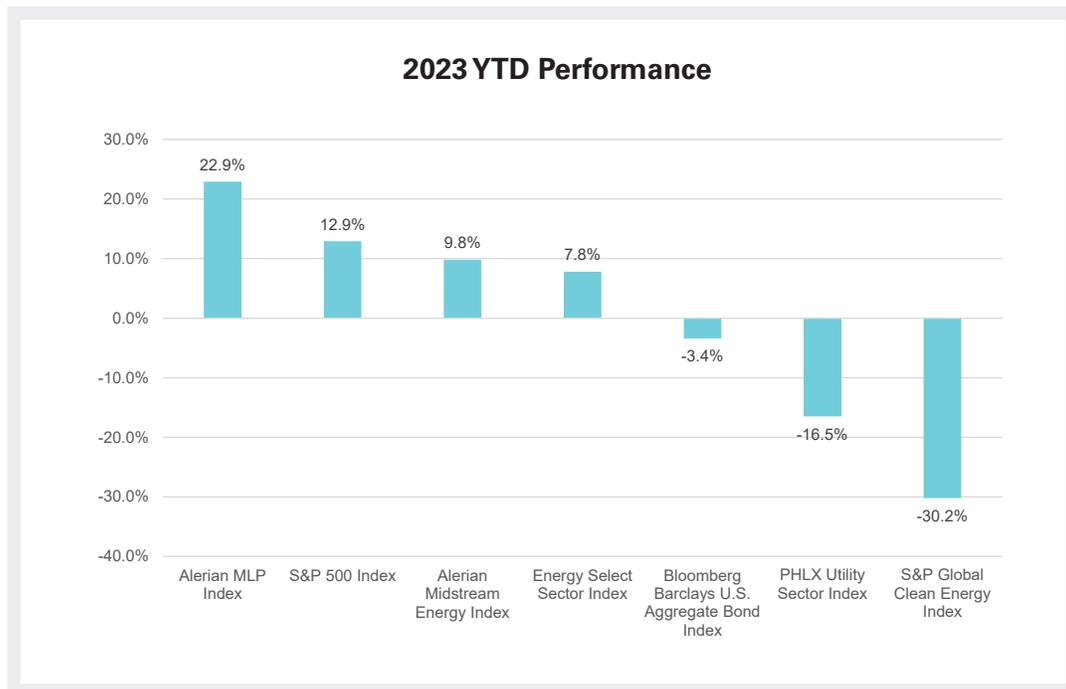


# Notable Numbers: The Case for U.S. Energy Infrastructure

## 5 indices

**Master Limited Partnerships (MLPs) outperformed the below five indices year-to-date and the energy infrastructure sector outperformed four out of five indices year-to-date.**



Source: Bloomberg, TCA. Period: 12/31/2022 - 10/19/2023.

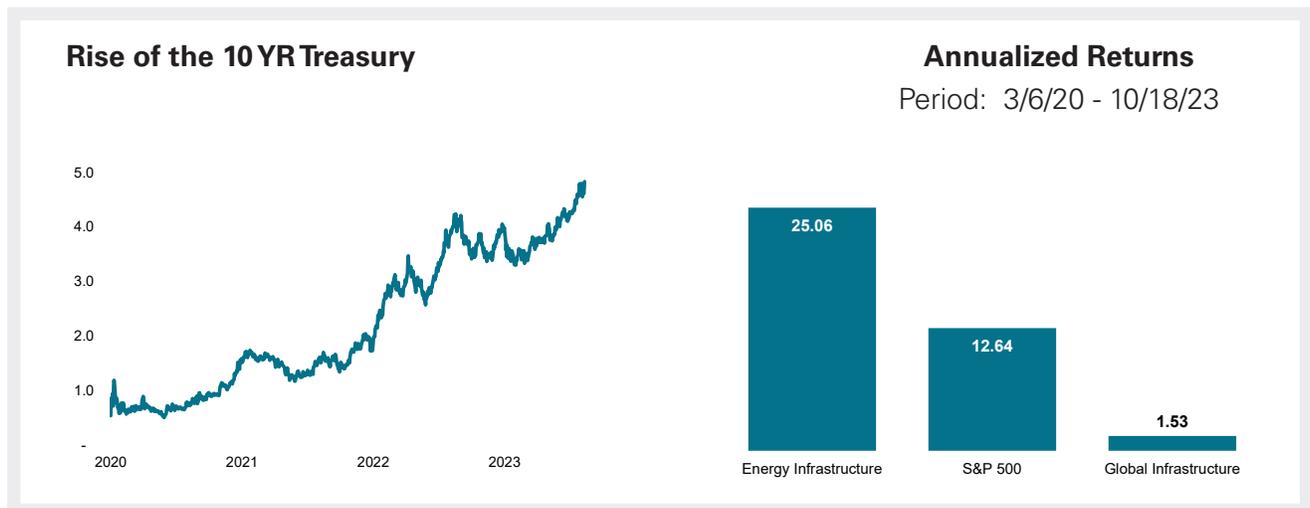
**Past performance is no guarantee of future results. It is not possible to invest directly in an index.**

