VettaFi

Investing in Energy Infrastructure

Energy Infrastructure Primer: A guide for both new and experienced investors

An investment in energy infrastructure is an investment in North America's continued production and consumption of transportable energy over the next several decades. Energy infrastructure companies own the pipelines, storage tanks, and processing facilities critical to the energy supply in North America, as well as export facilities that help meet growing global energy demand.

In the energy industry, these activities describe "midstream," which is the bridge between production (upstream) and consumption (downstream). While the profitability of many energy companies depends on commodity prices, the energy infrastructure business model is largely fee-based. Midstream companies are essentially performing the "shipping and handling" function of the energy value chain and collecting fees for their services. This has resulted in more stable cash flows for midstream, which have supported generous dividend payments to investors.

There are three levels of energy infrastructure education in this guide:

- **EI 101 — Energy infrastructure basics**
  EI 101 is designed to provide a basic education on energy infrastructure.
  - What is energy infrastructure?
  - Energy infrastructure business models
  - Opportunities within this space

- **EI 201 — An overview of energy infrastructure economics**
  EI 201 is a deeper dive into the energy infrastructure landscape.
  - The important role of shale in U.S. energy production
  - Nuances of different midstream business models
  - Regulations around pipelines and pipeline tariffs
  - Valuation metrics used for the energy infrastructure space

- **EI Investing — How to invest in energy infrastructure**
  How to invest in energy infrastructure is designed for those who have decided to invest.
  - Pros and cons of each energy infrastructure access product
  - Alignment of investing goals with energy infrastructure products
  - Considerations for selecting individual securities and investing in products

Energy Infrastructure 101

What is energy infrastructure?

Energy infrastructure (EI) companies are primarily involved in the transportation, processing, and storage of oil, natural gas, and natural gas liquids (NGLs). To a lesser extent, energy infrastructure companies may also transport or handle renewable natural gas, renewable fuels, feedstocks for producing renewable fuels, and carbon dioxide.

Historically, a majority of the midstream space was structured as Master Limited Partnerships, or MLPs. However, C-Corporations have become more prominent in midstream in recent years.

How energy infrastructure companies make money

Energy infrastructure companies typically operate fee-based business models. EI companies earn a set fee for each barrel of oil or million British Thermal Unit (MMBtu) of natural gas transported, stored, or processed (in the case of natural gas) regardless of the price of the hydrocarbon. This is because these companies typically do not own the oil or gas. EI companies generally sign long-term contracts (5 to 20 years in length) with their customers, which results in stable cash flows. Accordingly, the revenue equation for most business activities is fairly simple: fee multiplied by volume. As such, more volumes mean more cash flows. Fees may be negotiated based on market rates or based on the cost of operating the pipeline. Depending on the pipeline, a federal or state agency will have oversight of the fees charged to ensure rates are reasonable.

The basic EI business models

Transportation

Energy commodities such as oil and natural gas are moved from one place to another through a pipeline, or via truck, railcar, or ship. It's important to note that pipelines are the cornerstone of the energy infrastructure space, and most energy is transported through pipelines.

Processing

Put simply, processing is transforming a raw commodity into a usable form. For midstream, this includes removing impurities such as water and dirt from wellhead natural gas and separating the natural gas stream into pipeline-quality natural gas and NGLs, which are used as heating fuels and petrochemical feedstocks.

Storage

Storage includes tanks, wells, and other facilities both above and below ground. These assets provide flexibility to the energy economy, so there is propane available for winter heating, gasoline for summer driving, and jet fuel for travel.

How investors make money with energy infrastructure

If you own a stock, there are two ways to make money. First, the price of the stock increases and you can sell it for more than you bought it. Formally, this is known as price appreciation or capital appreciation. The other way to make money is through dividends (income). The dividend amount relative to the share price is known as yield. The historical average yield of energy infrastructure over the past ten years has been approximately 6.20%. In other words, if you invested $100, on average, you would be paid $6.20 each year.

Two ways to make money with stocks

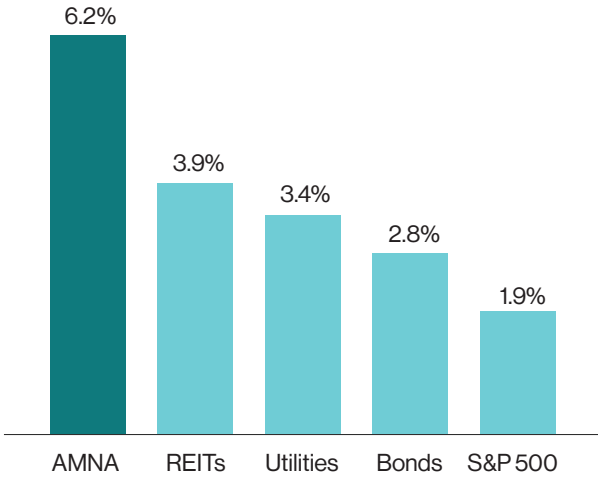
1

Price appreciation = price of stock increases

2

Income = stock pays a dividend

Midstream offers more generous yields than other income investments based on ten-year averages



REITs are represented by the NAREIT Real Estate 50 Index. Utilities are represented by the S&P 500 Utilities Index. Bonds are represented by the Bloomberg US Aggregate Bond Index.

Source: VettaFi, Bloomberg as of May 31, 2024.

The chart above shows yields for energy infrastructure, represented by the Alerian Midstream Energy Index (AMNA), compared to other asset classes. Energy infrastructure boasts a higher yield than utilities and real estate investment trusts (REITs), which are asset classes known for their income potential.

