Letter of Transmittal

13 October 2023

Kim Dang, CEO

Kinder Morgan, Inc.

1001 Louisiana Street Suite 1000

Houston, TX 77002

Dear Mrs. Dang:

As per our contract deliverables, attached is the industry analysis report detailing our findings. Contained in this document is our assessment of the external oil and gas environment as well as the internal dynamics of your firm. Upon analyzing those forces, we reached a diagnosis and have provided a few proposed solutions for you to consider implementing.

Thank you for the opportunity – we hope you find the analysis beneficial for your decision making.

Sincerely,

TKM Consulting, Inc.

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The Macro Environment

PESTEL Analysis

Kinder Morgan is a Energy Infrastructure company based in Houston, Texas, a powerhouse in the transportation and storage of natural resources such as natural gas, refined petroleum products, and crude oil. With an extensive network of pipelines and terminals, the company plays a huge role in powering homes and industries in North America. With its vast infrastructure, Kinder Morgan needs to maintain a competitive edge through any means possible. In the competitive landscape of business, an understanding of the external pressures that influence operations and performance is essential to remaining competitive. Leveraging the PESTEL analysis, a tool that outlines the macro-environmental factors pressuring a company, can offer a lens to scrutinize the forces surrounding Kinder Morgan. These factors are divided into six categories under this analytical framework, which are Political, Economic, Sociocultural, Technological, Environmental, and Legal. Some of these factors, especially with energy related companies and industries, may have overlapping pressures. However, understanding each factor clearly and how they intertwine will provide a greater understanding of the company's operational environment, as well as provide opportunities for strategic thought leadership and areas for development.

Political Factors. The oil and gas industries, along with energy infrastructure and generation companies, have historically been pillars of the robust U.S. and Canadian economic system, tracing back to Rockefeller’s role in catapulting America into the industrial age. However, in the recent decade, the company has faced escalating pressures on a global scale. Navigating the landscape of global oil politics, coupled with the growing disdain for oil in the western world due to climate change concerns, has intensified. Moreover, issues surrounding land rights have become increasingly politicized as Morgan grapples with native and land ownership rights. The industry is affected by international political dynamics, including the possibility of price caps on oil from other countries such as Russia by the West. In addition, since the projects Kinder Morgan undertakes such as installing pipelines have such large risks, governmental approval and support is paramount to the success of the projects, thus Kinder Morgan’s activities remain highly political. According to Tombe, “Kinder Morgan faces unique regulatory and institutional risks that only the government can address” (Tombe). “Properly designed, government financial support is best viewed not as a subsidy, or as partial nationalization, but as providing insurance for government-created risks imposed on Kinder Morgan" (Tombe). The Canadian government had, in the Trans-Mountain Pipeline, vested interest in bringing the pipeline to fruition in order to bring jobs and economic success to Canada. However, Canadian attitudes towards oil and gas pipelines have changed and even soured over time. Canada, which purchased the Trans-Mountain Pipeline, received national criticism and protests over their decision to do so. In an article by The Canadian Press, Berman, adjunct professor of environmental studies at York University states, "Canadians are angry the government is shelling out $4.5 billion to purchase the Trans Mountain pipeline rather than investing in clean energy after Prime Minister Justin Trudeau's climate-change promises during the 2015 election and his later commitment to the Paris climate accord" (The Canadian Press). Besides environmental concerns, Trudeau faced criticism for his lack of protections for Indigenous lands and rights. Khelsilem, a Squamish Nation council member, states in The Canadian Press article, "Trudeau had promised during the election that he would create a new environmental process that would protect Indigenous rights and that the Kinder Morgan project would be included and sent back to be done through the new process, and on both those counts he's failed completely" (The Canadian Press). Due to the highly intertwined nature of the industry, the political landscape has a high impact on the success of Kinder Morgan's project, as cities even file lawsuits to block pipelines from progressing, and civilians stage protests. The political landscape, at one point, became so heated between Canadian provincial governments that, according to The Globe and Mail, "Kinder Morgan has suspended all "non-essential" spending on its Trans Mountain pipeline expansion […], issuing an ultimatum that it won't commit any more dollars […] unless it can get agreement from the province to stand aside by the end of May" (Cryderman, Bailey). Mr. Kean, in the article, points out "A company cannot resolve differences between governments. While we have succeeded in all legal challenges to date, a company cannot litigate its way to an in-service pipeline amidst jurisdictional differences between governments" (Cryderman, Bailey). In the face of such multifaceted challenges, where governmental decisions, public sentiment, and international dynamics converge, Kinder Morgan finds itself at a critical juncture. In order to find continued success, Kinder Morgan needs to navigate carefully, the existing political landscape as well as a visionary approach to harmonize the divergent interests. Doing so, it can forge a path that respects environmental concerns, honors indigenous rights in respect to land, and meets economic objectives, all safeguarding the company's foundational role in the energy sector.

Economic Factors. From an economic standpoint, Kinder Morgan deals with an industry that maintains some of the highest start-up costs. According to an IBISWorld report, “Only 20 companies are estimated to operate in 2023 due to the significant capital investment necessary to establish and operate pipelines […] These few companies control all organic chemical pipelines in the United States, with the top four operating the majority of pipelines” (IBISWorld). Being such a large player in the industry, Kinder Morgan’s success and failure can have direct economic impacts on the global economy. Kinder Morgan faces pressure from local economies as well as global economies, since the projects and pipelines spearheaded by the company are typically large in scale. Kinder Morgan can face massive consequences due to growth rates affected by inflation, and subsequently, the current consumer and business demands. For example, according to Reuters, in 2020, Kinder Morgan posted a quarterly loss on $1 billion impairment charge. The article goes on to say, “Energy companies have been hard hit by the COVID-19 pandemic that slashed fuel demand by about 30%, hurting natural gas prices and leading to lower demand for crude to be refined into products” (Reuters). In 2023, when gas prices fell, a similar situation occurred. Ellis writes, “The shortfall is likely most pronounced in U.S. gas prices, where Kinder Morgan assumed $5.50 per million cubic feet for 2023, whereas recent prices were around $2.50. Realized natural gas liquid pricing for Kinder is also down 25% year over year” (Ellis). In addition, tariffs on crude oil sources as well as changing prices place pressure on Kinder Morgan to maintain high pipeline utilization at lower costs. Low demand and pricing for gas can also lead to lower bids for projects and pipelines. Coupled with high barriers to entry such as capital costs, Kinder Morgan’s new pipelines or even improvements can seem unattractive to investors and shareholders. Due to the economic pressure of volatile demand and changing prices, as well as the global political landscape which can even define where crude oil can be sourced from, Kinder Morgan needs to place massive resources in maintaining profit in a volatile space. However, since the total companies in the industry at the same scale is relatively small, Kinder Morgan has some economic sway in controlling the stability of its company in the rocky environment.

Sociocultural Factors. As a leading company in the energy infrastructure sector, Kinder Morgan is influenced by the sociocultural aspects of the regions and locations it operates in, especially concerning job creation and community attitudes towards oil and gas. The demographic trends in areas that it tries to operate in can have vast consequences that threaten operations or could have benefits if the outlook is favorable. As sociocultural factors are often intertwined or parallel to political factors, Kinder Morgan would need to navigate this space carefully. The sociocultural landscape encompasses a variety of factors that directly impact the company's ability to create jobs and maintain positive relationships with the communities it serves. For example, the Trans-Mountain pipeline saw massive resistance to the point of explicit government involvement, lawsuits, and protests shutting down progress and extending timelines. However, in contrast, in geographical locations like Ohio, the sentiment is largely positive, as oil and gas industries provided many direct jobs and indirect support for industries related, such as construction and transportation. According to a study by API (American Petroleum Institute), “Nationwide, the industry accounts for 5.6% of total U.S. employment” (American Petroleum Institute). Though oil and gas industries do receive negative perception in the U.S due to factors such as contribution to climate change, this varies state by state on the overall level of animosity. Even with public opinion being varied, job creation remains a strong socio-cultural factor in that it directly supports communities, often working-class communities. A study by Dr. Rohlin of Kent State University on the Utopia Pipeline Project by Kinder Morgan, “Ohio stands to benefit from $237.3 million in economic impacts from the Utopia Pipeline proposed by Kinder Morgan, Inc. during its first five years” (Rohlin). Rohlin goes on to list that the project will “generate $4.9 million in tax revenues, create 2,132 direct and indirect jobs in Ohio, contribute $144.9 million to Ohio’s gross state product and provide $87.5 million uplift to the Ohio economy through additional income and spending” (Rohlin). These economic contributions not only signify the value for Ohio but also underscore the sociocultural significance of the project by addressing regional employment needs and enhancing the overall well-being of the local community.

Technological Factors. These play a pivotal role in shaping operations and strategies as well as competitive positioning for Kinder Morgan. Especially, as many projects have a lifespan of 75 to 100 years, technological advancements to improve efficiency and reliability are paramount to the profits of the company. Some technological advancements, including real-time pipeline monitoring and data analytics for preventative maintenance, hold the potential to alleviate concerns of residents, particularly regarding issues like oil spills or leaks. These technologies can reduce the likelihood of such incidents, while improving efficiency, providing benefits for other factors. Kinder Morgan is actively engaged in technological research and development to tackle a multi-faceted approach to remaining competitive, for example emission reduction strategies. As emission reduction is a topic of criticism for Kinder Morgan, it is imperative that they take strategies to pursue this route. According to their ESG, Kinder Morgan participates in several Industry Initiatives, which fund, identify, guide, and support methane emissions reduction studies, such as IAB for DOE's ARPA-E Project, METEC Industry Advisory Board, and more. Over the last three years, from 2020 to 2021, Kinder Morgan has invested $1.4 million into methane reduction research and development. In addition to emission research and development, Kinder Morgan states in their ESG, "One of the most impactful ways we reduce our overall emissions is by managing our energy consumption." They tackle this with a five-pronged approach, from Demand response to use of renewables in their operations. Firstly, they participate in Demand Response programs locally, which provide incentives based on data in the local grid conditions to automatically reduce load in Kinder Morgan operations. One technological advance specifically used in pipelines is DRA or Drag Reducing Agents. Kinder Morgan, in their ESG, states, "DRA reduces friction inside pipelines, which allows us to move more products through our pipelines using less energy. Our use of DRA reduces our electricity needs and allows us to reduce the use of pumps, completely shut down unneeded pump stations, or avoid construction of new pump station infrastructure" (Morgan). Though Kinder Morgan's primary product is consumable fuels, they take initiatives to bring alternative fuels to lower their risk as well as their cost for operations. Investing heavily in these initiatives allows Kinder Morgan to strategize about what cost-savings approaches and capital equipment would be beneficial in the long term, as the energy infrastructure industries' stability can be influenced at scale by external factors. Reducing reliance on consumable energy for some aspects of the business will prove to be cost saving. In their ESG report, Kinder Morgan comments, "have programs to make energy efficiency improvements in our operations and explore new lower carbon technologies where and when economically feasible. For example, some of the equipment at our facilities is powered through solar panels installed on-site. As these locations are often very remote and far from an existing electric grid, these installations have been successful from both an energy-efficiency perspective and cost-saving perspective. In 2022, we consumed approximately 956 MWh of renewable energy from the solar panels we operate, equivalent to approximately 678 metric tons of CO2e avoided.” Investing in Research and Development, incorporating innovative strategies such as the use of Drag Reducing Agents, Methane Reduction, equipment upgrades, allows Kinder Morgan to position itself to remain competitive, by addressing environmental concerns and reducing operational costs, which helps to bring stability into their operations.

