



Energy Sector Report

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Investment Management Program 2024 Spring Semester



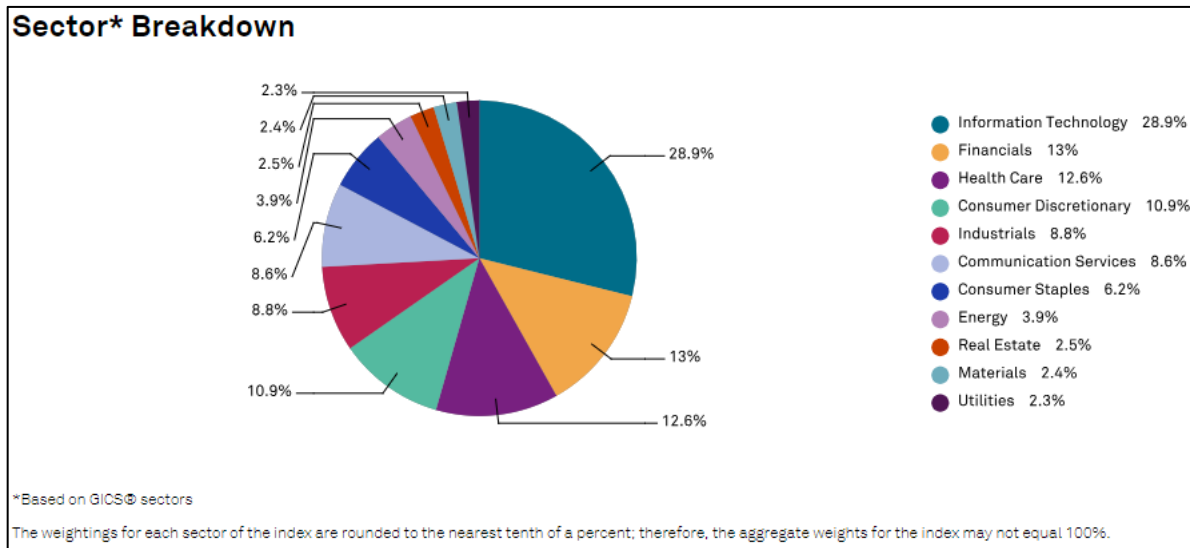
Introduction

The energy sector encompasses a diverse array of companies involved in various aspects of energy production, distribution, and utilization. At its core are firms that engage in the exploration, extraction, and production of traditional energy resources like crude oil and natural gas. The entities in this sector invest in locating and tapping into underground reservoirs to extract these valuable resources, which serve as the backbone of the global energy supply. Investors in the energy sector navigate a complex landscape influenced by factors such as global demand dynamics, commodity prices, regulatory policies, technological advancements, and environmental considerations.

Wisman Fund Current Holdings

Marathon Petroleum Corp. (MPC), Cheniere Energy (LNG), & Schlumberger N.V. (SLB)

Size and Comparison



As of December 29th, 2023, the energy sector accounts for 3.9% of the S&P 500 index's market capitalization (see the figure above), 23 different companies. The Wisman Fund weighs the energy sector at 2.9%. The total market capitalization of the energy sector is \$2.811 trillion.

Historical Performance



This graph shows the cyclical nature of this sector and the sector’s historical underperformance compared to the S&P 500 index.

Composition of Energy Sector

The energy sector is made up of 8 different industries: oil & gas integrated, oil & gas E&P, oil & gas midstream, oil & gas refining & marketing, oil & gas equipment & services, uranium, oil & gas drilling, and thermal coal. The top ten weighted companies in the S&P 500 index are seen in the list below. These constituents make up over 75% of the energy sector. The Wisman Fund contains 2 of the top weighted stocks and 2 of the 23 total in the S&P 500 energy sector, Marathon Petroleum Corp (MPC) and Schlumberger N.V. (SLB).