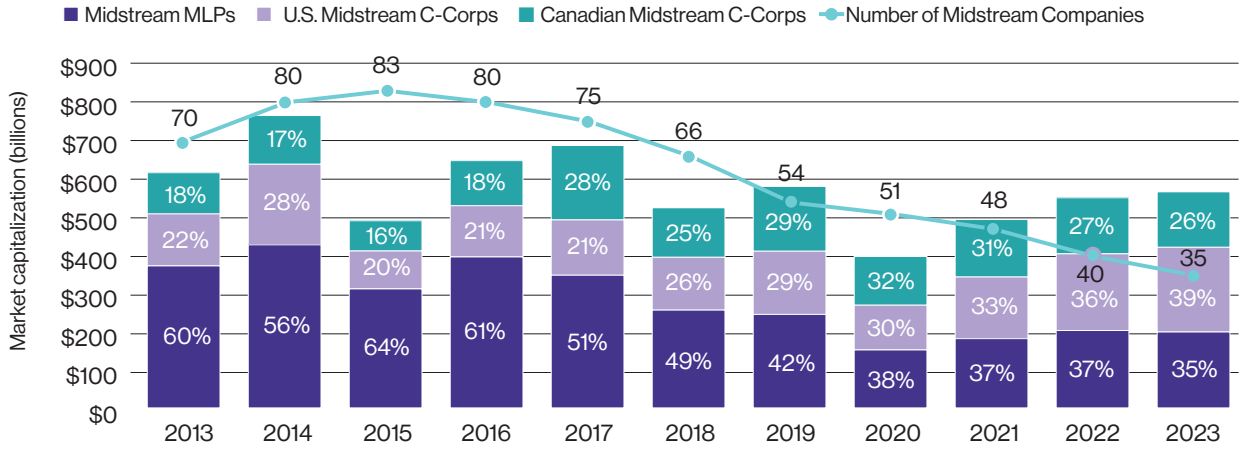
The North American midstream landscape

North American energy infrastructure companies include U.S. corporations, MLPs, and Canadian corporations. The chart below shows the total number of companies in the universe and total market cap, further detailed by company type. Prior to 2016, MLPs dominated the midstream market cap. Over the years, consolidation of MLPs, particularly by C-Corp parents, has changed the midstream landscape. At the end of 2023, U.S. C-Corps represented the largest portion of the North American midstream universe by market cap for the first time, unseating MLPs.

The pipeline business, explained

The modern pipeline network in the United States has its roots in the outbreak of World War II. Before the war, the East Coast was the largest consumer of energy in the country. Refined products (such as gasoline, diesel, and jet fuel) were delivered from Gulf Coast refineries via tankers. Tankers also carried raw crude oil from the Middle East. However, once the U.S. became involved in the war, German

The North American midstream universe changed significantly over the last decade



Source: VettaFi as of December 31, 2023. Values may not add due to rounding. Compression and Marketing & Distribution companies not included.

submarines began sinking these tankers. Together, the U.S. government and the petroleum industry-built pipelines that could cover long distances and transport large amounts of petroleum. This network subsequently fueled the economic boom that followed the war, and many of those original pipelines are still in service today.

Pipelines can be quite large or relatively small. Large diameter trunk lines are often three-and-a-half feet in diameter. Think of them as interstate highways that can handle a lot of traffic. Smaller delivery lines connect the large pipelines to each town.

Product traveling through trunklines is fungible – that is, the customer will receive the product on the other end that is the same quality as that which was sent, but they won't be the exact same molecules. It is as if someone sent $100 to a college student through a bank. That student will not get the exact same $100 bill as his or her benefactor sent, but the student doesn't care because $100 is $100.

However, smaller delivery lines operate on a batch system, where the exact same molecules are delivered as were shipped. In this case, a loved one sends our lucky college student a couple dozen cookies, and the ones delivered are the exact same cookies that were sent.

Energy renaissance

The term "energy renaissance" refers to the transformative growth in U.S. energy production that began around 2010 and culminated in the U.S. becoming a net energy exporter in 2019.

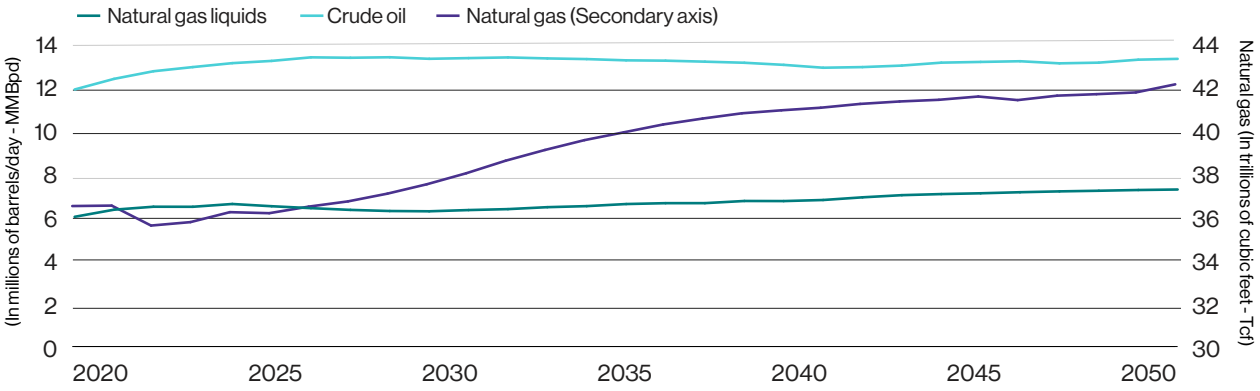
Prior to the 2000s, much of the energy industry was focused on peak oil supply and the ways companies and our society would have to shift in response. While producers knew that oil reserves existed, accessing the oil in a cost-effective way was difficult. Experts forecasted that expensive and complex recovery methods would be needed to continue to produce even a modest number of barrels.

In the early 2000s, the natural gas industry in the U.S. began widespread application of horizontal drilling and hydraulic fracturing. The technologies were not new, but the combination of the technologies made it possible to profitably produce the large reserves of crude oil, natural gas, and NGLs trapped between layers of North American shale rock. Horizontal drilling was developed in the first half of the 20th century, and the first commercial applications of hydraulic fracturing took place in 1949. After seeing the success of natural gas companies in applying these technologies, oil producers began implementing the same drilling technology and saw strong production growth from oil wells.