Ecological Factors. Ecological influences for Kinder Morgan are intricately tied to their political factors, due to the nature of their business. Undeniably, Kinder Morgan has contributed to the environmental breakdowns, especially in areas along their pipelines due to oil spills. According to Trans-Mountain Pipeline’s website, the Pipeline has reported approximately 84 spills to Canada Energy Regulator, which mandates any spill to a body of water or a spill over. Trans-Mountain Pipeline’s oil spills, according to their data, has 70% of their spills at pump stations, with the other 30% occurring along pipelines. Delving deeper into the spill history, 20 spills were crude oil from the pipeline, and only nine spills went over the reporting threshold of 1.5 cubic meters (three occurring in the last 40 years). In each of these instances, Trans Mountain activated its emergency response and spill management procedures to mitigate the impacts. All terminals and pump stations have spill containment and monitoring systems to ensure detection early on and containment of spills on-site, adhering to the rigorous maintenance and inspection standards set by the CER. While the company maintains that no spill is acceptable, it is important to note that they have managed to transport petroleum products safely through Port Metro Vancouver from their Westridge Marine Terminal since 1956 without a single spill from a tanker. However, other incidents from other pipelines have occurred, which impacted local wildlife and waterways. According to a news article by Mukherjee for The Mercury News, "In an early analysis, energy company Kinder Morgan estimated that 750 to 1,000 barrels, or 31,400 to 42,500 gallons of gasoline, discharged from the crack before its workers shut down the pipeline that runs from Concord to San Jose” (Mukherjee). This spill ultimately resulted in a massive fine for Kinder Morgan, with California Attorney General Rob Bonta noting the company as environmentally reckless. “Bonta made the announcement near the site where the pipeline cracked, saying Kinder Morgan needed a ‘wake-up call’ for being environmentally reckless. In addition to having to pay the fine, company officials were ordered to follow stricter guidelines for notifying state officials about potential spills” (Mukherjee). The history of spills, even if managed effectively, does bring a level of scrutiny and demands a high level of responsibility and preparedness to prevent future incidents.

Legal Factors. According to a violation tracker website, Good Jobs First, Kinder Morgan is no stranger to legal fines and offenses. Since 2000, they have received $1,780,437,762 in fines on 301 offenses. Their environmental offenses remain their highest category. Aside from offenses, Kinder Morgan often faces lawsuits from government, or even civilian groups seeking to stop progress on specific projects, especially those on indigenous land or owned by private individuals. For instance, during the expansion of the Trans Mountain pipeline, Kinder Morgan engaged with governmental bodies to address the legal and environmental concerns raised by various stakeholders such as indigenous groups, industry leaders, governmental groups, and environmental rights groups. The decision by the Canadian government to purchase the pipeline was due to the project's national economic significance, a move that underscored the government's commitment to seeing the project through, and also allowed Kinder Morgan to no longer assume the legal risk of the project. A significant milestone in the project was reached when the Canadian Federal Court of Appeal approved the project, with Justice Noël noting the government had made "genuine and sustained" efforts to consult with Indigenous groups and that it was "not required to redo the work done during the earlier consultation" (Kennedy). The judges of the case continued, saying, "The evidentiary record shows a genuine effort in ascertaining and taking into account the key concerns of the applicants, considering them, engaging in two-way communication, and considering and sometimes agreeing to accommodations" (Kennedy). With legal offenses having the potential to halt work and affect their profit, Kinder Morgan needs to ensure their legal approach, from obtaining the permits, to working with local governmental laws such as zoning, is where they place many of their resources, as it can have an impact on their operations.

Significant Forces. In the environment, leaders have very little influence over which external factors will affect the company. That is why it is imperative to understand the strongest driving forces and develop mitigation plans for them. Listed above is a series of macro-level segments that have an impact on Kinder Morgan, but the most significant of those are political, economic, and ecological. These forces are heavily intertwined which allows certain plans to balance multiple forces simultaneously, but it's worth mentioning specific threats and opportunities for each of these leading factors. Political influences can come in the form of government instability as typically seen in younger and growing nations. Special attention to elected official motives and their susceptibility to corruption should be evaluated both before entering a market and during the course of doing business in it. Another force, policy change, has significant push from politicians and activists alike as the aforementioned Trans Mountain pipeline project highlighted. In instances of high emotional investment where politicians can make short sighted policy decisions, it is wise to understand the opposition and lobby to enact realistic compromise. Threats from economic factors can appear from rising inflation, poor exchange and tax rates, and labor market deficiencies. To hedge against rising inflation, leaders can push investments from bonds to stocks to prevent loss of purchasing power on their future cash flows. Some international companies have dealt with excessive domestic tax rates through manipulating prices and selling intangible assets, but this approach has been met with scrutiny. The former system pictured below (Figure 1) shows the price change scheme that has been employed in the past; however, future political intervention is possible to cut down on this tactic.

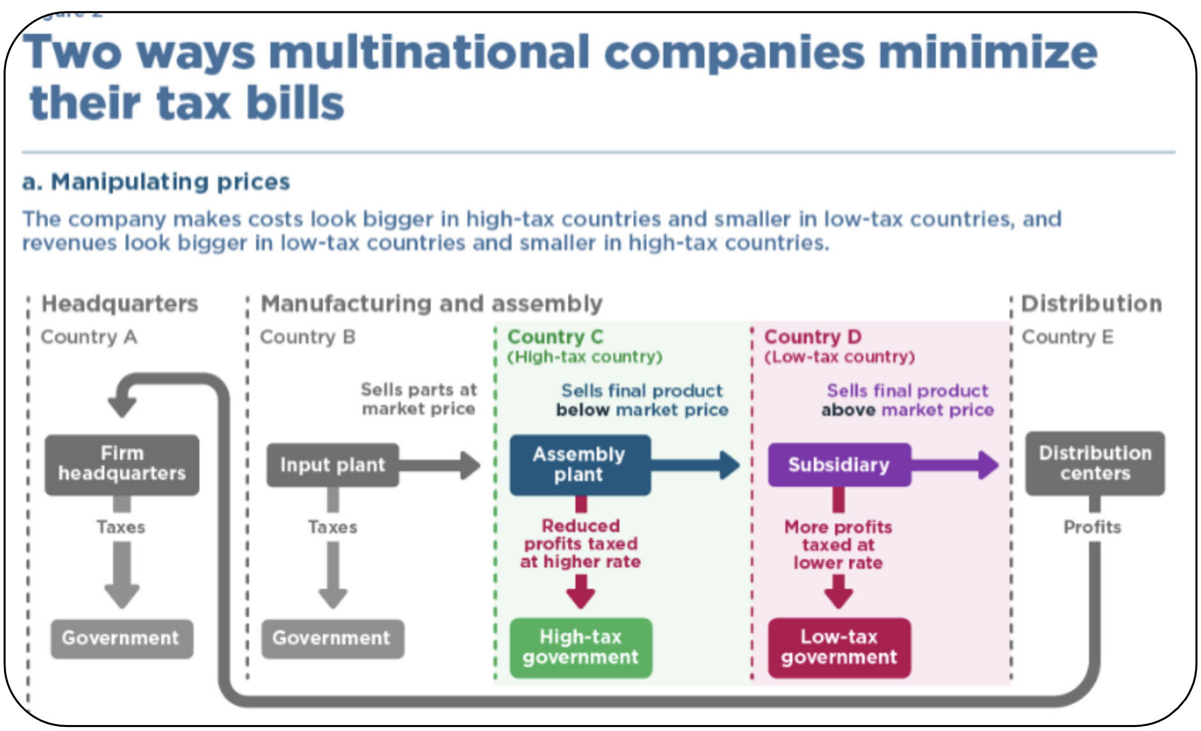

Figure 1. How Price Manipulation Can Lower Tax Burden (Djankov)

Labor market deficiencies can also impact a company's work force and development timeframes. Leaders should be cognizant of the educational abilities of the workforce in the market they are working in as they can impact the efficiency of the company's throughput. In the case of Kinder Morgan's international development efforts, experienced personnel should be used to guide new hires in training while the HR department works to instill recruiting practices that bring in quality talent. Ecological pressure can be difficult to predict whether it's due to inclement weather or malfunctioning equipment, so leaders are encouraged to plan appropriately. Preventative maintenance upfront or swift reaction crews are two great ways to reduce the severity of an environmental disaster and relieve any legal backlash. Finally, the oil and gas industry has seen immense pressure for its impact on the climate. While this threat is difficult to mitigate, it provides an opportunity for leaders to enact initiatives to offset the deleterious effects of oil processing/transportation. Kinder Morgan has already invested into renewable natural gas (RNG) businesses, which help balance Scope 1 emissions; however, additional renewable efforts should also be pursued where possible (Addison). Regardless of the particular renewable energy opportunity, an educated leader should have full understanding of their company's climate impact whether positive or negative before pushing a new initiative.

The Industry Environment

Five-Forces Analysis

Research shows that roughly 20 percent of overall firm performance is affected by industry effects (Rothaermel). The well-known "Five-Forces" industry analysis is a method for analyzing the competitiveness and potential attractiveness of an industry, which considers the strength of the various forces addressed below.

"The profit potential of an industry is neither random nor entirely determined by industry-specific factors. Rather, it is a function of the following five forces that shape competition: threat of entry, power of suppliers, power of buyers, threat of substitutes, and rivalry among existing firms. As a rule of thumb, the stronger the five forces, the lower the industry's profit potential — making the industry less attractive for competitors. The reverse is also true: the weaker the five forces, the greater the industry's profit potential — making the industry more attractive" (Rothaermel).

KMI owns an interest in or operating more than 140 terminals, 83,000 miles of pipelines, 700 Bcf of working natural gas storage capacity and has 2.2 Bcf per year of gross production of RNG generation capacity of approximately 2.2 Bcf (Kinder Morgan). Its pipelines transport natural gas, renewable fuels, refined petroleum products, crude oil, condensate, CO_2 and other products, and its terminals store and handle various commodities including gasoline, diesel fuel, renewable fuel feedstocks, chemicals, ethanol, metals and petroleum coke (Kinder Morgan).

KMI is organized into four business segments (Kinder Morgan):

1. **Natural Gas Pipelines**: This segment consists of "interstate and intrastate pipelines, underground storage facilities, liquefied natural gas (LNG) liquefaction, and terminal facilities and natural gas liquids (NGL) fractionation facilities, and includes both Federal Energy Regulatory Commission (FERC) regulated and non-FERC regulated assets".
2. **Products Pipelines:** This segment consists of "refined petroleum products, crude oil and condensate pipelines (and associated terminals), KMI's Southeast terminals, condensate processing facility, and transmix processing facilities".
3. **Terminals:** This segment consists of the "operations of KMI's refined petroleum product, chemical, renewable fuel, and other liquid terminal facilities (other than those included in the Products Pipelines business segment) and all of its petroleum coke, metal, and ores facilities".
4. **CO_2:** This segment "produces, transports, and markets CO_2 for use in enhanced oil recovery projects as a flooding medium for recovering crude oil from mature oil fields and includes CO_2 pipelines and related assets that allows KMI to market a complete package of CO_2 supply and transportation services to its customers".

