



Valuation

Models

Valuation Methodology	Low (-10%)	Median	High (+10%)	Weights
Discounted Cash Flow	\$97.12	\$107.92	\$118.71	60.0%
Market Multiples: Price to Earnings	\$127.37	\$141.52	\$155.68	15.0%
Dividend Discount Model	\$69.97	\$77.74	\$85.51	25.0%
Target Price (12-Month)	\$94.87	\$105.41	\$115.95	100%

Baseline Metrics (\$B	2023	Per Share
Revenue	\$30.8	\$39.9
Gross Margin	\$20.2	\$26.2
Operating Income	\$6.8	\$8.8
Net Income	\$4.3	\$5.6

Current Price	\$ 92.15
Upside from Current Price (12 Month)	14.4%
Expected Alpha (12 Month)	7.1%

Graph Options — Do Not Change!

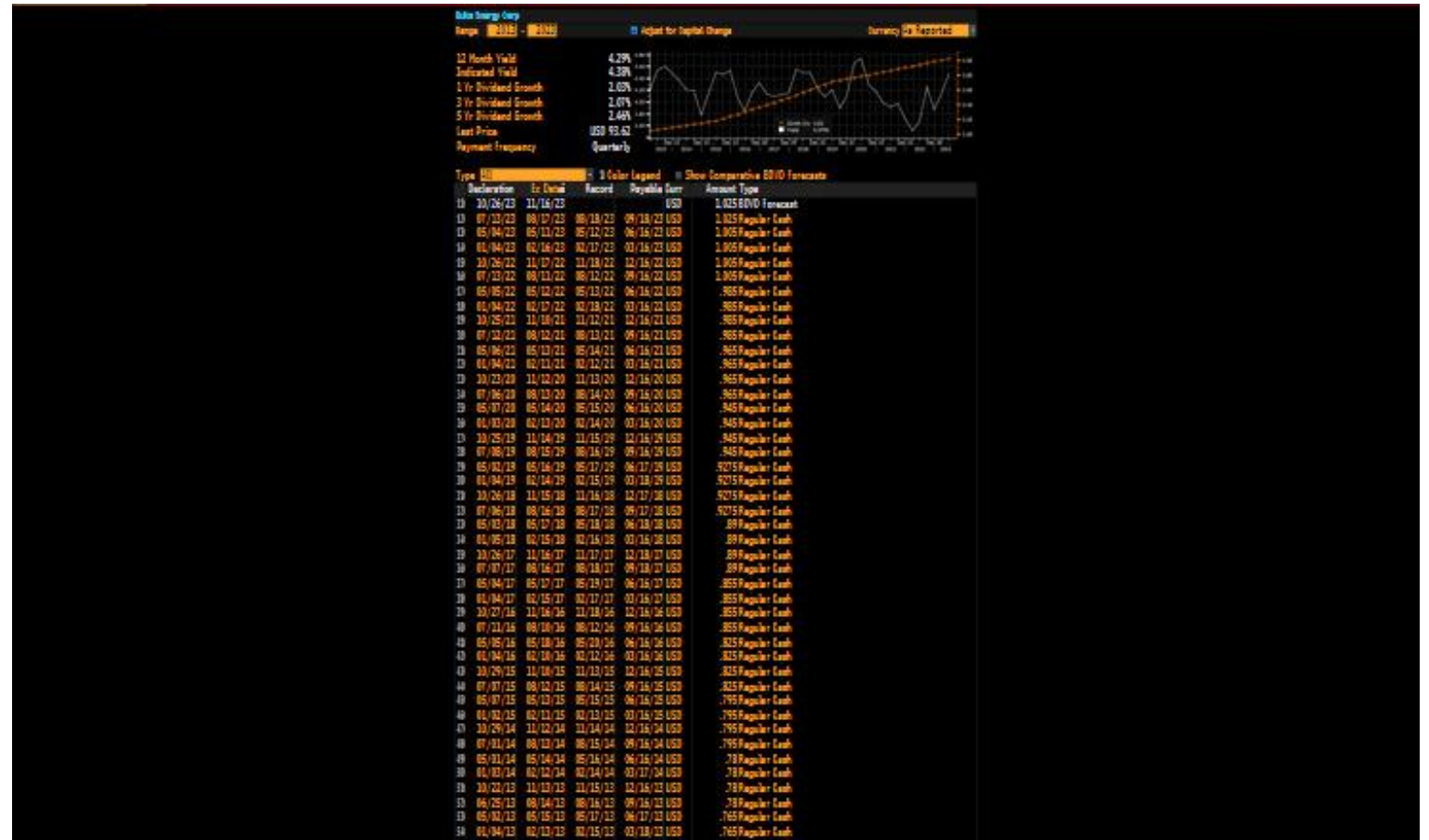
	Low	Median	Extra	High	EV
Discounted Cash Flow (60%)	97.1	10.8	2.6	8.2	105.4
Market Multiples: Price to Earnings (15%)	127.4	14.2	2.6	11.5	105.4
Dividend Discount Model (25%)	70.0	7.8	2.6	5.1	105.4



Thank You

Dividends

2022 marked the 96th consecutive year the company paid quarterly cash dividends



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Ratios

Ratio	Company	Industry
P/E	17.4	10.55
Price to sales	2.49	3.21
Price to book	1.51	2.39
LT debt to equity	146.19%	157.37
Total debt to equity	162.92%	179.7

Customers

Segment (in millions)	2019	2020	2021	2022
Electric total	7,779,560.00	7,917,648.00	8,061,220.00	8,197,017.00
Gas Total	1,619,194.00	1,649,895.00	1,642,190.00	1,661,868.00