In 2009, the U.S. became the world's largest producer of natural gas. By 2012, the U.S. had an abundance of natural gas, leading to lower prices, but gas production continued to grow. In 2014, rapid growth in U.S. oil production had led to a global crude oversupply and weakness in oil prices. A multi-decade ban on U.S. crude exports was lifted by Congress in December 2015. In 2018, the U.S. became the world's largest oil producer[1]. For the first time since the early 1950s, the U.S. in 2019 was a net energy exporter and has remained so in subsequent years.

[1] https://www.eia.gov/todayinenergy/detail.php?id=37053

Long-term outlook for U.S. energy production remains constructive



Source: Energy Information Administration, Annual Energy Outlook 2023

The U.S. exports liquefied natural gas (LNG) and millions of barrels per day of crude and refined products like gasoline and diesel. As shown in the chart above, U.S. production of oil and NGLs is expected to grow moderately and remain fairly steady over the long-term, with natural gas production expected to grow noticeably. Continued production growth and rising exports of liquefied natural gas should help the U.S. remain a net energy exporter.

What the North American energy landscape means for energy infrastructure

The tremendous growth in U.S. oil and natural gas production necessitated a significant investment in the buildout of new energy infrastructure. While not as dramatic, energy production from Canada has also increased, necessitating new infrastructure. The production growth seen over the last decade or so in the U.S. and Canada would not have been possible without these infrastructure assets.

New oil pipelines

New oil pipelines were required to move crude from producing regions to demand centers, including the coast for export.

New natural gas pipelines and processing facilities

Growth in natural gas production required new pipelines, as well as new processing facilities to get the gas into a usable form.

Liquefaction plants

Liquefaction plants were built to facilitate exports of liquefied natural gas (LNG).

Fractionation plants and export facilities for natural gas liquids

The production of natural gas liquids (NGLs) also increased, creating more demand for fractionation facilities (the plants that process NGLs) and export facilities. The U.S. is a significant exporter of NGLs.

Increased storage capacity

Storage capacity was needed to support the transportation and consumption of the full suite of hydrocarbons.

Clearly, this massive infrastructure buildout had a hefty price tag, with midstream companies spending significant capital for years. However, annual capital investment peaked in 2018 or 2019 as production growth rates were expected to moderate. The

weakness in oil prices in 2020 led to a decline in U.S. energy production, and companies recalibrated spending plans in response, with some planned projects tabled. While U.S. energy production has recovered, midstream capital spending plans are generally more modest than in the past. As such, midstream is expected to enjoy the fee-based cash flows of previously completed projects, while reduced growth spending should allow for significant free cash flow generation.

Risks

If you have listened to a company's earnings call, viewed an investor presentation, or perused a company's annual report, you will have noticed disclaimers and/or a discussion of risk factors. While some of these risks may be unlikely to occur, they could impact your expected total return. While several key risks are discussed below, this list is not intended to be exhaustive.

Commodity price sensitivity – Since energy infrastructure companies do not typically own the oil and gas they transport, their business performance is less directly connected with the price of oil or gas. However, commodity prices can have implications for midstream businesses. For example, if commodity prices are very low, upstream companies will drill less, and demand will fall for gathering pipelines and other infrastructure. Additionally, in an environment with falling commodity prices, investor psychology may connect energy infrastructure with the broader energy sector and commodity prices beyond what the underlying business models would otherwise indicate. In other words, commodity prices can impact sentiment for energy infrastructure companies.

Environmental risk – Some pipelines in major transportation corridors were constructed in the 1950s and 1960s. An aging pipeline system, as well as high-profile oil spills and gas leaks, have increased investor concerns regarding transportation safety and environmental risks. Pipelines are by far the safest form of transportation for oil and natural gas. Increased maintenance and new technologies enabling more frequent and accurate monitoring of pipelines has helped improve pipeline safety.

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Alternative energy and demand destruction – The potential for alternative energy (solar, wind, hydro, electric vehicles, etc.) to replace hydrocarbon-based energy is a long-term risk for energy infrastructure companies as demand for the products handled by midstream companies could change. Energy transitions tend to take many years, but energy infrastructure companies are actively evaluating opportunities in alternative energy today. Perhaps, pipelines could be repurposed in the future to transport captured carbon dioxide or hydrogen. Existing infrastructure assets should be largely compatible with drop-in fuels like renewable natural gas or renewable diesel that have a similar chemical makeup as their hydrocarbon-based counterparts.

The adoption of alternative energy sources represents a risk for energy infrastructure but may also provide opportunities.

Recontracting risk – Recontracting refers to midstream companies having to renew or establish new contracts with customers when existing long-term agreements expire. Market dynamics may have changed since previous agreements were put into place, potentially making it difficult to sign contracts with a similar fee structure. Companies often stagger their agreements across their asset base and even for a single pipeline to help mitigate recontracting risk.

Regulatory risk – Government policies impacting the production of oil and natural gas or the regulation of pipelines could have implications for energy infrastructure companies.

Permitting risk – The permitting process for a new pipeline involves federal and state government approvals and permits, as well as environmental impact studies and potentially eminent domain complications. Each state has its own regulations, and pipelines often pass through many states. Should an approval not be granted (or conditionally granted), a pipeline may need to be rerouted, which is an expensive and time-consuming necessity. Any delays or cost overruns in the permitting process may make the project less profitable, as well as potentially prevent the pipeline from being built, resulting in lost sunk costs for the company. With fewer major new-build pipelines under construction, permitting risk has become less relevant for many midstream companies.

Energy Infrastructure 201

Shale revolution

For many decades, producers drilled for oil and gas in rock formations such as carbonates, sandstones, and siltstones. These formations, known as conventional formations, have multiple porous zones that allow the oil and gas to flow naturally through the rock. This ability of rocks to allow fluids to flow is known as permeability. Conventional formations have higher permeability than unconventional formations like shale rock. Vertical drilling, which involves drilling straight into the ground, worked for many years on conventional formations because once the drill bit hit a particular area, the high permeability would allow the hydrocarbons to be extracted easily.