Broadly, KMI is in the NAICS sector code 48-49 for "Transportation and Warehousing" (Lang). This industry sector is defined as being "primarily concerned with the transportation of passengers or cargo by air, rail water and road… operators that supply associated support services are also included in this sector" (Lang).

The following are the segments in which KMI falls into:

- **Gas Pipeline Transportation (NAICS 48621):** This segment is focused on "transporting natural gas from processing plants to local distribution systems using pipelines" (Pigott).
- **Refined Petroleum Pipeline Transportation (NAICS 48691):** This segment is focused on operators who transport refined petroleum products (gasoline, diesel and aviation fuel) and natural gas liquids via pipeline systems (Tumukunde).
- **Organic Chemical Pipeline Transportation (NAICS 48699):** This segment is focused on pipeline transportation services for chemical products, such as carbon dioxide (CO_2) and ammonia (Tumukunde).
- **Specialized Storage-Warehousing (NAICS 49319):** This segment is focused on operators of specialized warehousing and storage facilities (Pigott).

Bargaining Power of Suppliers. The supplier power for KMI is characterized as **Strong.** For a supplier to put pressure on a firm's profit, the supplier must have the ability and confidence to demand higher prices (or reduced quality) and capture part of the economic value created (Rothaermel). According to the 2022 revenues data for KMI and the company's suppliers (CSI Market), KMI had a $17.1 billion revenue.

Figure 2 suppliers recorded a bigger revenue than KMI in 2022 (CSI Market):

Supplier Name	Revenue (Billions)	Supplier Name	Revenue (Billions)
Exxon Mobile	$377	Occidental Petroleum Corp.	$31
Berkshire Hathaway, Inc.	$332	ABB, LTD.	$29
Chevron Corp.	$223	EOG Resources, Inc.	$26
BP Plc	$164	United States Steel Corp.	$22
Marathon Petroleum	$156	Pioneer Natural Resources	$20
ArcelorMittal	$79	Parker Hannifin Corp.	$19
Imperial Oil Limited	$41	Quanta Services, Inc.	$18

Figure 2. Oil and Gas Industry Supplier Revenue

A majority of the suppliers are oil and gas companies (e.g., Exxon Mobil, Chevron Corporation, and BP PLC), which have a bigger revenue. The current surge in oil and gas within the last year has caused, “70 major projects under development worldwide, a 25% increase from 2020, according to Top Projects, GS Research’s 20th annual analysis of the energy sector” (Goldman Sachs). However, the oil and gas industry has been predicted to, “fall in prices and drilling rates since late 2022 [and] is set to reduce output in the second half of 2023 and tighten markets for both oil and gas later this year and into 2024” (Kemp).
Figure 3 below also shows how oil and gas suppliers have declined in their sales growth over the second quarter of 2023.

Figure 3. KMI’s Supplier’s Growth in Quarter 2 in 2023

While the raw material suppliers have a mostly positive growth, KMI relies on the oil and gas industry as a supplier for pipelines, terminals, and storage. There is a strong threat that the oil and gas suppliers may demand a higher price to make up for their loss in revenue.

Bargaining Power of Buyers. The buyer power for KMI is characterized as **Weak**.
The bargaining power of buyers of firms in an industry is another force impacting profit potential. “An industry’s buyers are powerful if they are concentrated or are free to direct their purchases elsewhere” (Rothaermel and Casadesus-Masanell). The broad industry (NAICS 48-49) has low customer concentration, and each of the industry segments in which KMI competes,

except for NAICS 49319, likewise have low customer concentration (Piggot and Tumukunde). Additionally, as discussed further below, the market share is fairly concentrated among a few major competitors who generally obtain long-term customer contracts, which limits the purchasing options of buyers. Thus, the buying power is further neutralized by the concentration of competitor market share and long-term contracts in the industry.

Threat of Substitutes. The substitute threat is characterized as **Neither Weak nor Strong.** There are outside threats to the firm that could cause KMI to fall victim to low-switching costs (Rothaermel).

“Since pipeline development has lagged behind the shale and tar sands oil production booms, industry has increasingly turned to trains, trucks and barges to transport oil to refineries and markets” (Earthworks).

The life and price performance in switching from pipelines to trains, trucks, and barges provides a big issue with KMI. It is cheaper to use trains, tracks, and barges, but the comparison brings up different issues (Pipeline Safety):

- “Pipelines spill more, both based on sheer volume, and on a per-ton-mile or per-barrel-mile basis.
- Rail transport accidents cause more injuries to humans on a per-barrel-mile or per-ton-mile basis.
- The probability of a spill from Rail is greater on a per-barrel-mile or per-ton-mile basis, though the majority of spills tend to be quite small in volume.”

KMI would need to be aware of these alternatives, but also push the idea that rails can be just as destructive.

Threat of New Entrants. The threat of new entrants is characterized as **Weak**.
“New entrants in an industry can quickly erode profits by increasing competition, introducing alternative products, and capturing market share. New players are best able to make inroads when the incumbent players do not benefit from economies of scale, a strong brand identity, or proprietary knowledge. In such environments, there are low barriers to entry” (Rothaermel). The

impact of potential entrants on profit depends on the difficulty to enter the industry, depending depends on barriers to entry in the industry.

Barriers to entry include the following (Rothaermel and Casadesus-Masanell):

Figure 4. Oil & Gas Industry Entrance Barriers

In the case of KMI, the barriers to entry are strong because KMI is an incumbent operating in the industry, which is favorable for KMI. The capital intensity required for new entrants is high. Also, relatively volatile revenue and fairly low growth projections present additional challenges for potential new entrants, thus further discouraging their entry. Further, the presence of existing long-term customer contracts in the industry further favors the incumbents and creates additional barriers for potential new entrants. Lastly, the industry (and those segments in which KMI competes) are in a mature stage, rather than a growth stage, which is generally not an optimal stage for new entrants.

While the broad sector (NAICS 48-49) has low barriers to entry overall (*see* Lang, 2023 pg. 7), the segments in which KMI operates have high barriers to entry (Pigott and Tumukunde).
The strong barriers to entry can be further described with a closer look at the gas pipeline transportation industry segment (NAICS 48621). The rate of new patent technologies entering the industry is low, which limits the potential for innovations that could disrupt the incumbents.

“The industry structure is not accommodative to new entrants succeeding, which limits the incentive for new companies. This is accompanied by an average level of new entrant operators. The combination provides a limited threat from disruptors” (Piggot).

Also, the amount of capital required to fund the construction of gas pipelines is the most significant entry barrier. Pipeline infrastructure is costly; potential entrants must incur high initial investments before securing a supply of natural gas and demand for transport services (Piggot). Also, large initial contracts must be secured to make a pipeline viable, and those contracts are typically awarded to existing operators with extensive infrastructure and a history of regulation compliance. As such, potential entrants could find it difficult to compete with incumbents for these contracts (Piggot).

Lastly, legal barriers to entry exist in this industry (Piggot). Compliance with various state laws that regulate energy transport and safety must be achieved before commencing operations. Because most pipeline infrastructure crosses state boundaries, compliance with many governing authorities at the federal level is often required, which can be daunting for a potential new entrant (Piggot).

Existing Competitive Rivalry. Rivalry in KMI’s industry is **Moderately Strong.** The rivalry among competitors in the industry is another factor impacting profit potential. “Intense rivalry is common when the competitors are of similar size and sell undifferentiated products, or when industry growth is slow. Other contributing factors include high fixed costs, overcapacity in the industry, and investments in assets that cannot be repurposed. Competition is most harmful when it results in aggressive, sustained price wars, which decrease the available profit pool for everyone” (Rothaermel and Casadesus-Masanell). The companies in KMI’s industry sell undifferentiated products, in an industry that is in a mature stage with slow growth, and industry operators compete in terms of the rates they provide for gas transportation. Although rates are mostly determined by the FERC, operators still have some power to affect the rates (Pigott). Companies in the gas pipeline transportation industry have been merging over the past five years in order to lower costs and become more competitive, and due to increased competition companies have laid off an increasing number of employees in the past five years (Pigott). Also, this industry has a moderate level of concentration with four leading companies in the industry accounting for 40 percent of industry revenue in 2023 (Pigott). As one of the leading incumbents, KMI benefits from economies of scale.

For instance, as shown in the following list that displays each of the market segments where KMI is one of the top three in market share:

- 48621 Gas Pipeline Transportation Market share (second largest market share): 1. Energy Transfer, LP (11.8%), **2. KM Energy Partners LP (11.5%)**, 3. Tc Energy Corporation (11.3%), 4. Williams Companies, Inc. (8.1%), and 5. Enbridge Inc. (6.9%) (Pigott)
- 48699 Organic Chemical Pipeline Transportation Market share (largest market share): **1. KM Energy Partners LP (26.8%)** and 2. Denbury Inc. (8.8%) (Tumukunde)
- 48691 Refined Petroleum Pipeline Transportation Market share (third largest market share): 1. Enterprise Products Partners LP (18.6%), 2. Magellan Midstream Partners, LP (17.9%), and **3. KM Energy Partners LP (11.0%)** (Tumukunde)
- 49319 Specialized Storage – Warehousing Market share (second largest share): 1. Iron Mountain Inc. (20.8%) and **2. KMI (19.2%)** (Piggot)

While competition is moderately strong between existing rivals in the industry, which should further discourage new market entrants.

Five Strongest Forces. Our team used various outside research and KMI financial data to conclude that the following are the five strongest forces driving competition in the industry:

1. Existing Competitive Rivalry
2. Bargaining Power of Suppliers
3. Substitutes
4. Bargaining Power of Buyers
5. Threats of New Entrants

Industry Opportunities and Threats

Due to the bargaining power of buyers and the threat of new entrants' forces being weak, there tends to be more opportunities than threats for KMI going forward. The oil and gas industry itself is currently unstable, "amid uncertainty and potential volatility coupled with rising and diminishing consumer demand, price fluctuations, and geopolitical tensions" (Mortisch), which proposes a threat to KMI. However, KMI's standing as one of the biggest firms in the energy infrastructure oligopoly allows the company to take some more risks in pushing towards using more renewable energy and low carbon processes. "Carbon reduction, security of supply and rising energy costs are prompting countries around the world to reduce their dependence on fossil fuels" (Mitsostergiou) causing many companies in the industry to look to alternative processes.

In 2021, KMI acquired Kinetrex, a company that had helped develop processes for RNG and LNG. So far, Kinetrex Energy (a Kinder Morgan company) has, "be[en] a driving force in enabling organizations with their energy transition" (Kinder Morgan). KMI's position in the industry gives the company the opportunity to explore more greener options in its process, which can keep the company ahead of the changing industry landscape and help with the public's opinion of the company.