Ticker	Name	Sector Weight	Mkt. Cap
XOM	Exxon Mobil Corp.	22.77%	\$413.10 B
CVX	Chevron Corp.	17.67%	\$281.76 B
COP	Conoco Phillips	8.70%	\$131.29 B
MPC	Marathon Petroleum Corp.	4.30%	\$62.98 B
PSX	Phillips 66	4.29%	\$62.18 B
EOG	EOG Resources, Inc.	4.26%	\$66.09 B
SLB	Schlumberger N.V.	4.23%	\$69.45 B
PXD	Pioneer Natural Resources Co.	3.58%	\$54.61 B
VLO	Valero Energy Corp.	3.24%	\$47.54 B
OKE	Oneok, Inc.	2.79%	\$43.32 B

FY23 Nominal Price Returns

As of December 29th, 2023, 1-year returns for the energy sector in the S&P 500 saw a decline of -3.73%, from December 29th, 2022. Whereas the S&P 500 saw a staggering 24.23% increase over the past year. The energy sector in the Wisman Fund accounts for 2.9% of the portfolio and has provided an overall weighted 1-year return of 0.74%. The graph below shows the overall performance data from Dec. 29th, 2022, to Dec. 29th, 2023. This illustrates the vast underperformance of the sector in terms of 1-year returns compared to the S&P 500 index. (^GSPC is the S&P 500 index ticker symbol, ^GSPE is the energy sector ticker symbol)



S&P 500 YTD Returns

With an underperformance compared to the overall market the energy sector has continued to be on a downhill trend as you see indicated by the YTD returns. The sectors YTD returns has been one of the worst as the sector has only beaten utilities. This is confirmed in the graphic to the right, computed by calculations completed by the IMP class.

S&P 500 RETURN YTD 2023	
12/31/2023	Price
	RETURN
Energy	-4.80%
Materials	10.23%
Industrials	16.04%
Consumer Discretionary	41.04%
Consumer Staples	-2.16%
Health Care	0.30%
Financials	9.94%
Information Technology	56.39%
Communication Services	54.36%
Utilities	-10.20%
Real Estate	8.27%
S&P 500	24.23%

The Wisman Fund

The securities from the energy sector in The Wisman fund provided weighted 1-year returns (for the entire fund) as follows: LNG = 0.13%, MPC = 0.33%, SLB = 0.02. The graph on the right shows the 1-year fluctuations and growth for the current holdings.



Industry & Sub-Industries

Energy Equipment & Services

- *Oil & Gas Drilling*: when a potential oil or gas reservoir is identified, drilling operations commence. This involves the use of specialized drilling rigs and equipment to bore into the earth's crust and access the underground reservoirs.
- *Oil & Gas Equipment & Services*: manufacturers of equipment and machinery used in the energy industry, including drilling rigs, pumps, turbines, and other related equipment.

Oil, Gas & Consumable Fuels

- *Integrated Oil & Gas*: major multinational companies involved in all aspects of the oil and gas industry, including exploration, production, refining, distribution, and marketing of petroleum products.
- *Oil & Gas Exploration & Production*: companies engaged in the exploration and extraction of oil and natural gas reserves. These companies search for new oil and gas fields, drill wells, and produce crude oil and natural gas.
- *Oil & Gas Refining & Marketing*: process crude oil into various petroleum products such as gasoline, diesel, jet fuel, and other refined products. Marketing companies distribute and sell these petroleum products to end consumers.
- *Oil & Gas Storage & Transportation*: responsible for storing, moving, and distributing crude oil, natural gas, and refined petroleum products across various locations.
- *Coal & Consumable Fuels*: companies engaged in the extraction and production of coal, which is used primarily for electricity generation and industrial purposes.

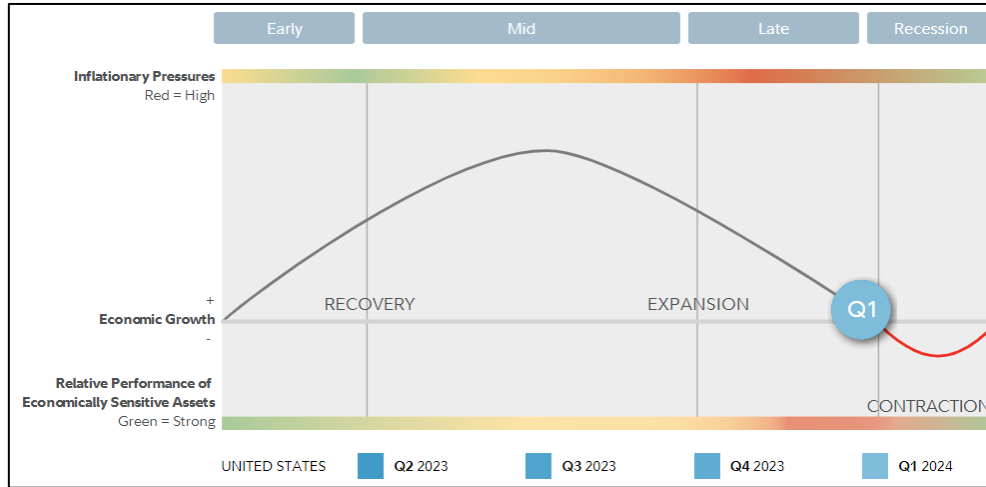
Industries	Today* ↕	5-day ↕	1-month ↕	3-month ↕	YTD ↕	1-year ↕	5-year ↕	10-year ↕
Energy	+0.43%	-0.77%	+1.01%	+1.22%	+1.61%	+0.46%	+34.19%	+2.37%
Energy Equipment & Services	+0.35%	-1.16%	-7.23%	-9.26%	-8.04%	-8.78%	+1.29%	-52.14%
Oil, Gas & Consumable Fuels	+0.44%	-0.73%	+1.82%	+2.27%	+2.57%	+1.36%	+37.91%	+13.47%