Shale is a type of geological formation found in sedimentary rocks. For quite some time, the energy industry has known that oil and gas existed in shale. But because shale rock is not as permeable, using old techniques with vertical drilling did not make it economically feasible to recover resources because it would only capture a limited amount. Three technologies together truly changed the game for extracting shale resources: 3D seismic imaging, horizontal drilling, and hydraulic fracturing.

Major natural gas, crude oil, and NGL plays in the U.S.

- Current play – oldest stacked play
- Current play – intermediate depth/age stacked play
- Current play – shallowest/youngest stacked play
- Prospective play
- Basin

The map on the left shows some of the major natural gas, crude oil, and NGL plays in the U.S. There are shale plays in Canada as well, such as the Montney Shale in Alberta and British Columbia. Energy infrastructure companies built the pipelines, terminals, storage facilities, and processing plants to get production from these regions to end markets or the coast for export in usable form.

In short, 3D seismic drilling tells producers where to drill, horizontal drilling increases the amount of area drilled, and hydraulic fracturing solves the issue of low permeability.

Here's a more in-depth look at each.

- **3D seismic technology:** uses acoustic energy, vibrations, and reflected signals to determine the location and density of rock formations. Think of it like an underground map.

- **Horizontal drilling:** allows the operator to drill a well, and then manipulate the drill bit underground to make a 90-degree turn and cover a much larger area. Multiple (up to 20 or more) horizontal wells can be drilled from a single drill pad, lowering drilling costs, increasing efficiency, and minimizing the impact to the environment. After the well is drilled and lined with casing, it is ready for hydraulic fracturing.

> "
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- **Hydraulic fracturing:** describes the process in which a mixture of water, sand, and other chemicals is pumped into a well at a very high pressure to break up shale rock. The highly pressurized mixture lets a driller open all those tiny pockets. The water is then removed, and the remaining sand props open the rock, allowing hydrocarbons to flow freely to the surface.

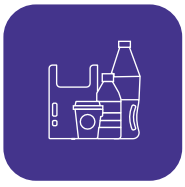
Energy infrastructure business models

In Energy Infrastructure 101, we examined the pipeline business. Pipelines are perhaps the most familiar of the assets that energy infrastructure companies operate, but these companies are also involved in a much larger swath of the energy value chain.

- **Gathering & Processing** – Before hydrocarbons enter a large pipeline, they need to be gathered and, in the case of natural gas, processed. Gathering involves connecting wells to major pipelines through a series of small diameter pipelines. Gathering pipelines transport either crude oil or natural gas from the wellhead to hubs. Processing is required for natural gas and involves the removal of potential contaminants and separation of NGLs so the gas can meet purity standards for pipeline transmission.

  Gathering and processing companies focus on obtaining fee-based revenues by charging upstream companies a set fee for every million British Thermal Unit (MMBtu) of natural gas or barrel of oil that is gathered or processed. The contract often includes a minimum volume commitment or acreage dedication, which helps provide cash flow stability. Occasionally, some companies will have different compensation structures, which may include payment in the form of keep-whole contracts. This allows them to keep the extracted NGLs and sell them to third parties at market prices. Another contract structure is percent of proceeds (POP), in which the processor is paid by retaining a percentage of any processed natural gas or NGLs. As keep-whole and POP contract structures expose gathering and processing companies to volatility in commodity prices, the vast majority of companies have moved (or attempted to move) to a purely fee-based revenue structure.

- **Fractionation** – At a fractionation facility, NGLs are separated into their individual usable components of ethane, propane, butane, isobutane, and natural gasoline. Ethane is primarily used as a feedstock, or input, into petrochemical plants to make ethylene, which is used to make plastics and other chemical products such as solvents and adhesives. Propane by itself can be used as a heating fuel or used as a feedstock to make propylene, which can be used in the manufacturing of textiles or plastics, such as headlights, eyeglasses, foam bedding, and water bottles.



Ethane
Petrochemical feedstock for making plastics, solvents, and adhesives

Propane
Heating fuel, used for cooking

Butane
Lighter fluid, petro-chemical feedstock for synthetic rubber, motor gasoline

Isobutane
Motor gasoline

Natural gasoline
Motor gasoline

The majority of fractionation is done on a fee-for-service basis. However, the amount of fees earned depends on the amount of volumes fractionated, which in turn depends on something called the frac spread. Essentially, the frac spread is a measure of the reverse of the adage "the whole is greater than the sum of its parts." With NGLs, the sum of the parts is worth more than the whole. Some NGLs must be removed for the natural gas stream to meet purity standards, but often they are only removed for additional profitability. The frac spread is the difference between the value of the NGLs if removed and the value of the NGLs if they are left in the natural gas stream and sold at the same price as natural gas. Ethane rejection is the industry term for when ethane prices are so low that it is better to leave ethane in the natural gas stream than extract it.

The relatively high cost of NGL handling, storage, and transportation additionally factors into the volumes of NGLs that will be fractionated. In order for the hydrocarbons to remain liquids, they must be kept under high pressure or cooled to very low temperatures. Additionally, gaseous NGLs are heavier than air and flammable, requiring increased safety measures. NGL storage typically takes place in underground caverns for these reasons, while the smaller amounts stored above ground are placed in insulated tanks and thicker steel.

- **Transportation** – Transportation companies are the bread and butter of the sector. This fee-based business model is the most well-known and most frequently referenced, perhaps because it is one of the simplest to understand. Typically, midstream companies will enter long-term contracts with customers committing to use a certain amount of pipeline capacity. The midstream company will collect a fee per unit of hydrocarbon transported. Contract provisions such as take-or-pay agreements or minimum volume commitments allow the pipeline company to collect specified fees even if the customer does not fully use its committed capacity.