Industry Dynamics

Stability in the Industry Environment. Over time, the five categories of influences in the industry environment have remained largely consistent (The Industry Environment section above provides this in more detail). The few significant providers of pipeline equipment and materials are driven by companies with larger revenue streams than Kinder Morgan. Therefore, suppliers have the upper hand and the power to create instability if they need to protect their own bottom line. Buyer power is weak leading to stability which is common with low customer concentration industries. There are no near equivalents for pipeline transportation of oil and gas, hence the threat of substitutes is stable. The threat of new entrants is also stable since there are major barriers to entrance, such as the requirement for significant financial expenditure and governmental approval. Rivalry is strong which can create instability in the market, however, the oil and gas industry has operated as an oligopoly [i.e., OPEC, which keeps the playing field relatively level as long as all players keep within the rules (Moran)].

In recent years, the number of businesses working in the oil and gas pipeline industry has remained largely steady. In 2021, there will be the same number of oil and gas pipeline firms operating in the United States as there were in 2020. The top five businesses' market share has likewise stayed largely stable as they have held over 60% of the market in both 2021 and 2020. In both 2021 and 2020, the average cost of constructing a new oil and gas pipeline remained virtually unchanged, at $1 million per mile. Finally, demand for oil and gas transportation has remained reasonably stable in both 2021 and 2020, at 21.4 million barrels per day.

Stability That Drives Industry Competition. The following are the five most powerful forces driving industry competition:

High Fixed Costs: The oil and gas pipeline sector is a capital-intensive industry that necessitates significant infrastructure investments. As a result, new entrants find it harder to compete with established organizations that have already made similar expenditures. A new oil and gas pipeline, for example, costs roughly more than $1 million per mile on average. This is a substantial investment that could make it difficult for future entrants to compete.

Economies of Scale: The economies of scale are referred to as coast advantages that result from mass production. Economies of scale in the oil and gas pipeline business result from the capacity to spread fixed costs across a larger number of units. Larger corporations can generate oil and gas at a lesser cost than smaller companies. A larger pipeline, for example, may transport more oil and gas, allowing the fixed costs of building and operating the pipeline to be distributed across a larger number of units.

Long-term Contracts: Pipelines frequently enter into long-term agreements with their clients. Even if the price of oil and gas rises, these contracts make it difficult for pipelines to raise their prices. Customers are locked within the contract and cannot transfer to another pipeline without paying a penalty.

The Government's Industrial Regulation: The Federal Energy Regulatory Commission (FERC) oversees the oil/gas pipeline business. Pipelines must get permission from FERC before they may be built or operated. Getting the permission is a time-consuming and costly process, making it difficult for new market participants to enter. FERC, for example, requires pipeline companies to undertake environmental impact studies before constructing new pipelines. This can be a time-consuming and costly operation.

The Environmental Rules: Environmental rules also apply to the oil and gas pipeline industry. These regulations can raise the cost of operating pipelines and make obtaining licenses more complicated. The Clean Air Act, for example, mandates pipelines to monitor their emissions and meet emission criteria. This can be an expensive and time-consuming procedure.

These dynamics have remained remarkably steady over time, despite growing government regulation of the industry in recent years.

Industry Consolidation/Fragmentation Evaluation. Oil and gas pipelines are more consolidated than other industries. The top five corporations in the industry control roughly 60% of the market. The high fixed costs of entrance into the business, as well as the requirement for economies of scale, are driving this consolidation. In 2021, the top five companies in the oil and gas pipeline industry were Kinder Morgan, Enbridge, Enterprise Products Partners, TransCanada, and Williams Companies. These five companies controlled about 60% of the market. This is much higher than the market share of the five largest companies in other sectors, such as the telecommunications industry (30%) and the retail industry (25%).

Industry Convergence Evaluation. Industry convergence in the oil and gas sector is evident through investments in renewable energy, clean technologies, digitalization, and commitments to sustainability. This convergence is a response to global environmental concerns and the evolving energy landscape, positioning traditional energy companies to play a significant role in a more sustainable future. Convergence is not as strong as it is in other industries, such as telecommunications, but it is expected to continue in the future.

Renewable energy investments: Oil and gas companies are making a push towards using renewable energy sources (wind, solar, and geothermal power). According to the

International Energy Agency (IEA), oil/gas companies invested $16.2 billion (2022) and $17.4 billion (2023) in renewable energy.

Digitalization initiatives: Oil and gas businesses are implementing digital technologies to improve their operations. Shell, for example, uses machine learning to optimize its oil and gas output.

Sustainable growth: Oil and gas businesses are positioning themselves for long term sustainable growth. Clean energy and sustainable solutions are predicted to be in high demand in the next few years. For example, BP has committed to achieving net-zero emissions by 2050.

These are just a few examples of how the oil and gas pipeline industry is converging. The convergence is being driven by the increasing demand for natural gas and the need to reduce emissions.

Mobility Barriers and Impact*.* Some of the mobility barriers that Kinder Morgan faces and how they may impact competition in the industry.

Regulatory hurdles: Kinder Morgan is subject to a variety of regulations, both federal and state. These regulations can make it difficult and time-consuming to get new pipelines or other infrastructure approved. For example, the U.S. Department of Energy (DOE) must approve all new oil pipelines that cross state lines. This process can take several years and can be subject to legal challenges.

The following are some of the specific regulations that Kinder Morgan faces:

- The **National Environmental Policy Act (NEPA)** mandates that federal agencies evaluate the environmental impacts of proposed projects. This can be a lengthy and expensive process, and it can delay or derail projects.
- The **Pipeline Safety Act (PSA)** regulates the construction, operation, and maintenance of pipelines. The PSA sets standards for safety, and it requires pipelines to be inspected and tested regularly.

- The **Clean Water Act (CWA)** protects the nation's water resources. The CWA can restrict the construction of pipelines in certain areas, and it can require pipelines to be constructed with features that minimize their impact on water quality.
- The **Endangered Species Act (ESA)** is designed to protect threatened and endangered species. The ESA can require pipelines to be rerouted or modified to avoid harming endangered species.

These regulations are designed to protect the environment and public safety. However, they can also make it difficult and expensive for Kinder Morgan to build and operate pipelines. This can give Kinder Morgan's competitors an advantage, as they may not be subject to the same regulations.

Land access: Kinder Morgan needs to acquire land to build and operate its pipelines. This can be a challenge, especially in areas with high land values or environmental constraints. For example, Kinder Morgan has faced opposition from landowners in the state of Oregon over its proposed Jordan Cove LNG pipeline.

The following are some of the specific challenges that Kinder Morgan faces in acquiring land. The cost of land can be high, especially in urban areas. Landowners may be reluctant to sell their land, especially if they are concerned about the environmental impacts of a pipeline. There may be environmental regulations that restrict the use of certain land for pipelines. There may be public opposition to the construction of a pipeline, which can make it difficult to acquire land. These challenges can make it difficult for Kinder Morgan to acquire the land it needs to build and operate pipelines. This can give Kinder Morgan's competitors an advantage, as they may be able to acquire land more easily.

Environmental concerns: Kinder Morgan's pipelines can have a negative impact on the environment. This can lead to opposition from environmental groups and local communities, which can further delay or derail projects. For example, Kinder Morgan's proposed Permian Highway Pipeline has faced opposition from environmental groups over concerns about its impact on water resources.

The following are some of the specific environmental concerns that have been raised about Kinder Morgan's pipelines:

- Pipelines can leak, which can pollute the environment.
- Pipelines can disrupt wildlife habitats.
- Pipelines can contribute to climate change.

These concerns can lead to public opposition to Kinder Morgan's projects, which can make it difficult for the company to get its projects approved.

Public opposition: Kinder Morgan's projects can also face public opposition, even if they are not opposed by environmental groups. This can be due to concerns about safety, noise, or property values. For example, Kinder Morgan's proposed North Dakota Access Pipeline faced opposition from landowners and Native American tribes over concerns about its impact on cultural resources.

The following are some of the specific reasons why people may oppose Kinder Morgan's pipelines:

They may be concerned about the safety of pipelines. They may be concerned about the noise from pipelines. They may be concerned about the impact of pipelines on property values. They may be concerned about the impact of pipelines on cultural resources. Public opposition can make it difficult for Kinder Morgan to get its projects approved, and it can also delay or derail projects.

These mobility barriers can make it difficult for Kinder Morgan to compete with other pipeline companies. This is because other companies may not face the same challenges or may be able to overcome them more easily. As a result, Kinder Morgan may be less able to expand its business or offer competitive rates. The mobility barriers faced by Kinder Morgan can also impact competition in the industry by making it difficult for new companies to enter the market. This is because new companies would have to overcome the same challenges as Kinder Morgan.

Strategic Group Evaluation. A strategic group is a group of firms that compete in the same market and have similar competitive approaches. In the case of Kinder Morgan, the company's 2022 annual report identifies four primary strategic groups:

Crude oil pipelines: Kinder Morgan operates and owns a network of crude oil pipelines in North America. These pipelines transport oil from production areas to export terminals and refineries.

Natural gas pipelines: Kinder Morgan owns and operates a network of natural gas pipelines in North America. These pipelines transport natural gas from production areas to markets and power plants.

Terminals: Kinder Morgan owns and operates a network of terminals that store and blend crude oil and natural gas. These terminals also provide loading and unloading services for ships and trucks.

Services: Kinder Morgan provides a variety of services to the energy industry, including engineering, construction, and maintenance services.

These strategic groups can impact industry competition in a number of ways. Here are some details on how each strategic group can impact competition:

Geographic:

- *Market segmentation*: The different geographic strategic groups within Kinder Morgan can lead to market segmentation. This means that each group may focus on specific regions, creating niches within the energy infrastructure industry. This segmentation can help Kinder Morgan target different customer needs effectively.
- *Competitive advantage*: Different geographic strategic groups may develop expertise and capabilities tailored to their specific region. This specialization can lead to a competitive advantage. For example, if one group focuses on the transportation of crude oil in the Permian Basin, they may have a better understanding of the local market and be able to offer more competitive rates.

- *Diversification*: The different geographic strategic groups within Kinder Morgan can help to diversify the company's revenue streams. This diversification can help mitigate risks associated with fluctuations in the energy market. If one region faces challenges, others may continue to perform well.

Product Type:

- *Market segmentation:* The different product strategic groups within Kinder Morgan can lead to market segmentation. This means that each group may focus on specific products, creating niches within the energy infrastructure industry. This segmentation can help Kinder Morgan target different customer needs effectively.
- *Competitive advantage:* Different product strategic groups may develop expertise and capabilities tailored to their specific product. This specialization can lead to a competitive advantage. For example, if one group focuses on the transportation of liquefied natural gas, they may have access to specialized equipment and expertise that other companies do not have.
- *Diversification:* The different product strategic groups within Kinder Morgan can help to diversify the company's revenue streams. This diversification can help mitigate risks associated with fluctuations in the energy market. If one product faces challenges, others may continue to perform well.