- The Alerian MLP Index has seen significant growth, with a 23% rise, driven primarily by mergers.
- Since 2000, there have been sixteen periods of rising interest rates. During these times, MLPs and pipeline companies have consistently outperformed bond and other yield-oriented security sectors by over 10% on average\*.

\*Time periods are determined using end of month yields and returns. The periods are those where the 10-year Treasury yield increased by at least 50 basis points over one or more consecutive months. Returns are period-specific and are not annualized. MLPs = Tortoise MLP Index® (as of 1/1/2000). Pipelines = Tortoise North American Pipeline IndexSM (as of 1/1/2000). Bonds = Bloomberg Barclays U.S. Aggregate Bond Index. Equities = S&P 500® Index.

## 429 basis points

The 10-year treasury rate has increased by 429 basis points since its low in March 2020. Despite this challenging environment, energy infrastructure stocks have performed well, up 25% over the same time period.



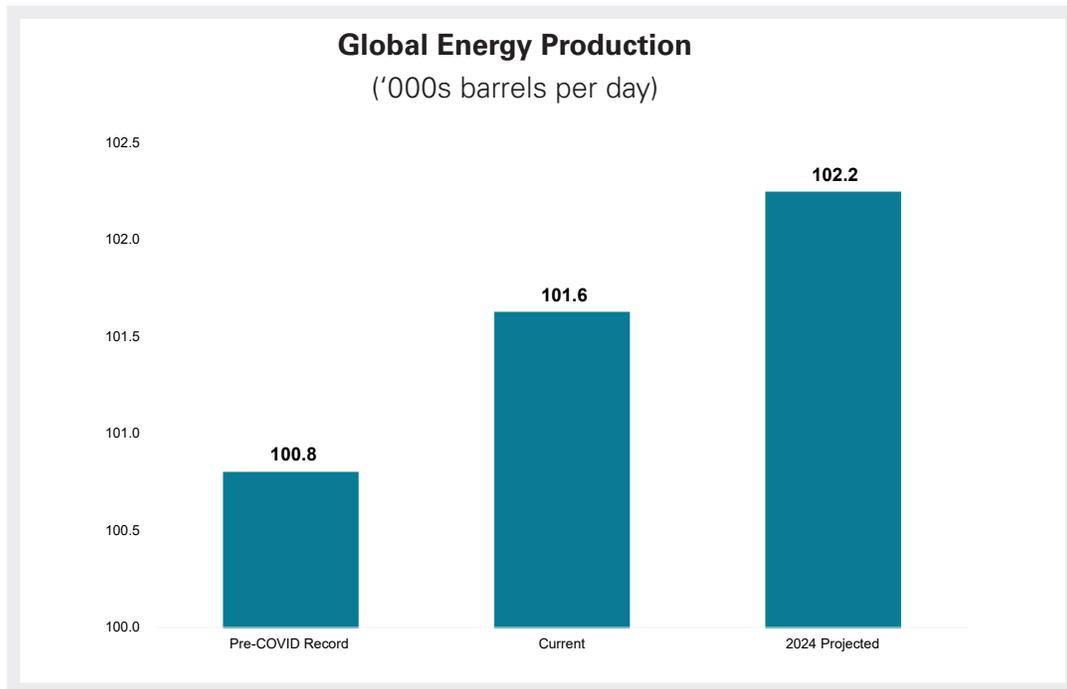
Source: Bloomberg, TCA, UBS, Goldman Sachs, Morgan Stanley, Wells Fargo. As of 10/18/2023.

**Past performance is no guarantee of future results. It is not possible to invest directly in an index.**

- **Historically:** Over the last 20 years, we believe the energy infrastructure asset class has performed well versus bonds and the S&P 500 Index during these periods of rising interest rates.
- **What about in non-rising rate environments?** We believe energy infrastructure can deliver high quality earnings and can have high quality visible cashflows from essential assets that benefit from growing economies.

# 102 million barrels per day in global oil production projected for 2024

This surpasses the pre-COVID record set in 2019, indicating recovery and growth in the oil industry.