Interstate liquids pipelines are regulated by the Federal Energy Regulatory Commission (FERC), and rates are most often based on the FERC's oil pipeline index. Every five years, the FERC sets the ceiling rate by which tariffs will be increased, with the rate based on the Producer Price Index for Finished Goods (PPI-FG) plus an adjustment. Through 2026, these FERC-regulated pipelines will increase the tariff they charge by PPI-FG – 0.21% every July 1.[2]

Interstate natural gas pipelines generate revenue by collecting a tariff for each unit of natural gas transported under long-term commitments. Customers enter contracts for capacity for these pipelines in much the same way that apartments are rented, but instead of year-long leases, interstate natural gas pipeline contracts are often for five to 20 years.

Like with a lease, customers are obligated to pay regardless of whether or not they use the space. Additional fees are charged when a customer needs to inject or withdraw hydrocarbons to meet demand spikes or oversupply. For new-build projects, the length and terms of these contracts allow the pipeline company to earn the rate of return necessary to construct the pipeline.

[2] https://www.ferc.gov/oil/general-information/oil-pipeline-index

Transportation companies have historically avoided building speculative projects, given the capital intensity of pipelines. Instead, pipeline companies will move forward with projects once they have sufficient customer commitments.

- **Storage** – Natural gas that is not immediately required for electricity generation or heating is stored until needed. The same is true of crude oil waiting to be refined and refined products (such as gasoline, diesel, and jet fuel) waiting to be consumed. Storage facilities operate a fee-based business model similar to rent, with contract lengths generally ranging from one to five years. Storage tanks for crude oil and refined products may also have inflation escalators.

- **Liquefaction** – Liquefaction refers to cooling natural gas and transforming it into a liquid state so it can be shipped overseas for export. Exports of liquefied natural gas (LNG) from the U.S. have increased in recent years as LNG export capacity has increased and projects have come online.

Pipeline permitting

Natural gas pipelines

According to the Natural Gas Act[3], companies that would like to build an interstate natural gas pipeline must obtain a "Certificate of Public Convenience and Necessity" from the Federal Energy Regulatory Commission (FERC)[4] before beginning a project. This is a multi- step process, and the timeline for this process can vary:

1. **Pre-filing and environmental review.** Pre-filing involves notifying all stakeholders of the proposed project and offering a medium for stakeholders to voice concerns related to the project. This phase also includes a study of the potential project site. This process begins several months before the application for the actual certificate is filed.

2. **Application for FERC certificate.** This is the beginning of the formal process. Applicants must provide a great deal of data on the project, such as construction plans, route maps, schedules, and more.

[3] https://www.law.cornell.edu/uscode/text/15/717f
[4] https://www.ferc.gov/

3. **Environmental review.** An official study is carried out on how the project will impact the environment. The public is then given an opportunity to comment on the results of the study. After this, the FERC will consider the comments and issue formal approval or denial of the project.

Petroleum pipelines

The permitting of oil pipelines is not subject to FERC regulation[5]. While companies constructing oil pipelines are required to obtain federal permits such as those described under the Clean Water and Clean Air Acts,[6,7] state approvals are the only governmental authorizations required for oil pipeline construction projects to move forward.

This may initially seem like an advantage for oil pipelines. Many would agree it is easier to acquire permits to build a pipeline from Oklahoma to Texas than from Pennsylvania to New York, for example. However, dealing with landowner issues in multiple states is not necessarily easy. If a landowner does not agree to the path of a pipeline and eminent domain authority does not exist in that landowner's state, the oil pipeline could be forced to take a more expensive alternative route. For natural gas pipelines, FERC approval includes federal eminent domain – a primary advantage of building a natural gas pipeline over building an oil pipeline.

Pipeline regulation

In the U.S., interstate liquids pipelines are regulated by the FERC. Unlike the antagonistic relationship most utilities have with their regulators regarding pricing, the FERC focuses on the safe and efficient transportation of energy throughout America. The FERC sets the ceiling rate for tariff increases on all interstate liquids pipelines following FERC's oil pipeline index. Through June 2026, the index will be based on PPI-FG – 0.21%.[8] The FERC reviews the PPI escalator every five years, and the historical values are shown below for context.

For interstate natural gas pipelines, the FERC enforces the Natural Gas Act, which mandates that the rates charged must be "just and reasonable." This is determined by calculating the pipeline company's cost of service, plus a return on its investment.

FERC escalator history

1995-2000	PPI -1.0%
2001-2005	PPI
2006-2010	PPI +1.3%
2011-2015	PPI +2.65%
2016-2020	PPI +1.23%
2021-2025	PPI -0.21%

Source: FERC 2024

Intrastate pipelines are regulated by the states themselves. The most famous state regulatory agency is The Railroad Commission of Texas[9] (a legacy name). State regulatory agencies work with pipeline companies to maintain standards of safety and maintenance.

[5] https://etfdb.com/index-insights/ferctastic-what-mlp-and-midstream-investors-should/
[6] https://www.epa.gov/laws-regulations/summary-clean-water-act
[7] https://www.epa.gov/laws-regulations/summary-clean-air-act
[8] https://www.ferc.gov/oil/general-information/oil-pipeline-index
[9] https://www.rrc.state.tx.us/

Canada

Headquartered in Calgary, Alberta, the Canada Energy Regulator (CER)[10] regulates the interprovincial oil, natural gas, and utilities industries in Canada. It does not create energy policy; it merely regulates construction, operation, and tariffs, and includes the energy- related functions that the EPA would provide in the U.S.

Similar to the FERC, the CER regulates pipeline tariffs to ensure that the rates are just and reasonable. The CER establishes tariffs in a way to allow companies to cover their costs and earn a reasonable return for their investors. Canadian pipeline companies may only charge a toll that has first been approved by the CER. This process typically includes review and negotiation of the terms and conditions of pipeline access and the responsibilities of both parties. Tariffs are often based on cost-of-service regulation. As a result, lower throughput can lead to greater tariffs as costs are shared by fewer shippers, or an expansion of a pipeline could lead to higher or lower tariffs depending on the change to throughput and revenue.

Aside from cost-of-service regulation, pipelines may also operate under negotiated settlements with the pipeline company and its customers reaching an agreement on tariffs and operational matters, which is then approved by the CER. Most of the major CER- regulated pipelines have operated under negotiated settlements in recent years.