***The chart above shows trailing returns stretched out to as far as 10 years or the 2 major industries in the energy sector (*energy equipment & services and oil, gas & consumable fuels*).

Business Analysis

Economic Cycle

Fidelity indicates that the US economy is in the very late expansion stage of the economic cycle, as seen in the graphic directly below.



The late expansion stage of the economic cycle represents a mature phase of economic growth where growth continues but at a slower pace. It is characterized by low unemployment, rising inflation, higher interest rates, potential stock market volatility, and a focus on preparing for the next economic downturn. These characterizations are addressed in the economic analysis section. Understanding this phase is essential for businesses, and investors to make informed decisions and navigate the economic landscape effectively.

Business Cycle

As seen below, data for the performance of the energy sector is supposed to be very pessimistic during recessionary periods. However, when looking at the chart to the right we can see that energy has been one of the better performers during recessionary periods. A large reason for this is that when growth accelerates, demand for crude grows, forcing tightness on the crude market to force global inventories to meet global demand. The inverse holds when the business cycle inverts. The sector as a whole operates with moderate sensitivity to the business cycle.

Sector	Early Cycle Rebounds	Mid Cycle Peaks	Late Cycle Moderates	Recession Contracts
Financials	+			--
Real Estate	++	--	+	
Consumer Discretionary	++		--	
Information Technology	+	+	--	--
Industrials	++			--
Materials	+	--		
Consumer Staples	--	--	+	++
Health Care	--			++
Energy	--		++	--
Communication Services		+		
Utilities	--	--	+	++

	Cons. Disc.	Cons. Staples	Energy	Financials	Health Care	Industrials	Materials	Real Estate	Technology	Utilities
Average Monthly Return (%)	-1.5	-0.1	-0.2	-1.8	-0.5	-1.7	-1.4	-3.1	-2.5	-0.3
Average Monthly Excess Return (%)	0.1	1.5	1.4	-0.2	1.1	-0.1	0.2	-1.5	-0.9	1.3
Average Period Return (%)	-12.0	1.0	-3.5	-13.3	2.9	-14.8	-11.5	-21.6	-20.3	-1.6
Average Period Excess Return (%)	1.0	14.0	9.0	0.0	10.0	-2.0	1.0	-9.0	-7.0	11.0
Hit Rate (% of Months Outperforming the Market)	49.3	70.4	53.5	53.5	59.2	46.5	47.9	43.7	39.4	60.6
Hit Rate (% of Periods Outperforming the Market)	29.0	88.0	71.0	43.0	88.0	29.0	43.0	14.0	14.0	100.0

Economically sensitive sectors may tend to outperform, while more defensive sectors have tended to underperform.	Making marginal portfolio allocation changes to manage drawdown risk with sectors may enhance risk-adjusted returns during this cycle.	Defensive and inflation-resistant sectors have tended to perform better, while more cyclical sectors underperform.	Since performance generally has been negative during recessions, investors should focus on the most defensive, historically stable sectors.
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Energy Sector in the Economy

The energy sector plays a fundamental role in the economy due to its significance in providing the necessary resources to power various industries and activities. Energy is an industry that helps drive economic growth on various levels. The industry also plays a crucial role in trade and international relations as it is a globally traded commodity, and energy markets play a crucial role in international trade and diplomacy.