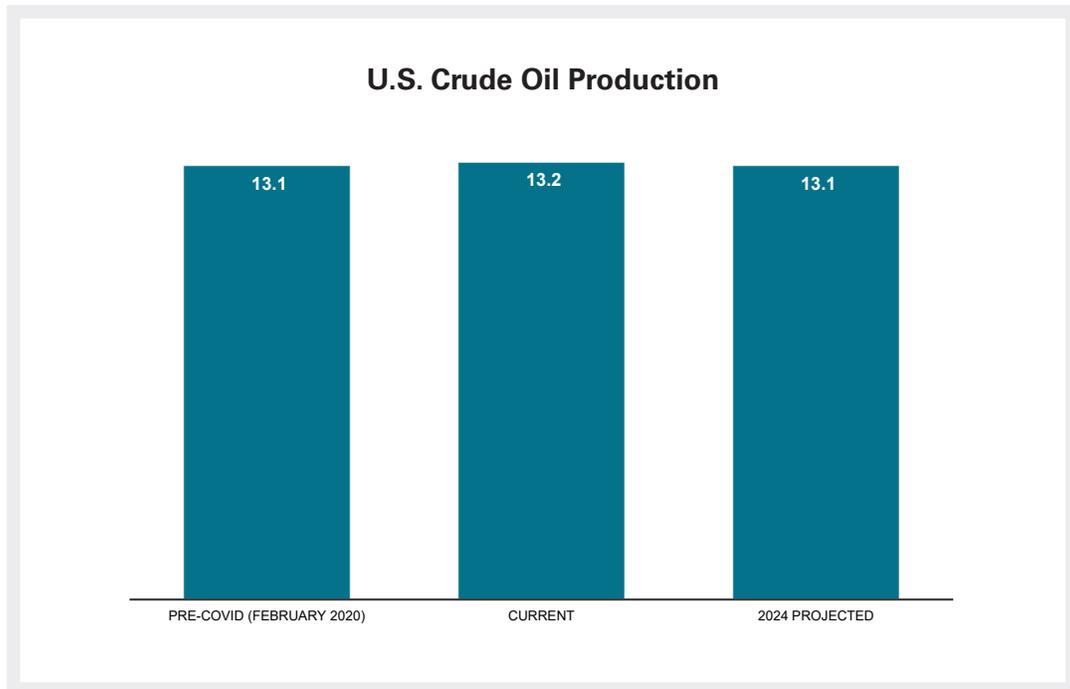
Source: EIA. As of 9/30/2023.

Projections on this page are no guarantee of future outcomes.

- Oil represents around 30% of total global energy supply.
- **Looking ahead:** Global oil markets have been undersupplied for most of the second half of 2023. As supply catches up, this could lead to an oversupply in first quarter of 2024, which is traditionally the lowest demand quarter.

# 13.2 million barrels per day of current U.S. daily oil production: new record

The U.S. surpassed its February 2020 high of 13.1 million barrels per day of production.



Source: EIA. As of 9/30/2023

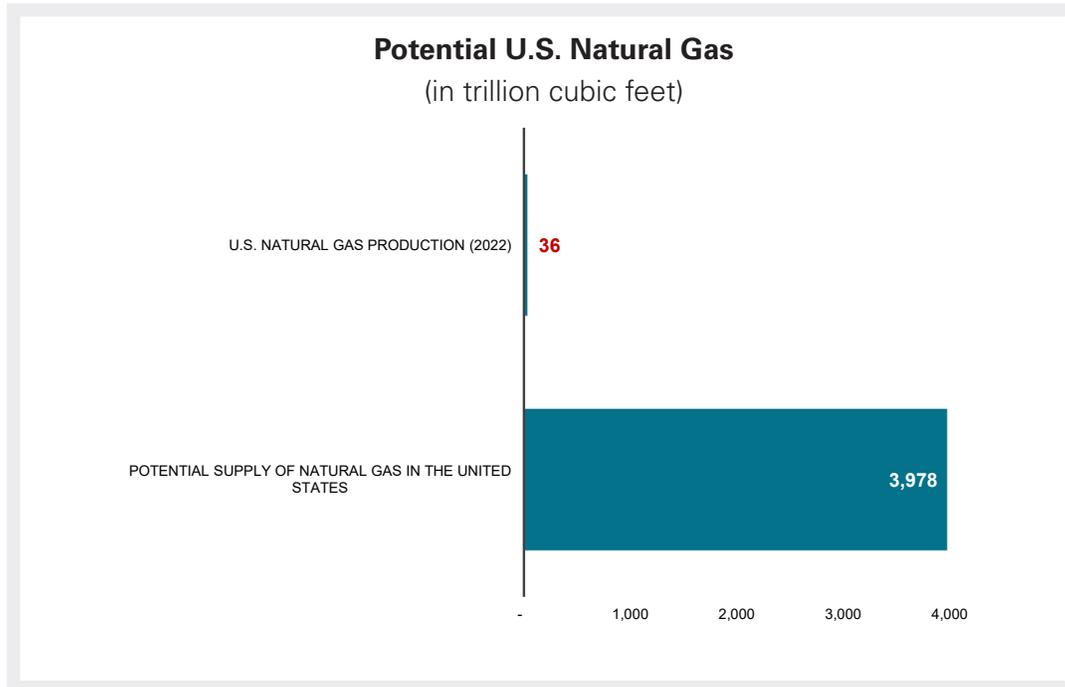
Projections on this page are no guarantee of future outcomes.

