

CenterPoint Energy

(Financial and Socio-Economic Data Report)



MIS 4397/7397 - Cloud Data Visualization

Presented by :

Manahil Hasan, Ravali Gonela,

Sai Dhatri Nagubandi,

Shane Foreman, Shrinidhi Sudhir

Executive Summary:

This report synthesizes the financial and socio-economic performance insights derived from CenterPoint Energy's activity over the years. We also outline the workflow, key findings, visualizations, and recommendations derived from the analysis of the provided data for the client by integrating various advanced visual analytics such as candlestick charts with moving averages and volume trends, gauge charts with financial metrics, and barcharts with employee demographics. The process involved sourcing the data, understanding its meaning and measurement, and aggregating, manipulating, and cleaning as needed. Key findings and visualizations highlight important insights, while recommendations offer stakeholders with actionable steps for the company's improvement making informed investment and strategic decisions.

Table of Contents:

1. Introduction
2. Workflow
 - a. Sourcing the Data
 - b. Understanding the Data
 - c. Aggregating, Manipulating, and Cleaning the Data
3. Key Findings and Visualizations
4. Recommendations
5. Appendix: Data Sources

1. Introduction:

The following report presents a comprehensive analysis of economic and socio-economic factors pertinent to CenterPoint Corporation's operations and strategic decision-making processes. By leveraging data from diverse and reliable sources, the dashboard aims to offer invaluable insights into the overarching economic landscape and socio-economic conditions that could potentially influence CenterPoint's performance and market outlook.

The analysis encompasses a comprehensive array of indicators, including but not limited to, economic growth trajectories, employment dynamics, and demographic information. These factors are of paramount importance for CenterPoint to comprehend, as they can exert significant implications on its business strategy, resource allocation, and overall competitiveness within the market landscape.

Ultimately, this report serves as an indispensable resource for CenterPoint's stakeholders, furnishing them with actionable insights derived from the analysis of economic and socio-economic factors, as visualized in the accompanying dashboard. It is anticipated that the information presented herein will facilitate informed decision-making processes and contribute to CenterPoint's continued success and growth in the ever-evolving business environment.

2. Workflow:

Sourcing the Data:

The main resource for our data collection was from CenterPoint energy's "Data Center" annual reports. Some part of the data for the economic page was meticulously sourced from Yahoo Finance, a reputable provider known for its comprehensive financial data. Data from Oncor, AEP, and PNM Resources was gathered from each company's Form 10-K to the Securities and Exchange Commission.

Understanding the Data:

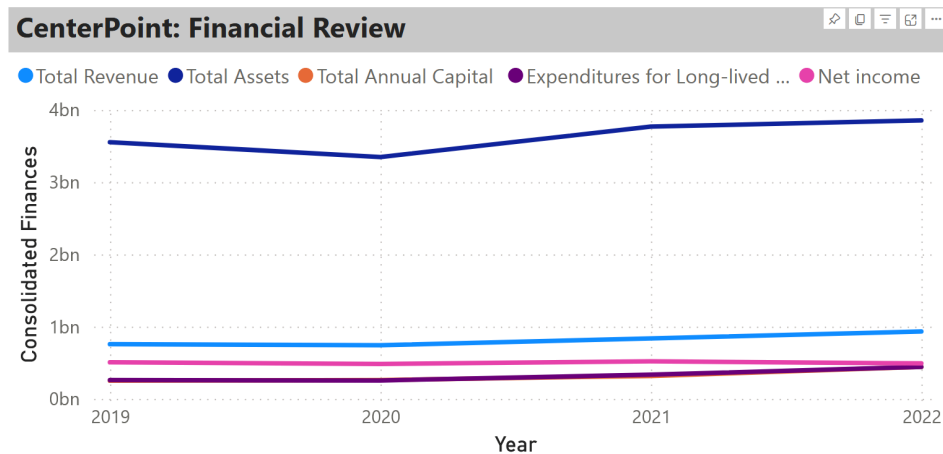
Each data point reflects the recorded values at market close, ensuring accuracy in representing market sentiments. Data is updated in real-time to reflect the most current market conditions, ensuring the dashboard remains relevant for ongoing decision-making processes.