Relationship with the Economy: A thriving energy sector will enable economic growth and development as it is a main input to virtually all economic activities. Companies rely on energy sources such as natural gas, petroleum, and electricity products to enable their daily business operations and with higher energy costs comes a change in cost can have an immense affect on a company's cost structure. Not only on an industrial level, but higher energy prices can influence inflation rates, as energy costs directly contribute to the prices of goods using the CPI Index.

Macroeconomic Factors: The energy sector is influenced by various economic factors that can impact its performance, stability, and growth. Some of the factors that affect the sector include economic growth, energy prices, technological innovation, government regulations, environmental concerns and climate change, and geopolitical events and risks.

- *Economic Growth:* Energy demand is closely linked to overall economic activity. Strong economic growth typically leads to increased energy consumption as industries expand, transportation needs rise, and living standards improve.
- *Energy Prices:* Energy prices, including oil, natural gas, coal, and electricity prices, have a significant impact on the profitability and investment decisions of energy companies. Changes in energy prices can affect production costs, revenue streams, and the competitiveness of energy-intensive industries.
- *Technological Innovation:* Advances in technology have transformative effects on the energy sector, driving improvements in extraction techniques, energy efficiency, and the development of renewable energy sources.
- *Government Regulations:* Energy markets are heavily influenced by government policies and regulations aimed at promoting energy security, environmental sustainability, and economic competitiveness. Policies such as subsidies, tax incentives, emission regulations, renewable energy mandates, and carbon pricing schemes can significantly impact energy investment decisions, market dynamics, and profitability for energy companies.
- *Environmental Concerns & Climate Change:* Growing concerns about climate change and environmental degradation are driving shifts in energy consumption patterns and investment preferences. Policies aimed at reducing greenhouse gas emissions, promoting renewable energy adoption, and improving energy efficiency can influence energy sector investments, technologies, and market structures.
- *Geopolitical Events:* Factors including geopolitical tensions, conflicts, sanctions, and trade disputes, can disrupt energy markets, affect supply chains, and lead to price volatility. Political instability in major energy-producing regions or transit routes can disrupt oil and gas supplies, leading to supply shortages and price spikes.

SWOT Analysis: Energy Sector

Strengths:

- *Diversification:* The energy sector offers a diverse mix of energy sources, including traditional fossil fuels (coal, oil, natural gas), nuclear power, and renewable energy sources (solar, wind, hydro, etc.). This diversity helps to ensure energy security and mitigate the impact of fluctuations in the price of any single source.
- *Technological advancements:* The energy sector is constantly undergoing technological advancements, leading to increased efficiency in energy production, transmission, and consumption. This includes advancements in renewable energy technologies, smart grids, and energy storage solutions.
- *Growing demand:* Global energy demand is expected to continue to grow due to population growth and economic development. This presents an opportunity for the energy sector to expand and provide reliable energy solutions to meet this demand.

Weaknesses:

- *Dependence on fossil fuels:* The energy sector still relies heavily on fossil fuels, which contribute to greenhouse gas emissions and climate change. This dependence can also lead to price volatility and geopolitical instability.
- *Aging infrastructure:* Much of the world's energy infrastructure is aging and in need of modernization. This can lead to inefficiencies, safety concerns, and increased energy losses.

Opportunities:

- *Growth of renewable energy:* Renewable energy is becoming increasingly cost-competitive with traditional fossil fuels and is experiencing rapid growth. This presents an opportunity for the energy sector to transition to a more sustainable and environmentally friendly energy mix.
- *Energy efficiency:* Improving energy efficiency across all sectors can significantly reduce energy demand and create new business opportunities for energy efficiency technologies and services.
- *Decentralization:* The rise of distributed generation, such as rooftop solar panels, is changing the way energy is produced and consumed. This presents an opportunity for new business models and increased participation by consumers in the energy market.

Threats:

- *Climate change:* Climate change presents a significant threat to the energy sector, with extreme weather events impacting energy infrastructure and increasing the demand for cooling. Additionally, stricter regulations aimed at reducing greenhouse gas emissions could impact the profitability of traditional fossil fuel companies.
- *Geopolitical instability:* Geopolitical instability in major oil-producing regions can lead to disruptions in energy supply and price hikes.

Economic Analysis

This economic analysis will consider important factors like PCE Inflation, Unemployment, the FED interest rate and monetary policy.