- The U.S. is the largest oil producer in the world.
- **Higher production, fewer rigs:** U.S. oil producers are currently using 25% fewer rigs than we were using during the previous high in February of 2020 due to improved drilling efficiencies.\*

\*Source: Baker Hughes

# 111 years of U.S. natural gas supply

Advances in shale technology have created a substantial supply source of natural gas in the U.S.



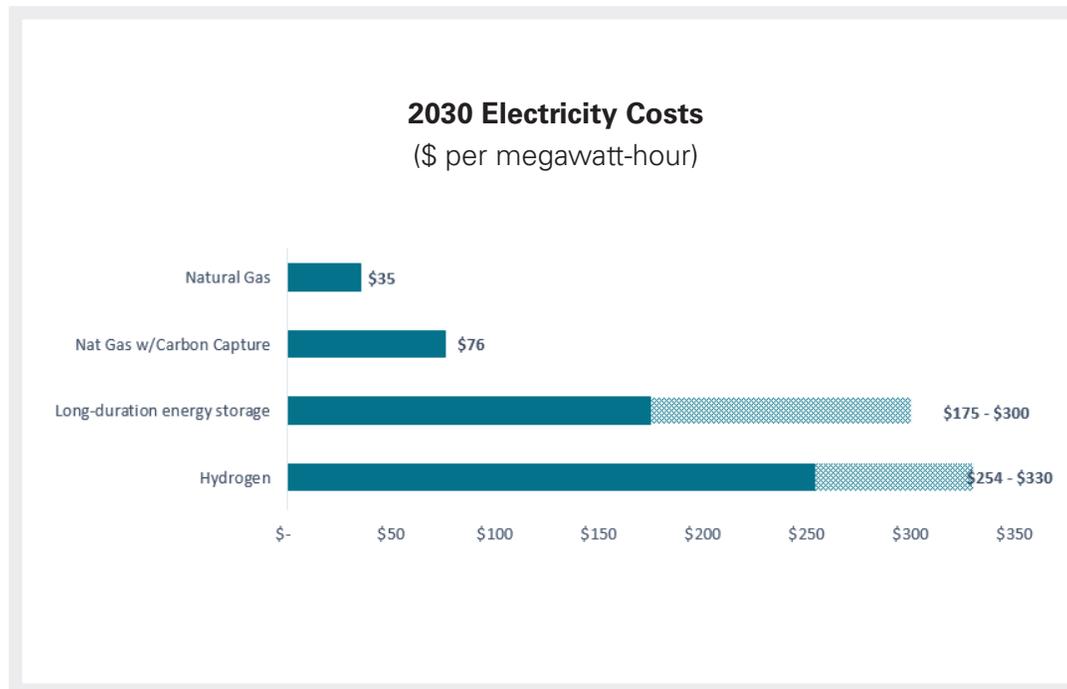
Source: EIA. As of 9/30/2023.

Projections on this page are no guarantee of future outcomes.

- **Why is liquified natural gas (LNG) important?** Natural gas represents a significant opportunity for the U.S. to participate in global decarbonization, when replacing coal, and helping to improve global energy security.
- The pipeline infrastructure the U.S. has in place for transporting LNG will continue to be crucial for the foreseeable future.