Aggregating, Manipulating, and Cleaning the Data:

The data used in the dashboard underwent a series of steps to aggregate, manipulate, and clean it for analysis. Initially, data from the Data Center's annual reports was collected and consolidated into unified datasets. Next, the data was manipulated to extract relevant metrics and create new variables that could provide meaningful insights using Microsoft Excel and Power Query Editor. During the cleaning process, efforts were made to address missing or erroneous data points. This involved identifying and correcting data entry errors, imputing missing values using appropriate methods, changing data types as needed and ensuring consistency and accuracy in the dataset.

3. Key Findings and Visualizations:

Economic Analysis



Financial Performance Review:

This data provides a summary of CenterPoint Energy's financial performance over the years 2019 to 2022. Following are some key insights:

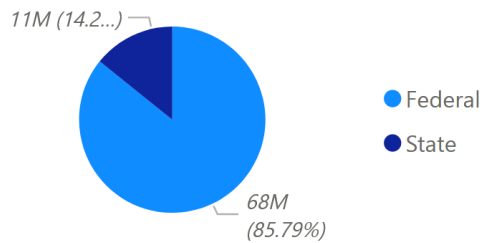
CenterPoint Energy's total revenue increased from \$756.4 million in 2019 to \$932.1 million in 2022 indicating a generally positive trend in revenue growth over the four-year period.

Similarly, total assets also showed an increasing trend, growing from \$3,552.9 million in 2019 to \$3,854.6 million in 2022. This indicates the company's on-going investment in its asset base, for potential opportunities of growth in operations in future.

The total annual capital increased from \$250.6 million in 2019 to \$441.9 million in 2022. This indicates that CenterPoint Energy has been allocating more capital towards various projects, which may include its Electric Construction, infrastructure and supply.

The expenditures for long-lived assets (Capex) followed a similar trend to total annual capital, increasing from \$258.7 million in 2019 to \$441.8 million in 2022.

Tax Distribution

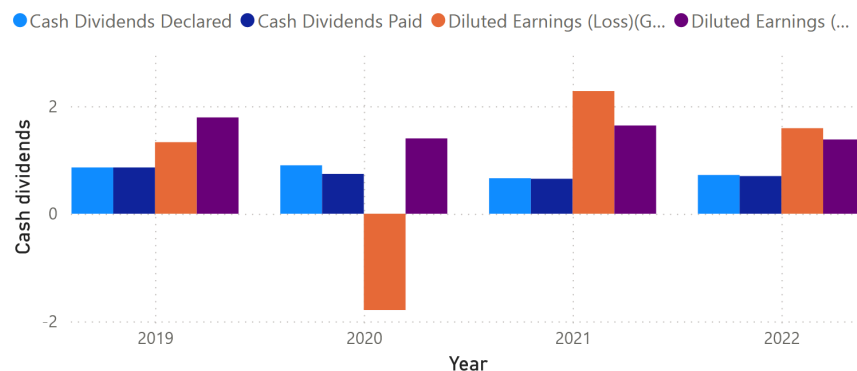


Tax Distribution:

From the provided data on CenterPoint Energy's economic performance and tax data for the years 2019-2022, we observe notable fluctuation in income tax. This is particularly highlighted by a high negative value in 2021 followed by a substantial increase in 2022. This suggests that the company experienced volatile tax liabilities, potentially influenced by changes in taxable income, tax regulations, or one-time events affecting tax positions.

The overall federal/state tax distribution is shown in the above visual.

Total earnings breakdown (Per Common Share)



Earnings Breakdown:

Earnings Volatility: The diluted earnings per common share (both GAAP and non-GAAP) demonstrate fluctuations over the four-year period, particularly a large negative value observed in 2020. However, in 2021 the company achieved a significant increase in earnings with a relatively lower loss (non-GAAP). Analyzing the reasons behind these fluctuations can provide insights into the company's operational performance and financial health.

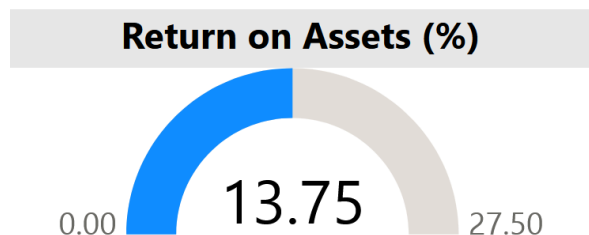
Dividend Stability: From the above visual, we infer that while cash dividends paid per common share show a general trend of fluctuation, they remained relatively consistent compared to cash dividends declared per common share. This indicates that CenterPoint Energy has maintained a relatively stable dividend payout ratio over the years, potentially reflecting its commitment to returning value to shareholders.