Valuation

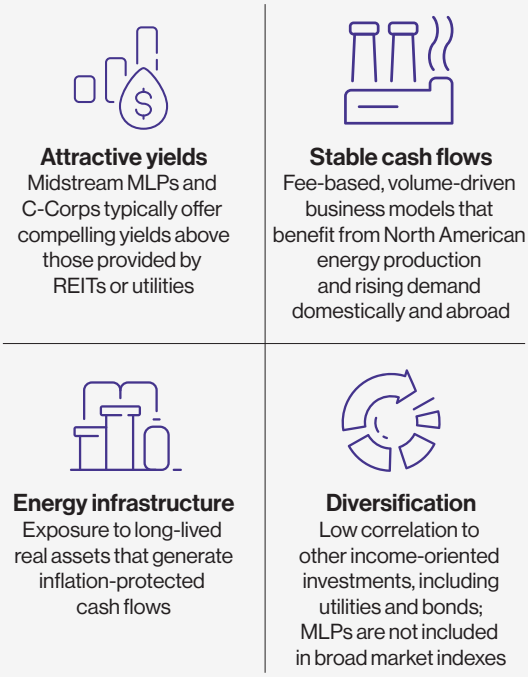
The most common valuation metrics for midstream companies are enterprise value to EBITDA (EV/EBITDA), free cash flow yield, and the dividend discount model. Valuation metrics for MLPs have historically been based on yield or distributable cash flow, but valuation methods for MLPs have evolved as the MLP business model has changed. Price-to-earnings ratios may be used to value midstream corporations, but P/E ratios can sometimes be distorted by the high depreciation expense for energy infrastructure companies, which may make earnings appear minimal or negative when in reality their cash flows remain stable or are growing.

Energy infrastructure investing

Now that you've read about the business models, risks, and fundamentals for energy infrastructure, perhaps you have decided that an investment in energy infrastructure is right for you and your portfolio. This section discusses portfolio considerations for investing in energy infrastructure and discusses the different ways to gain exposure to energy infrastructure companies, whether buying individual names or investing through funds or exchange-traded products.

[10] https://www.neb-one.gc.ca/bts/whwr/rspnsblt/trffctlltrff-eng.html

Benefits of MLP Investing



Energy infrastructure in portfolios

Within a portfolio, an energy infrastructure allocation can be used to enhance income, provide real asset exposure, or offer diversification. The infographic above expands on some of these benefits. Many investors use energy infrastructure in their equity income sleeve, their real asset sleeve, or their energy or equity sleeve. In conversations with investors over the years, we've seen a typical allocation of 3%-6%, although depending on the portfolio's objective, we've also seen upwards of 10%. It's important to keep in mind that investments in energy infrastructure come with risks, as do all equity investments.

Buying individual securities

For investors who are willing to do the work of researching individual securities and are comfortable with single security risk, direct investment in individual energy infrastructure companies may be an attractive option. While this is straightforward for corporations, it bears noting that investing directly in an MLP will result in a Form K-1 being issued for tax purposes. For a U.S. taxable investor (i.e., not investing in a tax-advantaged account) that is comfortable filing K-1s and state taxes and building a diversified portfolio, he or she will always be better off buying individual MLPs directly as it is the most-tax efficient way to own MLPs.

Of course, once investors have decided to buy individual securities, there is the question of which one(s) to buy. As an indexing and market intelligence firm, VettaFi's goal is to equip investors to make informed decisions about energy infrastructure and MLPs. To maintain objectivity, VettaFi does not make stock picks. However, after years of following the space, we have these insights for investors looking to put together a portfolio of energy infrastructure equities.

Management Teams – Consider the management team of the corporation or MLP. Solid management teams are those that have demonstrated the ability to execute on strategic and operational initiatives, that have been effective and efficient stewards of investor capital, and who work well together and have excellent relationships with their customers, investors, and other industry stakeholders. They do what they say they will do and have a deep bench of talent.

Asset Footprint – Midstream companies that already own infrastructure in attractive production regions or demand corridors benefit from their established position by being able to more easily expand existing assets. With the potential for volatility in commodity

prices, owning assets in cost-competitive basins can be an advantage. Additionally, companies that own a variety of assets along the energy value chain can clip multiple coupons along the way while also realizing cost savings from integration. Companies with basin diversity have a natural hedge against changing hydrocarbon production dynamics.

Capital allocation – In recent years, the energy industry has shifted from a grow-at-all-costs mentality to being more focused on returns and the best use of capital. This holds true for energy infrastructure companies as well. Companies should allocate capital based on what has the best returns for investors, whether it is pursuing an attractive growth project, increasing the dividend, or repurchasing equity.

Balance sheets – In recent years, financial flexibility has proved to be important as companies have navigated challenging macro environments, including the temporary but severe demand destruction for oil associated with the COVID-19 pandemic. Strong balance sheets and low leverage ratios provide for a greater margin of error in challenging environments.

Size – Larger midstream companies can more easily access the capital markets and are more likely to get investment grade credit ratings, have higher trading liquidity, and reach a broader investor group. However, it also takes bigger projects, built or acquired, to move the needle for the company's bottom line.

The myriad of energy infrastructure products

For those investors not interested in buying individual midstream securities, a variety of access products are available, which provide a 1099 and no K-1. Many of these products include MLPs. MLPs are pass-through structures that do not pay taxes at the entity level.

Instead, income and deductions are passed through to the end investor. A key advantage of MLPs is the potential for tax-deferred income due to the nature of MLP dividends (called distributions). The portion of an MLP distribution considered a return of capital is not subject to taxes until the position is sold. Regulated Investment Companies (RICs) such as mutual funds and Exchanged Traded Funds (ETFs) under the Investment Company Act of 1940 (collectively, "40 Act Funds") are also pass-through structures. Under current law, 40 Act Funds seeking to retain pass-through status are prohibited from owning more than 25% of their assets in MLPs. Funds that abide by this law are called "RIC-compliant." Other access products will be entirely C-Corporation focused, containing no MLPs.