# \$35: projected cost of natural gas generation

**Natural gas is one of the most economical sources to generate electricity going forward.**

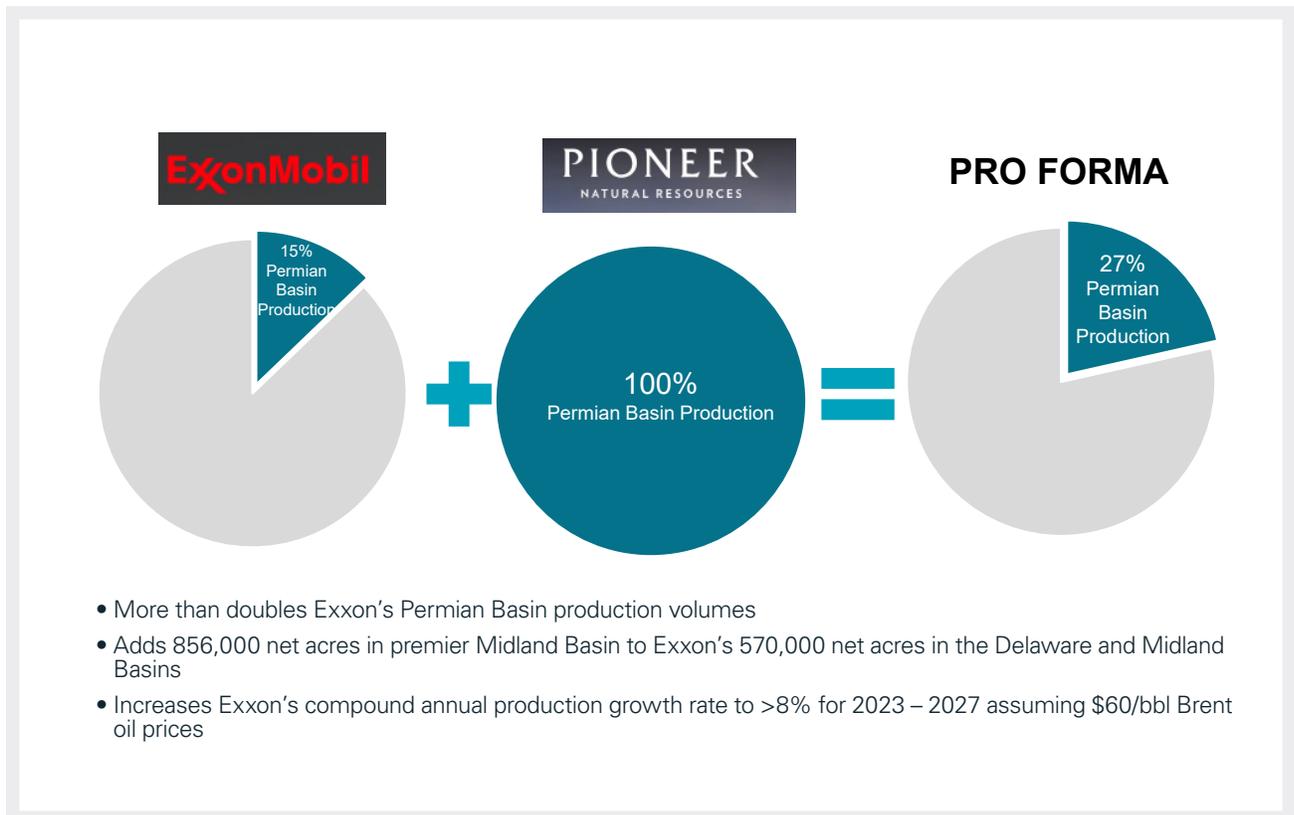


Source: McKinsey & Company, The role of natural gas in the move to cleaner, more reliable power  
As of September 2023

- Based on a study done in September by McKinsey & Company, they estimate it will cost \$35 per megawatt hour of natural gas to generate electricity from a new natural gas generation facility in 2030 – making natural gas one of the most economical sources to generate electricity going forward
- Is natural gas a long term energy player? Given its economic and decarbonizing attributes, we expect natural gas demand to increase market share for many decades to come.
- What about renewables? Renewables are growing substantially, but we are still lacking long duration storage from these sources. Renewable storage cost projections remain costly beyond 2030.

# \$60 billion: Price paid by Exxon to acquire Pioneer

Recent mergers and acquisitions show confidence in the sector by some of the world's largest firms.