- *Inflation:* The PCE (Personal Consumption Expenditures) inflation rate is at 2.8%, which is above the Federal Reserve's target of 2%, but lower than the 3.3% projection. This indicates that there is currently elevated inflation in the economy. The FED acknowledges this and expresses its commitment to returning inflation to its 2% objective.
- *Unemployment:* The unemployment rate is at 3.8%. This suggests a very tight labor market with low levels of unemployment, which is typically associated with a strong job market.
- *Economic Activity:* The Federal Reserve indicates that economic activity has been expanding at a solid pace. This is a positive sign for the overall health of the economy, although it mentions that job gains have slowed in recent months. Despite this slowdown, the job market remains strong. 2023 percent change in GDP was well above the September projection.
- *Monetary Policy:* The Federal Reserve has decided to maintain the target range for the federal funds rate at 5-1/4 to 5-1/2 percent. This suggests that the FED is holding interest rates steady at a relatively high level, likely to combat inflation. The Fed also mentions its commitment to reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, which is a part of its strategy to normalize its balance sheet.
- *Uncertainty:* The FED acknowledges uncertainty regarding the effects of tighter credit conditions on economic activity, hiring, and inflation. This uncertainty suggests that the central bank is closely monitoring economic developments and may adjust its monetary policy as needed.

The table below acknowledges changes, and projections in real GDP, unemployment, PCE inflation and core PCE inflation.

Percent															
Variable	Median ¹					Central Tendency ²					Range ³				
	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run	2023	2024	2025	2026	Longer run
Change in real GDP	2.6	1.4	1.8	1.9	1.8	2.5-2.7	1.2-1.7	1.5-2.0	1.8-2.0	1.7-2.0	2.5-2.7	0.8-2.5	1.4-2.5	1.6-2.5	1.6-2.5
September projection	2.1	1.5	1.8	1.8	1.8	1.9-2.2	1.2-1.8	1.6-2.0	1.7-2.0	1.7-2.0	1.8-2.6	0.4-2.5	1.4-2.5	1.6-2.5	1.6-2.5
Unemployment rate	3.8	4.1	4.1	4.1	4.1	3.8	4.0-4.2	4.0-4.2	3.9-4.3	3.8-4.3	3.7-4.0	3.9-4.5	3.8-4.7	3.8-4.7	3.5-4.3
September projection	3.8	4.1	4.1	4.0	4.0	3.7-3.9	3.9-4.4	3.9-4.3	3.8-4.3	3.8-4.3	3.7-4.0	3.7-4.5	3.7-4.7	3.7-4.5	3.5-4.3
PCE inflation	2.8	2.4	2.1	2.0	2.0	2.7-2.9	2.2-2.5	2.0-2.2	2.0	2.0	2.7-3.2	2.1-2.7	2.0-2.5	2.0-2.3	2.0
September projection	3.3	2.5	2.2	2.0	2.0	3.2-3.4	2.3-2.7	2.0-2.3	2.0-2.2	2.0	3.1-3.8	2.1-3.5	2.0-2.9	2.0-2.7	2.0
Core PCE inflation ⁴	3.2	2.4	2.2	2.0		3.2-3.3	2.4-2.7	2.0-2.2	2.0-2.1		3.2-3.7	2.3-3.0	2.0-2.6	2.0-2.3	
September projection	3.7	2.6	2.3	2.0		3.6-3.9	2.5-2.8	2.0-2.4	2.0-2.3		3.5-4.2	2.3-3.6	2.0-3.0	2.0-2.9	
Memo: Projected appropriate policy path															
Federal funds rate	5.4	4.6	3.6	2.9	2.5	5.4	4.4-4.9	3.1-3.9	2.5-3.1	2.5-3.0	5.4	3.9-5.4	2.4-5.4	2.4-4.9	2.4-3.8
September projection	5.6	5.1	3.9	2.9	2.5	5.4-5.6	4.6-5.4	3.4-4.9	2.5-4.1	2.5-3.3	5.4-5.6	4.4-6.1	2.6-5.6	2.4-4.9	2.4-3.8

Financial Analysis

These financial fundamentals are used together to assess the financial health and performance of a company. Analysts often consider them alongside other metrics, industry benchmarks, and qualitative factors to form a comprehensive view of a company's financial situation and prospects. It's important to note that the interpretation of these metrics can vary depending on the industry, company size, and economic conditions, so they should be analyzed in context.

Financial fundamentals

Why these factors?