There are funds that have more than 25% of their assets in MLPs; however, these funds are no longer pass-through structures and are required to pay taxes at the fund level. Functionally, this means that fund performance is reduced by the amount of taxes accrued (i.e., will be owed when positions are sold). Think of it like your employer withholding a certain portion of income taxes. In this case, the fund withholds (or accrues) a portion of the returns. These funds are also able to preserve the return of capital benefit for their investors, and since they can own 100% MLPs, the proportion of income that is classified as return of capital is higher. In other words, the greater ownership of MLPs leads to a greater portion of the income from the fund being tax deferred. These funds with more than 25% MLPs tend to be favored by investors seeking to maximize after-tax income.

Some funds are passively managed, where performance is linked to an index or benchmark. These funds tend to have lower fees. An actively managed fund has higher fees to account for the fact that a portfolio manager must be paid to choose individual stocks.

40 Act Funds – RIC Compliant – Less than 25% MLPs

Funds that own less than 25% MLPs do not pay taxes at the fund level, enabling them to pass through the entire return to their investors. The return of capital benefit from owning MLPs is muted due to the limit imposed on MLP ownership. Investors interested in RIC-compliant energy infrastructure funds should research what the fund owns for the other 75%. Common positions include midstream C-Corporations, utility companies, exploration and production companies, refiners, and MLP affiliates structured as C-Corporations.

As with 40 Act Funds that make a C-Corporation tax election, RIC compliant 40 Act funds may be mutual funds or ETFs.

Advantages:

- Ownership of the underlying securities
- Little to no tracking error

Disadvantages:

- Generally lower yield

Suitability:

- Tax-advantaged investors
- Total return investors in a taxable account
- Comfortable with non-MLP investments
- Prefer broad exposure to energy infrastructure (corporations and MLPs)

40 Act Funds – C-Corporation Taxation – 100% MLPs

A 40 Act Fund, such as a mutual fund or ETF, that owns more than 25% MLPs will be taxed as a C-Corporation. As the underlying positions increase in value, the fund will accrue a deferred tax liability (DTL) to account for taxes that will be owed should the position be sold. This DTL is assessed at the corporate tax rate of 21% plus an assumed rate attributable to state taxes. The DTL is removed from the net asset value (NAV) of the fund, meaning that if the value of the underlying portfolio rises from $100 to $110, the fund's NAV will move from $100 to $107.90. As the position falls, the DTL will be reduced.

When the fund is in a net DTL position, the DTL effectively reduces the volatility of the underlying portfolio, assuming no leverage is employed. Some funds (typically closed-end funds) will use leverage to offset some of the effects of taxes. While leverage can increase returns when performance is positive, when performance is negative, leverage will also cause the fund to lose more money. If the fund has no DTL to unwind, it will track the underlying portfolio

Advantages:

- Owning the underlying securities
- Generally higher after-tax income due to:
  - Tax character of distributions mirrors that of underlying portfolio
  - Fees are taken from the NAV, preserving the yield

Disadvantages:

- DTL mutes gains when the fund is in a net DTL position

Suitability:

- Taxable investors seeking after-tax yield

on a one-for-one basis. Fund distributions track the return of capital proportion of the underlying basket of securities and lower an investor's cost basis. This allows investors to enjoy the tax-deferred income associated with MLPs without the hassle of filing a K-1. Additionally, investors in 40 Act Funds with C-Corporation taxation do not need to worry about Unrelated Business Taxable Income if investing in a tax-advantaged account.

ETFs vs Mutual Funds

ETFs trade throughout the day, whereas mutual funds price only at the end of the day. However, mutual funds always price at NAV, while ETF prices are determined by the market. ETFs may also be sold short. Typically, ETFs have lower fees, ranging from around 40 bps-100 bps. Mutual funds fees in this category are a bit higher and range from around 70 bps–140 bps. Mutual funds may also use up to 33% leverage.

Closed-End Funds (CEFs)

CEFs were the first 100% MLP C-Corporation, 40 Act products. Like mutual funds, they can also use up to 33% leverage. Because CEFs do not have a creation/redemption feature, pricing may stray from NAV, causing them to trade at a premium or discount. Their liquidity is also constrained by the fund itself as opposed to the underlying securities held.

Exchange Traded Notes (ETNs)

An ETN is an unsecured debt obligation of the issuer. It is an agreement between an investor and an issuing bank under which the bank agrees to pay the investor a return specified in the issuance documents. MLP ETNs may track a basket that is 100% MLPs without accruing for DTLs, minimizing tracking error.

Advantages:

- Little to no tracking error as the bank agrees to pay the return
- Intraday knowledge of portfolio holdings
- Up to 100% MLP exposure

Disadvantages:

- Coupons are taxed at ordinary income rates
- Potentially lower income if expense ratio is removed from coupon payments (varies by ETN)
- Exposure to the credit risk of the underlying bank

Suitability:

- Tax-advantaged accounts such as 401(k)s or IRAs
- Total return investors in a taxable account[11]
- Investors comfortable with the credit risk of the financial institution

[11] Section 1260 of the Internal Revenue Code (http://www.law.cornell.edu/uscode/text/26/1260) contains some ambiguity with regards to ETNs. If constructive ownership rules were to apply, then long-term capital gains could be recharacterized as ordinary income. Accordingly, investors are advised to consult with their tax advisors.

Separately Managed Accounts (SMAs)

An SMA is an account that is managed by a portfolio manager. Unlike owning a basket of individual MLPs and receiving multiple Schedule K-1s, an SMA consolidates everything so that the investor only receives one Schedule K-1. SMAs may generate Unrelated Business Taxable Income (UBTI), which is income that could be taxed in an otherwise tax-exempt entity. Once UBTI exceeds $1,000 in an account, additional taxes may be assessed.

Advantages:

- Preserves tax characteristic of the underlying investment
- Typically has lower fees than publicly traded products

Disadvantages:

- May generate UBTI
- High minimum investment

Suitability:

- Large institutions such as pensions and endowments
- Very wealthy individual investors

Active versus passive

Although this will vary by investor, the next thing to decide in regard to energy infrastructure investment philosophy is active versus passive management. While this decision is germane to any sector, there are a few things unique to the midstream space.