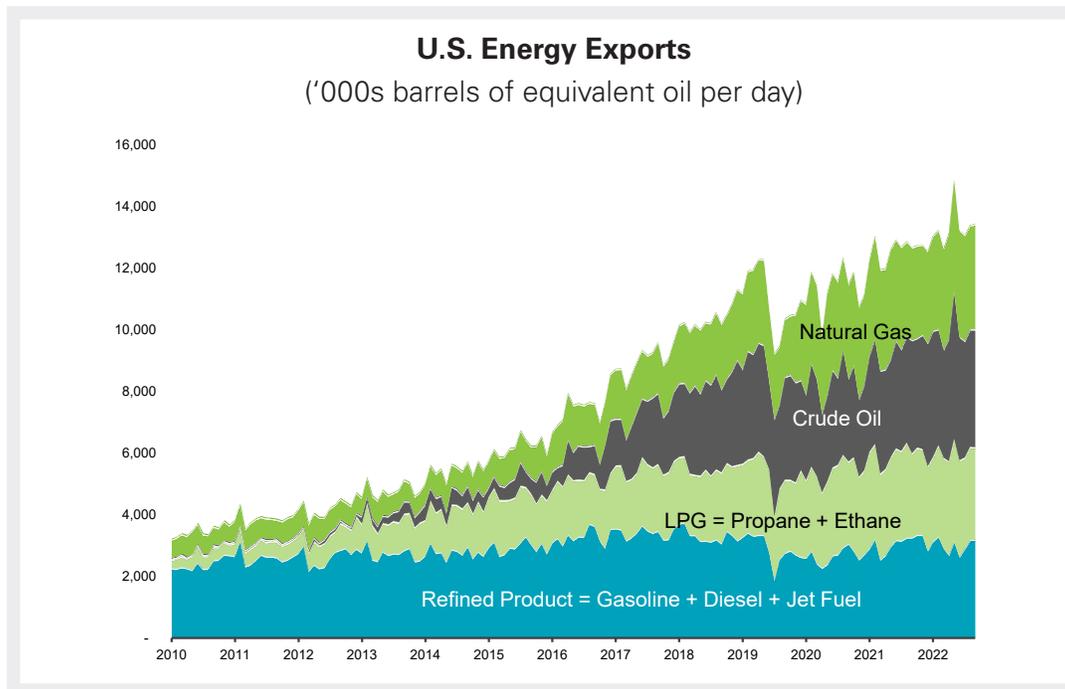
Source: Company SEC filings as of 12/31/2022

Projections on this page are no guarantee of future outcomes.

- Pioneer was the largest independent producer in the Permian Basin, which has become one of the most essential oil basins in the world. The Exxon/Pioneer merger is expected to lead to more innovation resulting in production growth and lower costs.
- In addition, Chevron recently announced a \$50 billion deal to buy Hess, which has a long history in the energy sector.

# 13+ million: the number BOE per day the U.S. exports

This makes the U.S. the largest oil exporter in the world.

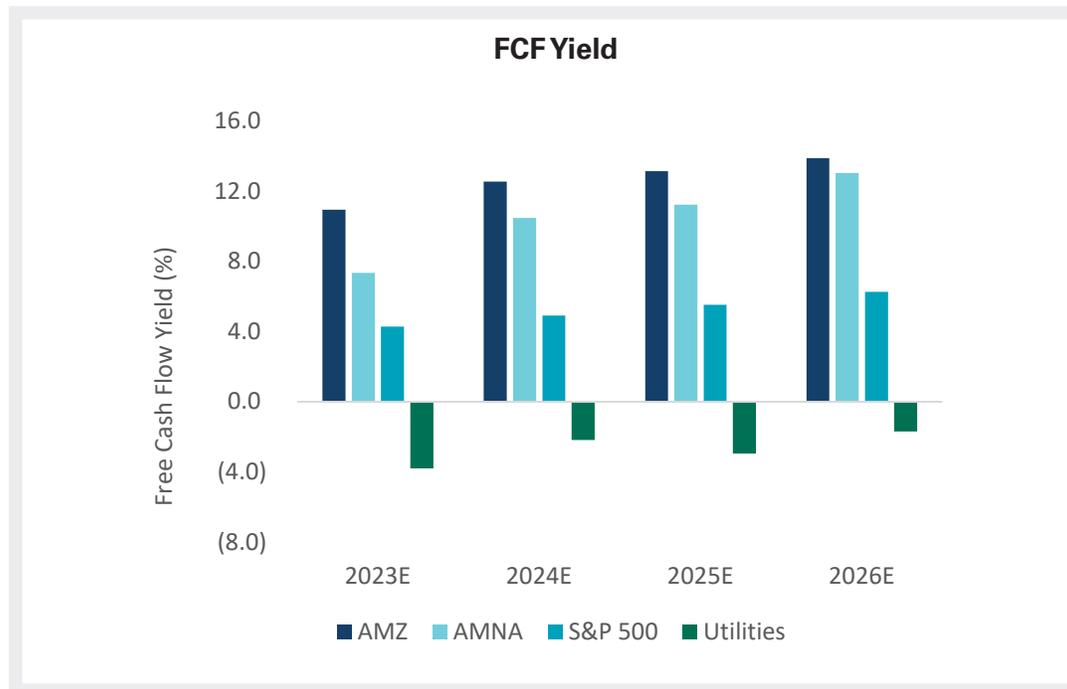


Source: EIA. As of 9/30/2023.