- *ROE*: a financial ratio that shows how much net income a company generates per dollar of invested capital. It helps investors understand how efficiently a firm uses its money to generate profit.
- *EPS Growth Rate*: the net income generated in a given period as allocated to each common share outstanding.
- *ROA*: measures how efficient a company's management is in generating profit from their total assets on their balance sheet.
- *Profit Margin*: represents the portion of a company's sales revenue that it gets to keep as a profit, after subtracting all of its costs.

	S&P 500	Energy Sector
ROE	23.24%	28.05%
EPS Growth Rate	3.2%	-5.48%
ROA	4.44%	9.81%
Net Profit Margin	10.7%	11.19%

The S&P 500 outperforms the energy sector in terms of EPS growth rate. However, it lags behind in terms of ROA, ROE, and net profit margin. These differences may be attributed to the specific characteristics and challenges within the energy sector, such as volatility in commodity prices and global economic conditions, and various stock repurchases to shrink shareholders' equity.

Major Companies

	Exxon Mobil Corp. (XOM)	Chevron Corp. (CVX)	ConocoPhillips (COP)
ROE	18.01%	13.35%	22.45%
EPS Growth Rate	-32.96%	-37.86%	-37.82%
ROA	9.66%	8.23%	11.51%
Net Profit Margin	10.76%	10.85%	19.45%

These major companies in the S&P 500 index energy sector tend to outperform the sector on every front. The top performers are Exxon Mobil Corp. & Chevron Corp.

Valuation Analysis

Valuation ratios, including metrics like the P/E ratio, P/B ratio, P/S ratio and DY play a crucial role in evaluating a company's worth. These ratios are evaluated in conjunction with other financial indicators, industry benchmarks, and qualitative factors to develop a comprehensive understanding of a company's financial standing and future potential.

Why these ratios?

- *P/E*: a way to value a company by comparing the price of a stock to its earnings.
- *P/B*: measures the market's valuation of a company relative to its book value.
- *P/S*: an investment valuation ratio that shows a company's market capitalization divided by the company's sales for the previous 12 months.
- *DY*: a financial ratio that tells you the percentage of a company's share price that it pays out in dividends each year.

	S&P 500	Materials Sector
P/E	23.27	10.23
P/B	4.04	2.02
P/S	2.33	1.08
Dividend Yield	1.51%	5.04%

The energy sector has a lower P/E ratio, P/B ratio, and P/S ratio indicating potentially more attractive valuations based on earnings per share, book value and sales. These ratios conclude that the energy sector is either undervalued or the sector is not worth as much. However, the energy sector offers a higher average dividend yield, implying a potentially better income generation for investors.

Major Companies

	Exxon Mobil Corp. (XOM)	Chevron Corp. (CVX)	ConocoPhillips (COP)
P/E	9.93	11.07	12.64
P/B	1.98	1.70	2.89
P/S	1.18	1.39	2.36
Dividend Yield	3.59%	4.03%	2.16%

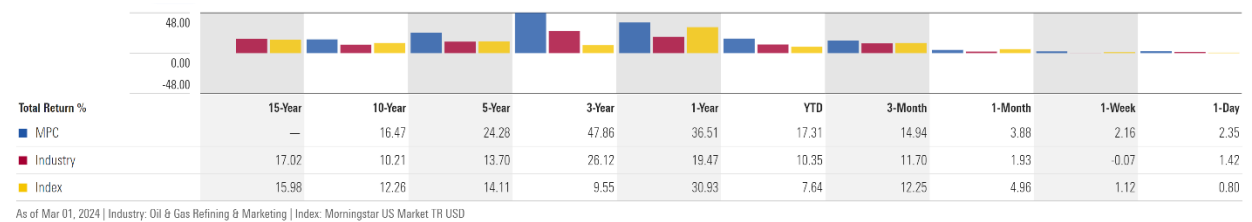
These major companies show an undervaluation in terms of the ratios above. Most energy stocks are currently sitting around fair value with a higher distribution being slightly overvalued. As an investor is it important to take into consideration valuation ratios and when stocks are overvalued waiting to purchase those stocks is in the best interest with guidance from economic analysis as well.

Current Holdings: Trailing Returns

Why Trailing Returns?