Customer Base:

- *Market segmentation:* The different customer strategic groups within Kinder Morgan can lead to market segmentation. This means that each group may focus on specific customer types, creating niches within the energy infrastructure industry. This segmentation can help Kinder Morgan target different customer needs effectively.
- *Competitive advantage:* Different customer strategic groups may develop expertise and capabilities tailored to their specific customer type. This specialization can lead to a competitive advantage. For example, if one group focuses on the transportation of natural gas to power plants, they may have a

better understanding of the needs of these customers and be able to offer more customized services.

- *Diversification:* The different customer strategic groups within Kinder Morgan can help to diversify the company's revenue streams. This diversification can help mitigate risks associated with fluctuations in the energy market. If one customer type faces challenges, others may continue to perform well.

Technology:

- *Market segmentation:* The different technology strategic groups within Kinder Morgan can lead to market segmentation. This means that each group may focus on specific technologies, creating niches within the energy infrastructure industry. This segmentation can help Kinder Morgan target different customer needs effectively.
- *Competitive advantage:* Different technological strategic groups may develop expertise and capabilities tailored to their specific technology. This specialization can lead to a competitive advantage. For example, if one group focuses on the use of drones to inspect pipelines, they may have access to specialized equipment and expertise that other companies do not have.
- *Diversification:* The different technology strategic groups within Kinder Morgan can help to diversify the company's revenue streams. This diversification can help mitigate risks associated with fluctuations in the energy market. If one technology becomes obsolete, others may continue to be viable.

There is some evidence to suggest that strategic groups exist within Kinder Morgan. For example, a study by the Federal Trade Commission found that Kinder Morgan and its competitors tend to cluster together in terms of their geographic focus, product type, and customer base. Additionally, the study found that these companies tend to use similar technologies. However, it is important to note that the existence of strategic groups does not necessarily mean that there is collusion between companies. The companies in a strategic group may simply be competing in the same market and using similar strategies.

Opportunities and Threats. As the industry changes over time, the associated five forces will dynamically impact the structure, mobility barriers, and makeup of the strategic groups. It is the duty of leaders to identify specific threats and opportunities to prepare their companies for the inevitable shifts in the industry.

Industry Structure. The structure and strength of an industry's forces is subject to constant change. A well-informed leader will be flexible in their response to threats and will search for opportunities to overcome the dynamic nature of the environment. Specifically, there is a growing threat within the oil and gas industry to provide renewable fuel alternatives. A staggering $1.34 trillion has been invested by various world governments into clean energy solutions since 2020 which will eventually lead to full-scale production of numerous fuel alternatives (International Energy Agency). More choices will lead to stronger bargaining power for buyers and with-it additional pressure on fossil fuel based products. With growing pressure to adapt for climate change and oil production likely past its peak, oil transportation companies like Kinder Morgan should embrace renewable alternatives through internal investment. Rivalry remains another strong and changing driver in the industry due to its dependence on consumer demand, geopolitics, and price fluctuations. Building genuine relationships with consumers and customers alike is a proven way to quell concerns and establish mutually beneficial contracts which can ease the uncertain nature of customer behavior and volatility of oil cost.

Mobility Barriers. Change is an active element when considering industry barriers. As highlighted in the PESTEL analysis, political pressure and regulations are in continuous flux and remain a large threat. New laws aimed at climate change and environmental protection such as the Inflation Reduction Act have laid out new requirements to increase drilling costs on public land as well as drive better cleanliness standards for old and abandoned wells (Daly). The landscape of regulations continues to get stricter over time highlighting the importance for oil and gas companies to lobby for realistic regulations. If government intervention is changing the industry regulations at an excessive pace, companies like Kinder Morgan could operate at a loss due to the ramifications of compliance. Another active threat to company mobility is the denial of land grants and the associated time and energy to battle with the landowners. Difficulties like the Trans Mountain pipeline mentioned in the PESTEL analysis (indigenous land rights) and increasing costs for land access are among the several hurdles facing Kinder Morgan. To handle this particular threat, companies are encouraged to seek mutually beneficial solutions. Rerouting pipeline plans or concealing the appearance of unsightly metal pipes are possible alternatives for receptive customers. More resistant customers would require a larger financial incentive or even legal intervention if the situation calls for it.

Strategic Groups. The shifting of strategic group activity cannot be overlooked either. For technology-based groups related to industry transport of oil and gas products, threats can come in the form of design for cost updates. For example, Kinder Morgan pipeline infrastructure may need to undergo cost reduction exercises if rail and marine transport options are able to develop significant cost savings. Since cost reduction is difficult to implement for existing pipelines, the latest technology alongside cost saving designs should be planned for new pipelines as much as possible. Design updates also provide opportunities for pipeline designers to implement redundant seal designs to reduce opportunities for leaks into the environment. Geographic group dynamics are important to monitor for international companies as well. For oil and gas companies, the groups are relatively small due to high entry barriers essentially making it an oligopoly. Our book mentions such groupings are so tightly coupled that some actions are even coordinated by industry competitors (Rothaermel). Of course, price fixing activities like this are outlawed in the US, but that is not necessarily the case in other countries. If large players in the non-US market start making special agreements without consulting other companies in the geographic group, there are possibilities for loss in market share. In geographic group environments, it is important to stay in tune with local customs and regulations as well as push for ethical business practices.

Prominent Opportunities and Threats

TKM Consulting, Inc. has the following findings for the opportunities and threats concerning profit and growth for the company:

- **Sociocultural/Environmental Choices** (**Opportunity/Threat**): KMI has taken the opportunity to make advances in pushing toward using renewables and becoming a low carbon company (i.e., Kinetrex Group). If the company does not continue to push a cleaner energy initiative, there is a chance the already low sociocultural factors may become a bigger problem. In addition, the instability of the industry being affected by world-wide current events would decrease if the percentage of renewables increases.

- **Economic Choices (Opportunity/Threat)**: KMI is the leader in the energy infrastructure industry, which gives it some freedom to look into different ways to adjust the transportation and warehousing aspects of the company. The company is making enough profit to fund research and development and possibly use their warehousing space for other products, but the predicted downturn of the oil and gas industry (biggest supplier) needs to be accounted for.
- **Legal Choices (Threat):** KMI has its share of past and ongoing legal problems and public image. The company can take steps to avoid this threat in the future, and again work on environmental issues.
- **Sociocultural/Workforce Choices (Threat):** KMI needs to look into its hiring processes and retention rate. As a leader in their industry, the company has an opportunity to increase the credibility of their workforce and/or future employees.

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Internal Environment Assessment

VRIO Analysis

The team believes KMI's most significant resources (tangible and intangible) currently are **Capital** and **Reputation**, which help provide a competitive advantage in the energy infrastructure industry. Using the VRIO framework (Figure 1), the team has been able to break down each of the significant resources (Rothaermel).

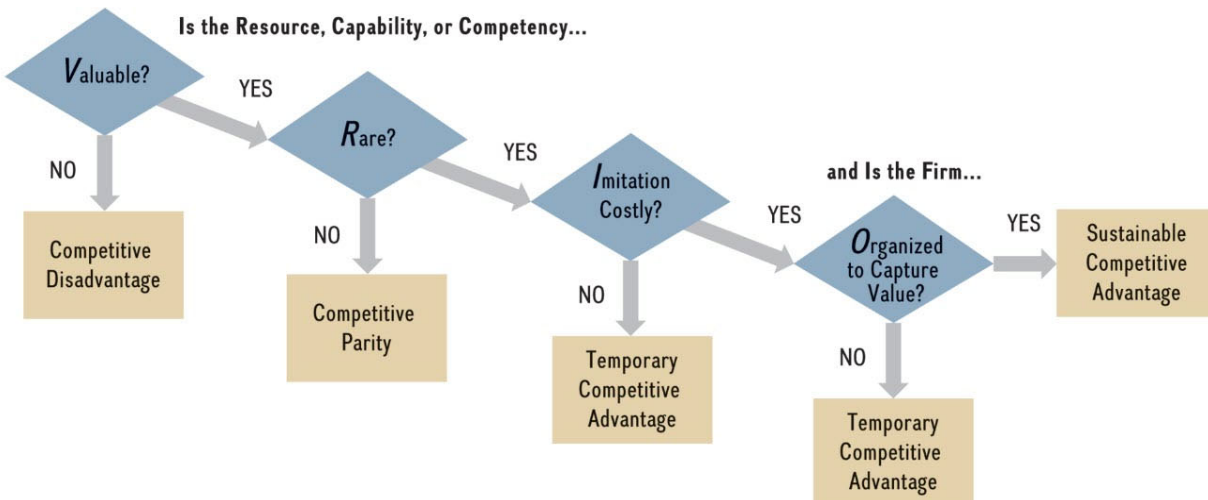

Figure 1. VRIO framework analysis

Capital (Tangible)

Valuable? *YES,* KMI continues to produce some of the highest capital year to year in the industry to not only be used for day-to-day operations, but for starting various new projects and funding mergers and acquisitions. For example, at the end of Q2 2023, KMI reported the company's Cash on Hand to be at $520 M, a 24.7% increase from 2022 (MacroTrends). While it is true KMI (like several companies in the industry) has seen Cash on Hand decline significantly over the last three years [6.61% in 2020, 5.13% in 2021, and 30.78% in 2022 (MacroTrends)], KMI has continued to use the strong capital the company has to help the company's reach grow, acquiring North American Natural Resources in 2022, Kinetrex Energy in 2021, and Stagecoach Gas Services in 2020 (Kinder Morgan).

Rare? *YES,* the company's physical assets (including pipeline equipment and storage real estate) and high cash flows are rare in the industry, falling in the top five in the industry for the last three years (MacroTrends). Being an incumbent and currently in the mature stage helps the company keep KMI's capital high, as there are strong barriers to entry (volatile revenue and fairly low growth projections) for new and developing entrants (Piggot).

Costly to Imitate? *YES,* the capital for KMI is costly to imitate due to the company's incumbent level in the industry and the different business segments KMI has grown within the company. While many of the company's competitors work within the oil and gas/pipelines industry, KMI is able to differentiate from the competition with a focus on the broader energy infrastructure to include Specialized Storage, which the company owns 19.2% of the market share (Piggot). Due to the standing of KMI in the industry along with the specialization in specialized product storage, not only is it costly to imitate the capital of the company, but makes direct imitation and/or substitutions very unlikely.

Organized to Capture Value? *YES,* Focusing different strategies on running four different business segments (natural gas pipelines, product pipelines, natural gas pipelines terminals, and CO_2) that manage to capture substantial parts of the market share, KMI has been able exploit the potential of capital across all four segments as a VRI resource. In companies where capital flows more readily from one business opportunity and/or segment to another, the risk of falling into bankruptcy/acquisition and return to shareholders remain high (Hall). According to KMI's financial expectations statement in 2023, the company is committed to $2.1 B in expansion projects, discretionary capital expenditures (including 80% in low carbon projects), and joint ventures, along with an anticipated $1.13 per share dividend to shareholders (Kinder Morgan)

Reputation (Intangible)

Valuable? *YES,* over the years KMI has developed strong reputation and relationships with some of the most successful oil and gas companies in the world, including Exxonmobil, Chevron Corp., and BP Plc (CSI Market). As a company that focuses on the transportation and storage of oil and gas products, KMI is reliant on strong relationships, which has been shown in long-term contracts [starting in 2012 with BP Plc (BP Plc)] and joint projects [Permian Highway Pipeline Project in 2018 with Exxonmobil (Kinder Morgan)].