- This is due to the rapid rise of the U.S. energy produced from shale due in large part to improved technologies.
- **Why are these exports so important?** They have helped the U.S. reduce its trade deficit and have improved energy security worldwide.

# 11% free cash flow yield expected for the energy sector

**Midstream equities are estimated to produce double digit free cash flow yields in 2023 through 2026.**



Source: Bloomberg, TCA Estimates; As of 9/30/2023

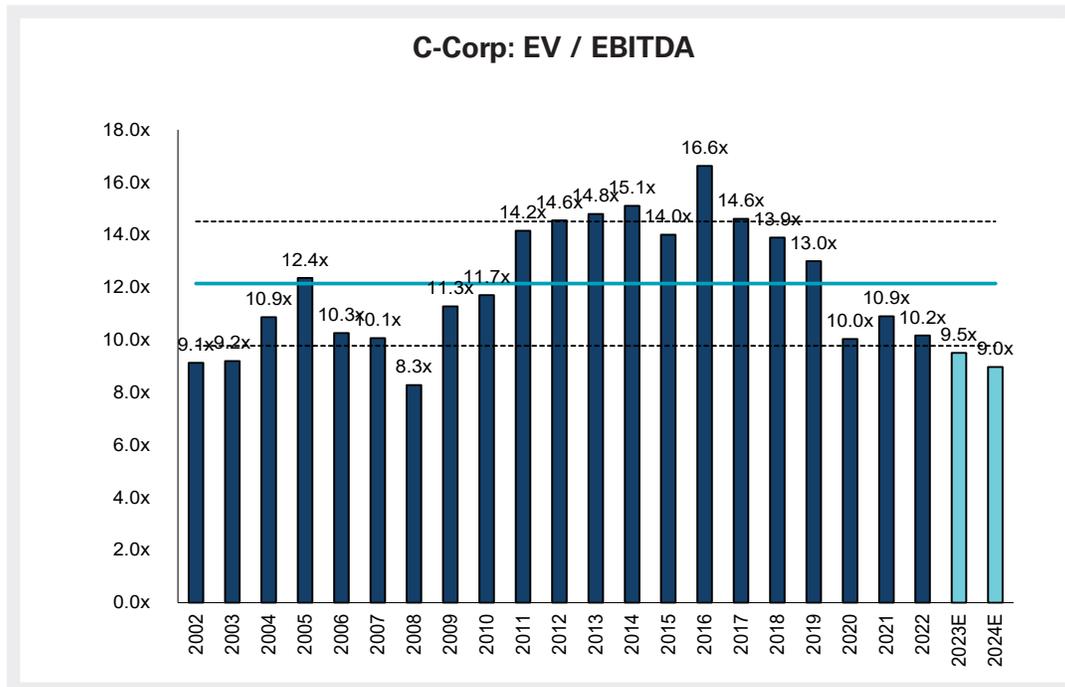
Reflects TCA views and opinions as of date herein which are subject to change at any time based on market and other conditions. Projections on this page are no guarantee of future outcomes.

## How could this be allocated back to shareholders?

1. Many companies have been focused on deleveraging post 2020 and that leverage has decreased from 4.9x to 3.7x.\*
2. We predict healthy dividends are being paid, along with a growing distribution of 5-7%\* compounded annual growth rate between 2023 and 2027.
3. Through share buybacks

\*Source: TCA

## 3x multiples: C-Corp valuations versus history



Source: Bloomberg, TCA Estimates; As of 9/30/2023

Note: Dashed line approximates +/- 1 Std Dev

Reflects TCA views and opinions as of date herein which are subject to change at any time based on market and other conditions.

- **Why look at C-corps versus MLPs?** C-Corps currently make up more than 75% of the market cap of energy infrastructure.
- **Why do we believe the valuations are attractive?** They are attractive because companies have paid down their debt and resulting in equity returns, yet the overall multiple hasn't moved.
- **What can this mean for investors?** We believe there is an upside versus historical levels for the underlying stocks and this could signify an opportunity moving forward.