Advocates of passive investing note that over the long term and after factoring in fees, active managers are unable to consistently outperform the index to which they benchmark their performance. Advocates of active investing argue that with extensive research on individual companies, selective investing, and close monitoring of securities, a portfolio manager can generate alpha, or risk-adjusted outperformance versus a benchmark.

Individual EI market capitalizations range from a couple hundred million dollars to tens of billions of dollars. If an active manager running a $1 billion portfolio would like to put on a 1% position in a small energy infrastructure company, liquidity constraints may prevent the manager from being able to enter or exit the position in a reasonable amount of time. This may cause active managers to take large positions in the larger, more established companies, which are the same companies in a market-cap weighted index. This phenomenon is known as closet indexing.

Choosing an active manager

For those investors who are not comfortable choosing their own securities, but who still would like active management, VettaFi recommends considering the following factors when selecting an active manager.

History – While past performance is not an indication of future returns, it is worth looking into the track record of an active manager being considered.

Outperformance – The entire purpose of paying for active management is to outperform the benchmark index after fees. If the active manager is not consistently outperforming the index, or, after fees is underperforming the index, an investor is better served by investing in a passively managed product. Outperformance in a single year may be notable but consider whether the manager has outperformed in previous years and under various market conditions.

Differentiation – An active manager whose portfolio closely mimics an index may be engaging in closet indexing. Investors are encouraged to examine the underlying portfolio to be sure it matches the investment thesis and philosophy of the manager.

Choosing an indexed product

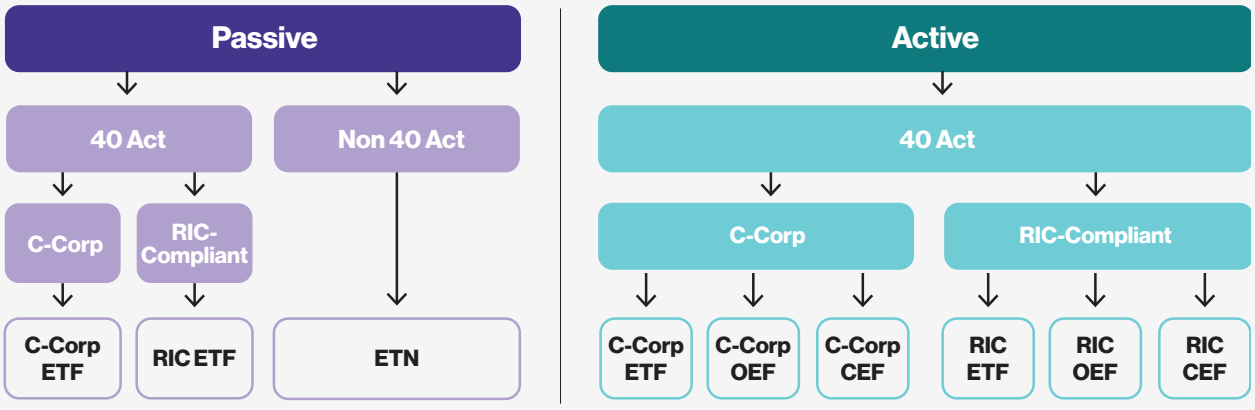
As an indexing firm, VettaFi constructs and maintains energy infrastructure and MLP indexes in the Alerian index suite, which it licenses to its partners for the creation of passively managed investment products. Alerian launched the first real-time MLP index in 2006, which has since become the industry standard benchmark. VettaFi continues to work hard to maintain energy infrastructure and MLP indexes that meet the most rigorous standards. With that bias in mind, VettaFi recommends that investors looking for a passive investment consider the following when researching underlying indexes:

Transparency – Passive investors should know what they are buying. The methodology used to construct the index should be publicly available to investors, as well as fact sheets and supporting information. Transparency allows investors to be sure the underlying portfolio matches their investment thesis. For example, not all MLP indexes are the same – some are midstream focused and include corporations, others are focused on income, and others are focused on MLPs.

Objectivity – An index provider may be tempted to include certain energy infrastructure companies for subjective reasons: a personal investment, a relationship with the management team, or to juice returns on a stock already included in an actively managed fund. For each index, there should be rules in place to prevent personal opinions and emotions from impacting the construction and rebalancing of the index. Having a codified set of rules that is transparent and freely available to the public, as well as limiting index committee members ability to trade energy infrastructure companies in their personal accounts, all help maintain objectivity. Additionally, indexing firms should be careful to avoid conflicts of interest with actively managed investments.

Decision tree

VettaFi has provided the decision tree below to help navigate the variety of investment products available.



Source: VettaFi

Conclusion

- Energy infrastructure companies perform the “shipping and handling” function of the energy value chain. Think transporting energy through pipelines, storing hydrocarbons, operating export terminals, and processing natural gas and natural gas liquids into usable commodities.
- Energy infrastructure is differentiated from other energy sectors by its fee-based business model. In providing services for fees, energy infrastructure companies generate stable cash flows that support generous dividends.
- Many investors use energy infrastructure in income portfolios given historically generous yields and diversification benefits relative to other income investments, but energy infrastructure can also be used for an alternative, real asset, energy, or general equity allocation.
- While direct investment in an MLP will result in a K-1 for filing taxes, there are a number of investment products with MLPs only or MLPs and C-Corps that provide exposure to the energy infrastructure space with a 1099 tax form.

To learn more about VettaFi Indexing click here

About VettaFi

VettaFi is a provider of indexing, data & analytics, industry-leading conferences, and digital distribution services to ETF issuers and fund managers. It operates the ETFdb, Advisor Perspectives, and ETF Trends websites and the LOGICLY portfolio analytics platform --engaging millions of investors annually -- empowering and educating the modern financial advisor and institutional investor. VettaFi owns and administers the Alerian Series. For more information, please visit: www.vettafi.com.

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