Rare? *YES,* KMI's reputation as one of the elite companies in the industry is seen as mostly rare, even if the strong reputation and relationships are a shared resource among the top companies in the industry. While Kinder Morgan has had incidents where the public reputation has needed to be adjusted (such as Trans-Mountain pipeline involvement and the lawsuits that followed), Kinder Morgan has continued to set a reputation as one of the safer companies within the midstream/oil and gas industry, most recently winning the International Liquid Terminals Association's Platinum Safety Award (Large Company) for 2023 (BT Staff).

Costly to Imitate? *YES,* Since reputation is an intangible resource, monetizing how to imitate the resource may seem difficult, but there are different factors that can be considered. Kinder Morgan started as an energy company in 1997, so KMI has been able to build a reputation with customers, suppliers, and other oil and gas companies for 26 years (Kinder Morgan). A new company would need to spend a lot on building relationships and taking on projects for less than its competitors in the industry. Ultimately, a new company would have a hard time making up for 26 years of success that Kinder Morgan has had.

Organized to Capture Value? *YES,* KMI has several programs set up within the company to help manage how KMI is perceived and help build customer/supplier trust through strong brand representation (Forsey). The biggest program KMI has is the Public Awareness Program, dedicated to educating the community on pipelines and pipeline safety (Kinder Morgan). By creating strong relationships with all the stakeholders in the company, Kinder Morgan can use their Reputation resource to create new projects and expand their business.

Resources, Capabilities, and Core Competencies

The two biggest current competitors to KMI have been identified as Enbridge (oil and gas transportation company based in Calgary, Alberta, Canada) and Energy Transfer LP (ET) (oil and gas pipeline transportation company based in Dallas, Texas). All three companies share some significant resources, capabilities, and core competencies, but differ in their strengths and how these are applied.

Kinder Morgan	**Enbridge**	**ET**
Capital (Tangible)	Capital (Tangible)	Capital (Tangible)
Reputation (Intangible)	Reputation (Intangible)	Reputation (Intangible)
Buildings (Tangible)	Culture (Intangible)	Culture (Intangible)
Brand Equity (Intangible)	Labor (Tangible)	Labor (Tangible)
Land (Tangible)	Land (Tangible)	Equipment (Tangible)

Table 1. Company Resources

KMI	Enbridge	ET
Agility	Collaboration	Strategic Unity
Collaboration	Strategic Unity	Growth Management
Strategic Unity	Employee Retention	Intellectual Property
Sustainability	Sustainability	Sustainability
Growth Management	Brand Management	Communications

Table 2. Company Capabilities

KMI	Enbridge	ET
Superior capital to be used for building new projects and buying smaller companies to expand the business	Superior capital to be used for building new projects and buying smaller companies to expand the business	Superior capital to be used for building new projects and buying smaller companies to expand the business
Superior ability to build and enrich relationships with customers, suppliers, and general public	Superior corporate culture that helps to attract and retain employees	Superior equipment that allows the company to handle larger projects
Superior management and organizational structure to diversify operations and adjust to changes in the industry	Superior location and land availability to create new projects	Superior management and organizational structure to diversify operations and adjust to changes in the industry

Table 3. Company Core Competencies

With being three of the biggest midstream companies in the world, KMI, Enbridge, and ET share the common strong resources of Capital and Reputation. Enbridge has the competitive advantage of Capital with $811 M Cash on Hand (Q2 2023) with ET close behind in third with $330 M

(Macrotrends). Both Enbridge and ET both have more than 20 years in the industry (Enbridge in 1949 and Energy Transfer LP in 1995), and have also established strong reputations with customers, suppliers, and other oil and gas companies.

Both Enbridge and ET have the Labor and Culture advantages over KMI. Energy Transfer LP employs more than 12,000 employees, while Enbridge employs more than 11,000 employees (Macrotrends). While KMI's more than 10,000 employees isn't too far behind, this gives both companies a competitive advantage when it comes to the Labor resource. Aside from having more employees, the company culture and experience at both Enbridge and ET are superior to KMI. According to Indeed employee satisfaction reviews, Enbridge has the Culture competitive advantage in the industry with a 3.9 score, while ET and KMI lag behind with scores of 3.6 and 3.5, respectively (Indeed).

The two resources where KMI has a substantial competitive advantage over the other two companies are Buildings and Brand Equity. KMI's focus on warehousing and specialized storage has given the company a 19.2 percent market share, and takes advantage of specialized markets that the other two companies have not (Piggot). As a compliment to the company's strong Reputation, KMI's strong Brand Equity as the largest independent terminal operator (Kinder Morgan) also gives KMI a substantial competitive advantage over the other two companies.

KMI and Enbridge both share a strong Land resource as both companies are based in areas where oil and gas pipelines thrive (Kinder Morgan based in Houston, Texas, and Enbridge based in Calgary, Alberta, Canada) (Forbes). ET's biggest competitive advantage comes with Equipment resources, as the company accounts for the largest intrastate pipeline and storage system in the Gulf coast and moves 30% of natural gas and crude oil in America (Energy Transfer).

Firm Performance Analysis

"The three traditional frameworks to measure and assess firm performance are: accounting profitability, shareholder value creation, and economic value creation" (Rothaermel). While each of these approaches provides some insight for assessing competitive advantage, they each have their limitations, as discussed briefly hereafter.

As for the accounting profitability dimension, it is based on historical and backward-looking data of the firm, and it fails to consider off-balance sheet items like pension obligations and operating leases. Additionally, it focuses mainly on tangible assets and fails to account for potentially-important intangible items like innovation, quality, and customer experience (Rothaermel).

As for the economic value creation dimension, it has various limitations as well. There are several components that go into computing the amount of economic value created. The first component is the Value (V) or "reservation price," which is the maximum price a consumer will pay for the firm's goods or services. The Price (P) that a firm actually charges for its offering is another consideration, as is the total Cost (C) for the firm. The difference between the Value (V) that a customer is willing to pay and the actual Price (P) that the firm charges (i.e., V – P) is referred to as the "consumer surplus" as this is a part of the economic value that is created which is captured by the customer – in other words, the customer received the benefit of paying less than it perceived the Value (V). The difference between the actual Price (P) that the firm charges and its Cost (C) (i.e., P – C) is referred to as the "producer surplus" or "profit" as this is a part of the economic value that is created which is captured by the firm (Rothaermel).

So, the total economic value creation is said to equal the consumer surplus (V – P) plus firm profit (P – C). That is, the economic value creation (V – C) equals the part of the value creation that is captured by the customer (V – P) plus the part of the value creation that is captured as profit by the firm (P – C), and thus the formula can be written as: (V – C) = (V – P) + (P – C). However, while the firm's profit can be calculated relatively easily, for example by considering the actual prices (P) charged by the firm and its costs (C), the consumer surplus portion of the economic value is more difficult to compute with certainty (Rothaermel). That is, it is difficult to accurately determine the Value (V), i.e., the true maximum that customers are willing to pay beyond the Price (P). Moreover, such Value (V) in the eyes of consumers changes over time.

Thus, this makes accurately computing economic value creation of the firm particularly challenging.

The shareholder value creation approach also has its drawbacks and limitations, including that its assessment is limited because stock prices can be volatile and impacted by external factors and investor sentiment. Factors not unique to or under the control of the firm, such as macroeconomic factors and irrationality of investors can impact stock performance (Rothaermel). However, the shareholder value creation approach is considered here for evaluation because total return to shareholders, unlike accounting data, is based not only on historical data but also on forward-looking performance projection (Rothaermel). Moreover, the shareholder value creation approach likely accounts for a more comprehensive value of the firm, which includes the value attributable to intangibles of the firm, unlike the accounting profitability approach. Lastly, it has been noted that the three performance dimensions (shareholder value creation, accounting profitability, and economic value creation) “generally correlate over time, and as accounting profitability and economic value creation tend to be reflected in the stock price that determines the stock’s market valuation” (Rothaermel). Thus, it is fairly reasonable to focus attention of the shareholder value creation analysis.

Shareholder Value Creation. Shareholder value can be assessed in several ways. A first measure is a firm’s change in its stock price over time. Another measure is the company’s total return to shareholders, including dividends and stock price appreciation. Yet a further, and perhaps the most informative, measure is the firm’s market capitalization (“market cap”) over time. Each of these measures for both KMI and its major competitors is provided below followed (in subsection b) by a discussion of what this indicates with regard to KMI’s competitive position relative to its major competitors. A major segment of the industry in which KMI’s business falls is the Gas Pipeline Transportation industry segment (NAICS 48621), which is focused on transporting natural gas from processing plants to local distribution systems (Piggot). The three largest companies in this industry segment are Enbridge, ET, and KMI (Pigott), and thus the below analysis focuses on comparison of KMI with Enbridge and ET as its major competitors.

Stock Price (as of September 15, 2023).

KMI. Current stock price is \$17.07 with a 52-week range of \$16.00 - \$19.36. The price declined by -4.37% over the past year. The price grew by 27.87% over the past three-year period, but it has declined over longer-term periods, declining by -6.05% over five years and by -50.84% over 10 years. Thus, while the price has declined over the longer five-year and 10-year terms, it has recovered with some signs of growth over the past 3-year period (Finance Charts).

Enbridge. Current stock price is \$35.09 with a 52-week range of \$32.90 - \$42.12. The price declined by -14.39% over the past year (which is a greater decline than KMI's -4.37% decline over that period). The price grew by 13.38% over the past 3-year period (which is less than KMI's growth of 27.87% over that period). Enbridge's stock price has performed better than KMI's over the longer-term five-year and 10-year periods, with it growing by 2.36% over five years and declining by -14.91% over 10 years (versus KMI's decline in price by -50.84% over that 10 year period) (Finance Charts).

ET. Current stock price is \$13.59 with a 52-week range of \$10.02 - \$13.87. The price increased by 6.73% over the past year (versus KMI's decline of -14.39% over that period). The price grew by 123.52% over the past 3-year period (versus KMI's growth of 27.87% over that period). ET's stock price has declined over the longer-term 5-year and 10-year periods, with it declining by 21.54% over 5 years and declining by -12.7% over 10 years (versus KMI's decline in price by -50.84% over that 10-year period) (Finance Charts).

Total Return. Changes in stock price alone is of limited value, as it fails to account for total return to investors, including dividends paid:

KMI. The total return for KMI's stock (including price appreciation plus reinvested dividends) over the past 12 months is -0.82% over the past 12 months versus 15.48% for the S&P 500. Over the preceding three-year period, KMI stock's total return is 60.76%. The five-year total return for KMI's stock is 27.24%, and its 10-year total return is -19.02% (Finance Charts).

Enbridge. The total return for Enbridge's stock (including price appreciation plus reinvested dividends) over the past 12 months is -10.45% over the past 12 months versus 15.48% for the S&P 500 (and versus -0.82% for KMI). Over the preceding three-year period, Enbridge stock's total return is 37.61% (versus KMI's 60.76%). The five-year total return for Enbridge's stock is 40.99% (versus KMI's 27.24% return over that period), and Enbridge's 10-year total return is 41.42% (versus KMI's return of -19.02% over that period) (Finance Charts).