*To further explore the opportunity in energy infrastructure, visit our website at: <https://tortoiseadvisors.com/expertise/energy/> or email us at [info@tortoiseadvisors.com](mailto:info@tortoiseadvisors.com).*

## Disclosures

The information in this piece reflects TCA views and opinions as of date herein which are subject to change at any time based on market and other conditions. This commentary contains certain statements that may include “forward-looking statements.” All statements, other than statements of historical fact, included herein are “forward-looking statements.” Although Tortoise believes that the expectations reflected in these forward-looking statements are reasonable, they do involve assumptions, risks and uncertainties, and these expectations may prove to be incorrect, Actual events could differ materially from those anticipated in these forward-looking statements as a result of a variety of factors. You should not place undue reliance on these forward-looking statements, which speak only as of the date of this publication. Tortoise does not assume a duty to update these forward-looking statements. The views and opinions in this commentary are as of the date of publication and are subject to change. This material should not be relied upon as investment or tax advice and is not intended to predict or depict performance of any investment. This publication is provided for information only and shall not constitute an offer to sell or a solicitation of an offer to buy any securities.

### **Past performance is no guarantee of future results. It is not possible to invest directly in an index.**

Liquefied Natural Gas (LNG) is a natural gas that has been cooled to a liquid state for shipping and storage - the volume in this state is about 600 times smaller than in its gaseous state, able to transport for much longer distances when pipeline transport is not feasible. Free Cash Flow is the cash a company produces through its operations, less the cost of total capital expenditures (growth and maintenance).

MLPs = Tortoise MLP Index<sup>®</sup>, a float-adjusted, capitalization-weighted index of energy MLPs. To be eligible for inclusion in the Tortoise MLP Index<sup>®</sup>, a company must be publicly traded, organized as a limited partnership or a limited liability company (LLC), and be classified as an “energy MLP” by the Master Limited Partnership Association (MLPA). Pipelines = Tortoise North American Pipeline Index<sup>SM</sup>, a float-adjusted, capitalization-weighted index of pipeline companies domiciled in the U.S. and Canada. The index includes pipeline companies structured as corporations, LLCs and MLPs. Tortoise MLP Index<sup>®</sup> and Tortoise North American Pipeline Index<sup>SM</sup> (the “Indices”) are the exclusive property of Tortoise Index Solutions, LLC, which has contracted with S&P Opco, LLC (a subsidiary of S&P Dow Jones Indices LLC) to calculate and maintain the Indices. The Indices are not sponsored by S&P Dow Jones Indices or its affiliates or its third-party licensors (collectively, “S&P Dow Jones Indices”). S&P Dow Jones Indices will not be liable for any errors or omission in calculating the Indices. “Calculated by S&P Dow Jones Indices” and its related stylized mark(s) are service marks of S&P Dow Jones Indices and have been licensed for use by Tortoise Index Solutions, LLC and its affiliates. S&P<sup>®</sup> is a registered trademark of Standard & Poor’s Financial Services LLC (“SPFS”), and Dow Jones<sup>®</sup> is a registered trademark of Dow Jones Trademark Holdings LLC (“Dow Jones”). Utilities = S&P Utilities Select Sector Index, a modified market-cap weighted index composed of constituents of the S&P 500 in the utility sector (as defined by the Global Industry Classification Standard). The S&P 500<sup>®</sup> Index, an unmanaged market-value weighted index of stocks that is widely regarded as the standard for measuring large-cap U.S. stock market performance. The Alerian Midstream Energy Index is a broad-based composite of North American energy infrastructure companies. The capped, float-adjusted, capitalization-weighted index, whose constituents earn the majority of their cash flow from midstream activities involving energy commodities, is disseminated real-time on a price-return basis (AMNA) and on a total-return basis (AMNAX). The Alerian MLP Index is the leading gauge of energy infrastructure master limited partnerships (MLPs). The capped, float-adjusted, capitalization-weighted index, whose constituents earn the majority of their cash flow from midstream activities involving energy commodities, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis (AMZX). The S&P Global Clean Energy Index is designed to measure the performance of companies in global clean energy-related businesses from both developed and emerging markets, with a target constituent count of 100. The Philadelphia Stock Exchange PHLX Utility Sector Index (UTY) is a market capitalization-weighted index composed of geographically diverse public utility stocks. The Bloomberg Barclays U.S. Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, mortgage-backed securities (agency fixed-rate and hybrid adjustable rate mortgage pass-through securities), asset-backed securities and commercial mortgage-backed securities (agency and non-agency). The S&P Energy Select Sector Index is a modified market capitalization-based index of S&P 500 companies in the energy sector that develop and produce crude oil and natural gas and provide drilling and other energy related services. Returns include reinvested dividends. It is not possible to invest directly in an index. Index returns and yields shown are presented before management fees and other expenses of Tortoise advisory products and services. Clients or investors in Tortoise products and services will experience returns and yields reduced by advisory fees and other product expenses.