Competitive Analysis			
Electric Company	2022 Net Income	Number of Customers in 2022	Profit per Customer
American Electric Power	\$2,305,600,000	5567863	\$414.09
CenterPoint Energy	\$1,057,000,000	7124304	\$148.37
Oncor Electric	\$905,000,000	13000000	\$69.62
PNM Resources	\$185,180,000	545811	\$339.27

Competitive Analysis:

The Electric Reliability Council of Texas, or ERCOT, operates load management programs with four Transmission and Distribution Service Providers, or TDSP. These four providers are AEP Texas, CenterPoint Energy Houston Electric, Oncor Electric, and Texas-New Mexico Power. AEP Texas, CenterPoint Energy Houston Electric, and Texas-New Mexico are all subsidiaries of larger corporations, those being American Electric Power (AEP), CenterPoint Energy, and PNM Resources. This table highlights the financial differences between these corporations.

Out of the four corporations, CenterPoint Energy ranked 2nd in net income, 2nd in total customers, and 3rd in profit per customer in the 2022 fiscal year. CenterPoint's profit per customer being as low as it is can point to either high expenses or low rates for customers. It can also point to PNM and AEP charging more for their services or spending less than CenterPoint. Either interpretation should be a beneficial review of the company.



Return on Assets (%)

The return on assets ratio shows whether or not a company is effectively using its assets to run a profit. In 2022, the average electric and gas utility company had an ROA of 2.7%, meaning CenterPoint's ROA is not just good on its own, but is seen as elite within its industry¹.

38.85

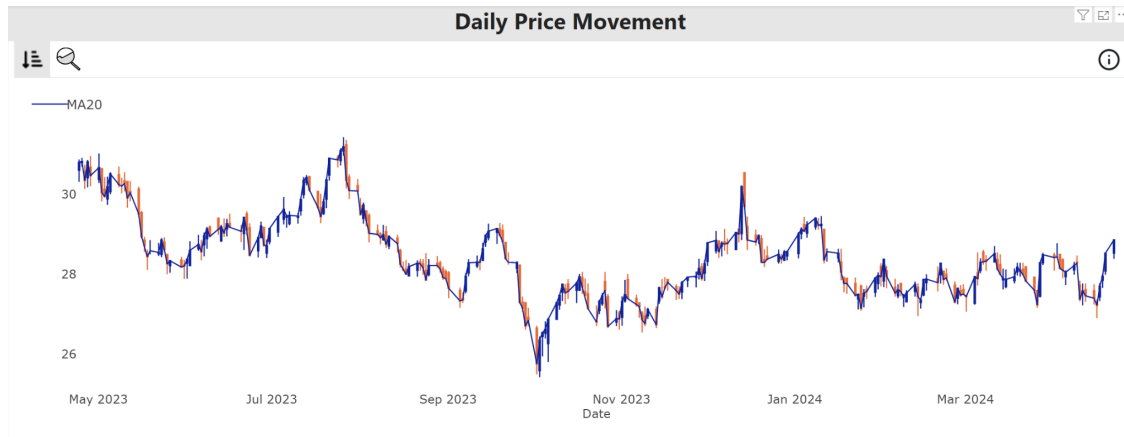
Capital Expenditure (%)

Capital Expenditures Percentage

The capital expenditure ratio shows the percentage of a company's total revenue that was spent on acquisitions and upgrades of assets. CenterPoint's capital expenditure ratio is high in total, but fits pretty well in the scope of the industry. In the past several years, the average utility company had a capital expenditure ratio of 25.91%². While still on the high end of the utility industry, CenterPoint is showing its commitment to expanding its company and improving its services.