ET. The total return for ET's stock (including price appreciation plus reinvested dividends) over the past 12 months is 24.05% over the past 12 months versus 15.48% for the S&P 500 (and versus -0.82% for KMI). Over the preceding three-year period, ET stock's total return is 198.38% (versus KMI's 60.76%). The five-year total return for ET's stock is 24.22% (versus KMI's 27.24% return over that period), and ET's 10-year total return is 85.13% (versus KMI's return of -19.02% over that period) (Finance Charts).

Market Cap. Market capitalization (otherwise known as market cap) shows the total dollar market value of outstanding shares during a certain point of "time (Market cap = Number of outstanding shares × Share price). Considering stock market valuations (Share price × Number of outstanding shares) over the long term provides a useful metric to assess competitive advantage" (Rothaermel).

KMI. Current market cap is $37.606B, and it has lost 10.71% of its market cap over the past 12 months. The three-year market cap compound annual growth rate for KMI stock is 5.36%. KMI's five-year market cap compound annual growth rate is -0.74%, and its 10-year market cap compound annual growth rate is -0.20% (Finance Charts).

Enbridge. Current market cap is $74.055B (nearly double that of KMI), and it has lost 9.36% of its market cap over the past 12 months. The three-year market cap compound annual growth rate for Enbridge is 5.06%. Enbridge's five-year market cap compound annual growth rate is 5.59%, and its 10-year market cap compound annual growth rate is 10.85% (Finance Charts).

ET. Current market cap is $42.905B, and it has increased its market cap by 15.53% over the past 12 months. The three-year market cap compound annual growth rate for ET is 33.67%. ET's five-year market cap compound annual growth rate is 15.91%, and its 10-year market cap compound annual growth rate is 9.07% (Finance Charts).

Dividends. While total return accounts for dividends (cash payouts) in its calculation, payout ratio and dividend growth, as well as the dividend increase track record are all valuable pieces of information that shareholders use to determine the value of the stock, especially when it comes to sustainability of the stock as a dividend paying stock.

Payout ratio is calculated by dividends per share (DPS) divided by Earnings per share (EPS). A high payout ratio above 100% indicates that the company is returning more in dividends than it's earning in income, and may not be sustainable in the long term. Some investors prefer to use FCF (Free Cash Flow) instead of Earnings per share, since earnings do not always equal the free cash flow available to payout dividends to shareholders (Finance Charts).

KMI. Dividend Yield is 6.62%. The payout ratio is 100.64%. The FCF Payout ratio is 75.56% (Finance Charts).

Enbridge. Dividend Yield is 7.48%. The payout ratio nearly doubles KMI's at 195.47%. The FCF Payout Ratios is higher than KMI's but below 100% at 91.12% (Finance Charts).

ET. Dividend Yield is the highest at 9.12%. The payout ratio is the lowest, and the only one under 100% at 98.34%. The FCF Payout ratio is the lowest of the three companies at 56.89% (Finance Charts).

Performance Analysis Assessment. As discussed below, it appears from the shareholder value creation perspective (based on the measures set out above) that ET has outperformed both KMI and Enbridge over both a short-term (one-and three-year) and long-term (five- and 10-year) time periods. Enbridge has outperformed KMI over the long-term periods, but KMI has outperformed Enbridge over the more recent short-term periods, which may be indicative of KMI gaining a competitive advantage over Enbridge recently. As discussed further below, ET appears to have a competitive advantage over both KMI and Enbridge based on the shareholder value creation perspective.

The shareholder value measures of stock price, total return, and market cap are discussed above. The indication of each measure regarding the relative performance and potential competitive advantage for KMI, Enbridge, and ET are now discussed. First, the results of stock price change (discussed in subsection a above) is considered:

	1-year	3-year	5-year	10-year
KMI	-4.37%	27.87%	-6.05%	-50.84%
Enbridge	-14.39%	13.38%	2.36%	-14.96%
ET	6.73%	123.52%	21.54%	12.7%

Table 4. Stock Price Changes

As the above table shows, ET's stock price change has outperformed KMI and Enbridge over all time periods shown. As between KMI and Enbridge, Enbridge's stock price has performed better over the longer five-year and 10-year periods, while KMI's stock price has performed better over the more recent three-year and one-year periods. Thus, stock price appears to indicate a competitive advantage for ET, while KMI is potentially gaining competitive advantage more recently over Enbridge.

Next, turning to the results of total return:

	1-year	3-year	5-year	10-year
KMI	-0.82%	60.76%	27.24%	-19.02%
Enbridge	-10.45%	37.61%	40.99%	41.42%
ET	24.05%	198.38%	24.22%	85.13%

Table 5. Total Stock Return (including price appreciation plus reinvested dividends)

As the above table shows, ET's total return for its stock has outperformed KMI and Enbridge over all time periods shown (except for the five-year period). As between KMI and Enbridge, Enbridge's total return has been better over the longer five-year and 10-year periods, while KMI's total return is better over the more recent three-year and one-year periods. Again, total return appears to indicate a competitive advantage for ET, while KMI is potentially gaining competitive advantage more recently over Enbridge.

Finally, turning to the results of market cap:

	1-year	3-year	5-year	10-year
KMI	-10.71%	5.36%	-0.74%	-0.2%
Enbridge	-9.36%	5.06%	5.59%	10.85%
ET	15.53%	33.67%	15.91%	9.07%

Table 6. Market Cap Change

As the above table shows, ET's market cap change has outperformed KMI and Enbridge over all time periods shown (except for the 10-year period where it falls slightly short of Enbridge). As between KMI and Enbridge, their market cap growth (or decline) has been very similar over the more recent one-year and three-year periods, while Enbridge's market cap growth has been better over the longer five-year and 10-year periods. As with the other shareholder value measures, market cap growth appears to indicate a competitive advantage for ET, while KMI has improved its market cap growth more recently (over the one-year and three-year periods) to effectively match that of Enbridge.

All three companies provide dividend yields as well, the current dividend yield for each company is listed in the table below as well as other Dividend Metrics. For dividend and income focused shareholders, the dividend yields as well as the stock price factor into the value of the stock. Dividend paying stocks might see less growth but provide value through regular income.

	Dividend Yield	Payout Ratio	3-year CAGR (Compound Annual Growth Rate)	Dividend Increase Track Record
KMI	6.62%	100.64%	2.49%	6 years
Enbridge	7.48%	195.47%	3.09%	26 years
ET	9.12%	98.34%	0.54%	2 years

Table 7. Dividend Metrics

As the above table indicates, when looking at purely Dividend Yield and Payout Ratio for the current year, ET maintains the competitive advantage. However, Enbridge maintains the highest increase track record, being able to increase their dividends for the past 26 years. This indicates the company's commitment to returning value to shareholders, and especially for DRIP investors and shareholders, provides intangible value. They also maintain the best compound annual growth rate over the three year period. This provides competitive advantage for Enbridge for Long-term dividend investors, while ET would more likely appeal to short term investors. Figure 2 shows the Dividend Yields for all three companies over the last five years.

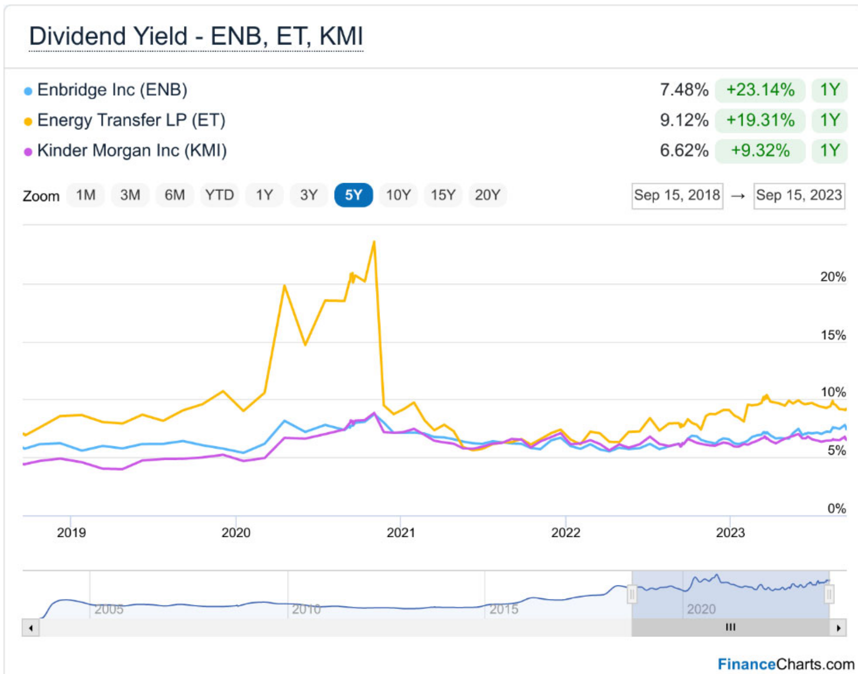

Figure 2. Dividend Yield for ENB, ET, and KMI over the last five years

Of the three companies, ET consistently shows the highest yields, even jumping to above 20% in the year 2020. Enbridge and KMI both show high, but steady dividend yields, leading the competitive advantage to Energy Transfer in terms of Dividend Yield. Figure 3 below showcases the FCF payout ratio, which indicates the sustainability of the dividend yield rates.

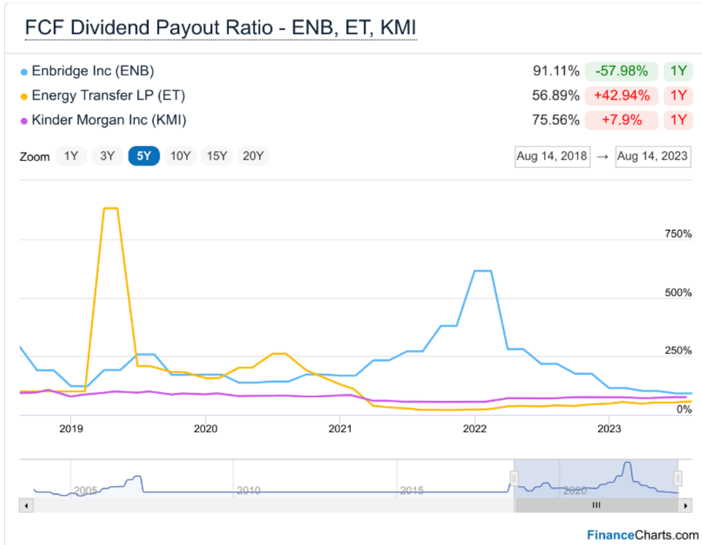

Figure 3: Free Cash Flow (FCF) Dividend Payout Ratio

Looking at Figure 3, ET in Q2 of 2019 had a massive increase in FCF Dividend payout ratio, but over the next two years, brought it down, now maintaining the lowest FCF Payout Ratio at 56.89%. In contrast, Enbridge has a FCF payout ratio of 91.12% and Kinder Morgan has a FCF payout ratio of 75.56%. KMI maintains a steady moderate FCF payout ratio, indicating that the company adjusts dividends based on their cash flow and ensures good financials for the company, sometimes at the cost of its dividend yield. The lower percentage for FCF Payout Ratio can indicate the company is holding onto cash for future investments, thus better growth of the company. At 56.89%, the FCF payout ratio is moderate, and gives value in income towards the shareholder, while also indicating that there is room for potential growth in the dividend yield rate in the future.