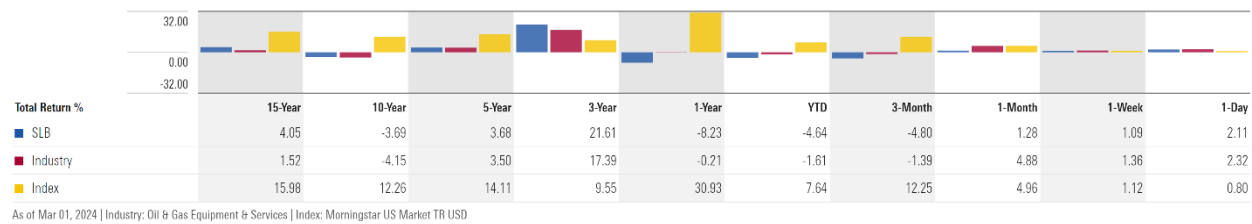
Trailing returns on an absolute basis can give you an idea of how much an investment has grown on a nominal basis, which can be compared to the benchmark. Trailing returns relative to a benchmark can tell you if an investment has outperformed or underperformed the benchmark over the measured time horizon.

Marathon Petroleum Corp. (MPC)



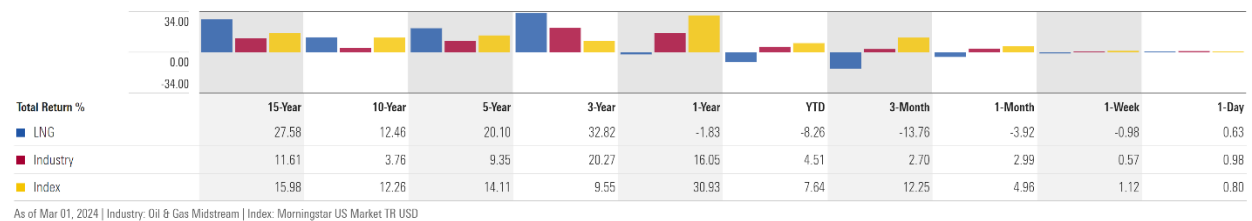
MPC in the 1-year, 3-year, 5-year, and 10-year has had an advantage over both the industry and the index, while it is worth noting the 3-year returns were significantly higher at 47.86% in comparison to the returns of the index at 9.55%.

Schlumberger N.V. (SLB)



SLB trailing returns shows the story of a company who was prospering for a long time until they fell under for a bit and regained positive returns. As you can see, the 3-year returns outperformed both industry and the index, however that is the only time period SLB has done so.

Cheniere Energy, Inc. (LNG)



LNG has been on a steady climb over the past 5 years and their returns show that as 3-year through 15-year returns outperform their industry and the index especially in the 3-year with 32.82% compared to the index 9.55% over that span.

Recommendation

Based on the current market conditions and historical performance, we recommend the following actions regarding the Wisman Fund's allocation within the energy sector:

Underweight Energy Sector: Considering the cyclical nature, economic outlook, historical data, current financial data, and the SWOT analysis, the energy sector should be **underweighted**. The weight of the energy sector in the S&P 500 Index as of December 29th, 2023, was 3.9%. It is recommended that the fund find a target weight between 2.6%-2.8%. Underweighting this sector will help mitigate potential risks associated with the sector's underperformance in the rate-cut environment and potential recessionary period looming.

The Wisman Fund Current Holdings: Considering the underweighting recommendation, it is crucial to look at the current holdings to determine what the fund can sell. The information regarding these stocks can be found below.

	Marathon Petroleum Corp. (MPC)	Cheniere Energy, Inc. (LNG)	Schlumberger N.V. (SLB)
YTD Return	16.7%	-8.5%	-5.2%
Holding Return	244.4%	144.2%	-4.8%
Total Time Held	2 yr. 4 mo.	4 yr. 4 mo.	0 yr. 10 mo.
Portfolio Weight	1.24%	0.75%	0.37%
Sector Weight	47.0%	36.0%	17.0%
Market Cap (Size)	\$63.741B (Large)	\$36.654B (Large)	\$70.687B (Large)

The Wisman Fund holdings in Marathon Petroleum Corp. (MPC) and Cheniere Energy, Inc. (LNG) have been very profitable and great performers for as long as they have been in our portfolio as shown by the holding returns. Schlumberger N.V. is a company that is the largest in its sub-sector and has potential to grow as it is a relatively young security in our portfolio. Currently with the portfolio at 2.6% there would not have to be any sales, however we could look to move into a different position.

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