¹ <https://www.readyratios.com/sec/ratio/roa/>

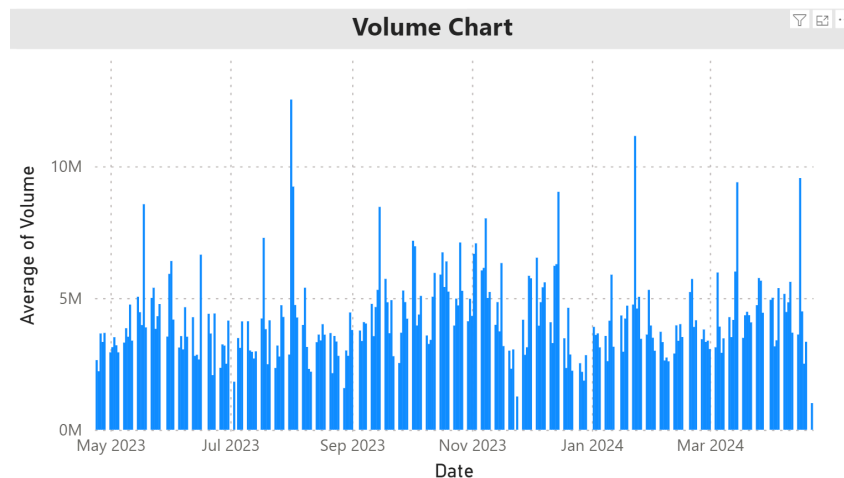
² https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/capex.html



Daily Price Movement

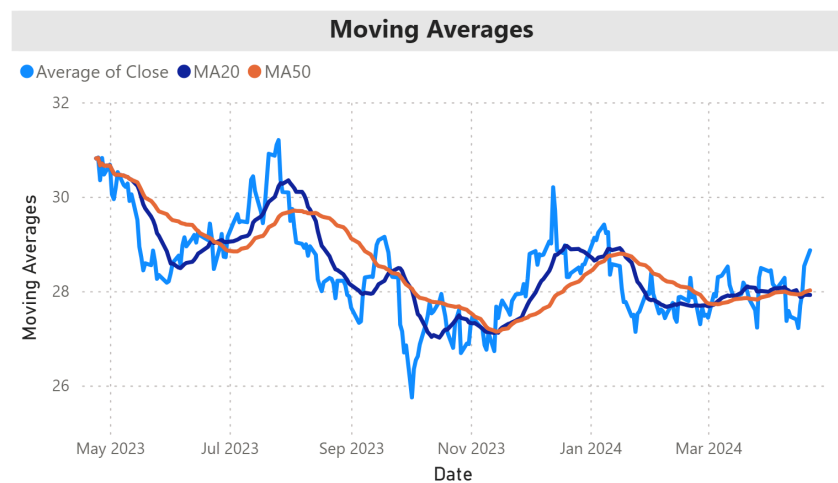
The Daily Price Movement candlestick graph shows the open and close prices on CenterPoint Energy's stock over the last year. It also features a 20 day moving average forecast to showcase how CenterPoint's stock performed against its expectations. Q3 of 2023 saw CNP's highest and lowest mark of the year as it peaked on July 27th and hit its low on October 2nd. This downturn was shared across the utilities industry, as many investors feared a recession, wildfires, and another blackout riddled winter.

CNP Stock Analysis:



Volume Chart

The Volume Chart correlates trading volumes with price movements, highlighting how volume supports or contradicts price actions. Volume spikes correlate to significant changes in prices.. CNP's highest volume occurred on August 1, 2023 and its lowest volume occurred on April 22, 2024.



Moving Averages

The Moving Averages chart layers a short-term and long-term forecast with the true closing price to showcase potential turning points in CNP's stock valuation. Both moving average lines maintain relative stability to the true close value line which indicates a strong resilience in the stock. This resilience is also proven by the margins for CenterPoint's stock as it stayed within a six dollar window throughout the year.

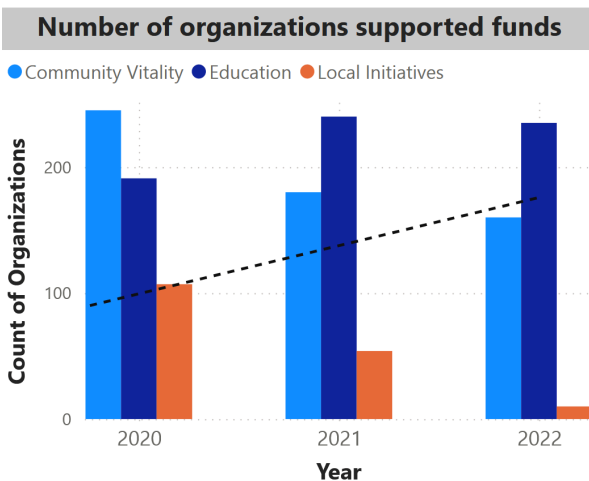
Workforce:

Workforce Distribution				
Workforce	2019	2020	2021	2022
Senior Executives	11	16	15	17
Part-time Employees	16	54	44	57
Interns Hired	66	61	105	82
Vice Presidents/Directors	207	200	208	208
Office and Clerical Employees	487	531	430	561
Customer Service Employees	756	700	683	633
Managers/Supervisors	982	998	1043	972
Veteran Employees	1000	575	630	610
Technicians* (Non-Union)	1366	1440	1449	979
Professionals	2445	2465	2328	2295
Technicians* (Union)	3175	3191	3262	3473
Full-time Employees	9413	9487	9374	8931
Total Number of Employees	9429	9541	9418	8988

Workforce Demographics:

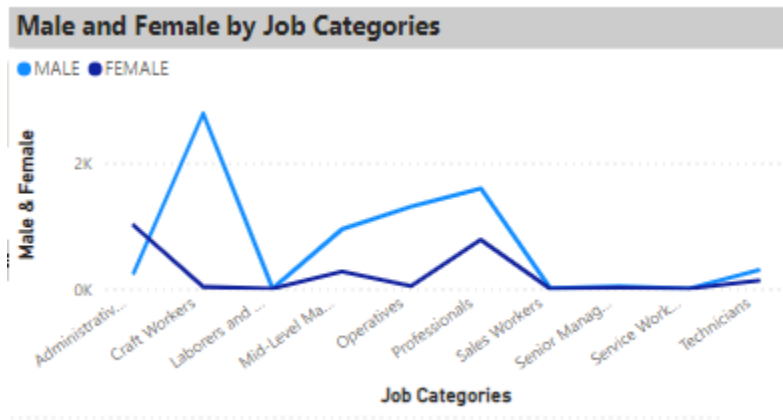
Significant increase in hiring in 2022 however workforce comparisons over the years 2019-2022 show a decrease in total number of employees at CenterPoint energy ranking from VPs and Directors to Customer service employees and interns.

Trend also shows a decrease in Full-time employees with a subsequent increase in Part time employees over the 4-year period.



Over the last four years, CenterPoint Energy has begun to financially support more education focused charities. While the total number of charities CenterPoint has supported has decreased, the company's total contributions have been rising.

Demographics:



Females joining the company had increased with a new hire rate of 41% in 2022.

CenterPoint Energy Foundation took great initiatives to support the wellbeing of the community. The major investment focuses on *Community Vitality* (focuses on affordable housing, initiatives contributing to quality of place, and ensuring the communities are sustainable) and *Education* (focuses on improving literacy rates, expanding access to STEM programs, and workforce development). In 2022, strategic investments include funding to 235 educational and 160 Community Vitality organizations.

4. Recommendations:

- The insights from the data highlight the need for robust financial planning and risk management practices. CenterPoint Energy should develop strategies to mitigate risks associated with tax volatility, earnings fluctuations, and regulatory changes, while also aligning capital allocation decisions with its long-term strategic objectives.
- Analyzing the distribution of state and federal tax payments can help identify opportunities for optimization, such as leveraging available tax credits, deductions, or incentives to minimize tax liabilities while ensuring compliance with tax laws.
- Assess the reason behind CenterPoint Energy's low profit per customer compared to its competitors. Examination of cost structures, pricing strategy, and operational efficiencies may be areas of improvement.
- Continue effectively utilizing assets to generate maximum profit, as indicated by CenterPoint previous strong Return on Assets (ROA).
- Utilize various technical analysis tools such as moving averages to identify potential turning points/trends in CNP stock valuation.
Also, monitor trading volumes to gauge market interest and sentiment towards the stock.

By implementing the above recommendations, CenterPoint can further maximize its profitability, improve company performance, mitigate risks and establish long-term value in the market for shareholders and stakeholders.

5. Appendix:

Data Sources:

- <https://sustainability.centerpointenergy.com/esg-data-center/>
- <https://investors.centerpointenergy.com/sec-filings>
- <https://finance.yahoo.com/quote/CNP/history>
- <https://www.pnmresources.com/about-us/at-a-glance.aspx>
- <https://www.pnmresources.com/investors/financial-information/sec-filings.aspx>
- <https://aepsustainability.com/performance/esg>
- <https://www.aep.com/investors/financial/sec/>
- <https://www.oncor.com/us/en/home/residential.html>
- <https://www.oncor.com/content/oncorwww/us/en/home/investors.html>

Link to Dashboard:

<https://app.powerbi.com/groups/23d80ddd-356b-4578-a5bc-949e81c3143a/list?experience=power-bi>