Overall, the shareholder value creation measures appear to indicate a competitive advantage for ET over both KMI and Enbridge, while KMI may be gaining a competitive advantage more recently over Enbridge.

It should be noted that such shareholder value assessment provides a relatively limited view because stock prices can possibly be volatile and, for a company, it may be difficult to assess short-term firm performance due to such as external factors, market volatility, and investor sentiment. Factors not unique to or under the control of the firm, such as macroeconomic factors and irrationality of investors can impact stock performance (Rothaermel). Therefore, while the above shareholder value measures appear to favor ET overall and appear to indicate that KMI has more recently gained competitive advantage over Enbridge, we must be cautious in concluding based solely on those measures that the conclusions regarding competitive advantage are entirely accurate and sustainable.

Core Competencies to Competitive Advantage. Using accounting profitability, shareholder value creation, and economic value creation, as well as the specific performance metrics for KMI, Enbridge, and ETP, the team can identify two areas of competitive advantage for KMI and evaluate whether these advantages are sustainable over the next five years. Using the values captured in the Shareholder Value Creation, the following assessments on competitive advantage were made:

Dividend Yield and Payout Ratio. KMI has established a competitive edge through its dividend yield, standing at 6.62%, which ranks as the second highest among the three major competitors. This appealing dividend yield is particularly attractive to income-oriented investors who prioritize a steady stream of dividend income from their investments. However, a notable caveat arises with KMI's relatively high payout ratio of 100.64%. This ratio signifies that KMI allocates the majority of its earnings to shareholders, through dividends, which could raise concerns about the company's long-term financial sustainability. Such a high payout ratio limits KMI's flexibility to retain earnings for reinvestment in growth opportunities or to build up reserves for unforeseen challenges that may arise.

In contrast, Enbridge offers an even more enticing dividend yield at 7.48%. However, this seemingly advantageous position is offset by a significantly higher payout ratio of 195.47%. This exceptionally high payout ratio implies that Enbridge is disbursing nearly double its earnings as dividends, which raises substantial doubts about the sustainability of its dividend policy in the long term. Such an elevated payout ratio can strain the company's financial resources, potentially hindering its ability to fund necessary growth projects or navigate adverse economic conditions.

On the other hand, ET emerges with the highest dividend yield of 9.12%, a significant attraction for income-seeking investors. What sets ET apart is its more sustainable payout ratio of 98.34%, falling below the critical threshold of 100%. This comparatively lower payout ratio indicates that

ET is distributing a manageable portion of its earnings as dividends, leaving room for reinvestment in the business and maintaining financial resilience against future uncertainties.

In summary, while KMI, Enbridge, and ET all offer attractive dividend yields, their sustainability varies significantly based on their respective payout ratios. KMI's dividend appeal is balanced by a moderately high payout ratio, raising questions about long-term sustainability.

Sustainability Assessment. KMI’s competitive advantage, characterized by its relatively high dividend yield of 6.62%, has the potential to endure over the next five years, provided certain conditions are met. Firstly, for this advantage to be sustained, KMI must maintain its current level of profitability and robust cash flow. A consistent stream of profits is essential to support dividend payments to shareholders. As long as KMI continues to generate sufficient earnings, it can sustain its dividend yield as an attractive feature for income-oriented investors.

However, there's an important caveat to consider – KMI's high payout ratio of 100.64%. This ratio indicates that KMI is distributing virtually all of its earnings as dividends, leaving little financial cushion for reinvestment in the business or to navigate unforeseen challenges. To ensure the long-term sustainability of its competitive advantage in dividend yield, KMI may need to prioritize retaining more of its earnings for reinvestment purposes. This could involve allocating funds towards capital expenditures, expansion projects, or debt reduction to bolster the company's financial stability and resilience. By striking a balance between rewarding shareholders with dividends and retaining earnings for strategic investments, KMI can enhance its ability to maintain its competitive edge in dividend yield over the next five years and beyond. This approach would not only attract income-focused investors but also position the company for sustainable growth and adaptability in a dynamic business environment.

Market Capitalization Growth. KMI possesses a notable competitive advantage in terms of market capitalization growth dynamics, despite its relatively smaller market capitalization of $37.606 billion as of September 15, 2023, compared to its major competitors. Over a recent 3-year period, KMI has exhibited a market cap compound annual growth rate (CAGR) of 5.36%, indicating its success in enhancing its market value over the short term. This growth suggests that KMI has been effective in capturing investor confidence and improving its market perception.

In contrast, Enbridge, with its significantly larger market capitalization of $74.055 billion, is nearly double the size of KMI. Although Enbridge's market cap is substantial, it has demonstrated a similar 3-year market cap CAGR of 5.06%. This implies that, while Enbridge's size and market presence are substantial, its growth rate is comparable to that of KMI over this specific time frame.

On the other hand, ET, with a market capitalization of $42.905 billion, boasts an impressive 3-year market cap CAGR of 33.67%. ET has experienced substantial growth, outpacing both KMI and Enbridge in terms of market cap expansion over this period.

KMI's ability to achieve market capitalization growth, albeit at a somewhat slower rate compared to ET, signifies a competitive advantage in the realm of market perception and investor confidence. This suggests that despite its smaller size, KMI has been effective in conveying its value proposition to investors and stakeholders, instilling confidence in its growth potential. While ET's rapid market cap growth is noteworthy, KMI's consistent growth over the short term demonstrates its capacity to attract and retain investors' attention, potentially positioning it favorably for continued success in the market. However, it's essential to note that market dynamics can change over time, and sustaining this advantage would require ongoing efforts to maintain and build upon investor trust and confidence.

Sustainability Assessment. KMI has demonstrated a competitive edge in market capitalization growth, as reflected in its 3-year market cap compound annual growth rate (CAGR) of 5.36%. This advantage holds the potential to be sustained over the next five years if KMI effectively addresses key factors. Continued efficient execution of operational and strategic plans, along with optimizing infrastructure and seizing energy sector growth opportunities, can contribute to ongoing market cap growth. Moreover, KMI must showcase its ability to deliver consistent financial performance, maintain a competitive dividend policy, and transparently communicate its growth prospects to bolster investor confidence. However, KMI operates in a competitive landscape against larger rivals like Enbridge and Energy Transfer Lp (ET), necessitating vigilance and potential niche market identification, emerging energy trend capitalization, and innovation to differentiate itself. Balancing these elements while remaining committed to growth and shareholder value can enhance KMI's prospects for sustained market cap growth.

Factors Influencing Sustainability. Several factors will influence whether KMI can sustain these competitive advantages over the next five years:

Economic and Industry Conditions. The performance of energy infrastructure companies like KMI is highly dependent on economic conditions, energy demand, and regulatory changes. Sustaining competitive advantages will depend on the stability of these external factors.

Capital Allocation. KMI's ability to balance dividend payments with reinvestment in the business will be crucial. Maintaining a high payout ratio may limit its ability to fund growth projects.

Competitive Landscape. The competitive advantage in market capitalization growth could be challenged by larger competitors like Enbridge and ET. KMI will need to differentiate itself and continue to attract investors.

Technological Innovation. The energy industry is evolving rapidly. KMI's ability to adapt to new technologies and trends in the energy sector will impact its competitiveness.

Environmental and Social Responsibility. Increasing emphasis on environmental and social responsibility could affect the regulatory environment and investor sentiment. Companies that demonstrate a commitment to sustainability may have a competitive advantage.

Comparing KMI’s dividend yield and market capitalization growth to industry averages highlights the company's competitive edge. In 2022, the energy sector, the industry average dividend yield is 3.93%, which positions KMI's dividend yield of 6.62% as notably higher, making it an attractive choice for income-focused investors. Additionally, while the industry average for market capitalization growth is 4.5%, KMI's 3-year market cap compound annual growth rate (CAGR) of 5.36% surpasses the typical industry performance, showcasing the company's ability to outpace industry peers in terms of investor confidence and market perception.

In conclusion, KMI enjoys competitive advantages in dividend yield and market capitalization growth, but the sustainability of these advantages over the next five years depends on a delicate balance between returning value to shareholders and reinvesting in business growth, adaptability to industry changes, and vigilant response to competition from industry giants like Enbridge and ET. Efficient capital allocation and strategic financial management are crucial to seize emerging opportunities and navigate shifting industry dynamics. Furthermore, KMI must remain agile in response to the dynamic energy sector, marked by evolving technologies and regulations, to ensure its relevance. Vigilance against competitive pressures is essential, and proactive strategies to outperform larger rivals will be key to sustaining its market position and investor confidence in its long-term growth potential.

The competitive advantages of KMI are primarily driven by several specific capabilities and core competencies, along with associated underlying resources. These capabilities and competencies enable KMI to deliver the following advantages.

Operational Efficiency and Infrastructure Management

Resource: KMI possesses a significant network of physical assets, including pipelines, terminals, and storage facilities. These assets are tangible resources that serve as the foundation of the company's operations. They are critical because they enable KMI to transport, store, and distribute various energy products, such as natural gas, crude oil, and refined products (Kinder Morgan).

Capability: KMI has developed core competencies in efficiently managing and maintaining its infrastructure. This includes the ability to oversee the movement of energy products through its extensive network smoothly and reliably. To achieve this, KMI employs advanced technology for real-time monitoring and management of its infrastructure. Moreover, the company maintains a skilled workforce that is proficient in overseeing daily operations. These capabilities ensure safety, reliability, and operational efficiency, which are crucial in the energy sector (Kinder Morgan).

Financial Management and Cash Flow Generation

Resource: KMI financial resources, encompassing capital, assets, and revenue streams, are critical assets that underpin the company's financial strength. These resources fund vital aspects of its operations, including infrastructure maintenance and expansion. KMI generates revenue primarily from energy transportation and storage services, resulting in a stable income source. This dependable cash flow allows KMI to cover expenses, invest in growth, pay dividends, and manage debt effectively. This financial stability enhances its appeal to investors and equips the company to navigate the dynamic energy sector confidently (Kinder Morgan).

Capability: KMI has developed robust financial management capabilities critical to its overall business strategy and sustainability. These include ensuring consistent cash flow generation, meticulous financial planning, and effective risk management. Maintaining cash flow is paramount for meeting financial commitments, especially dividend payments, making KMI an attractive choice for income-oriented investors. Furthermore, their financial prowess extends to covering operational and maintenance costs, safeguarding the company's ability to invest in infrastructure and meet industry regulations without compromising dividends. In essence, KMI's financial management strengths not only secure its financial health but also inspire investor confidence in its long-term sustainability (Kinder Morgan).

Investor Relations and Communication

Resource: KMI intangible yet invaluable relationships with investors and stakeholders are founded on trust and confidence, serving as strategic assets that profoundly impact the company's operations and reputation. These relationships, cultivated over time, are built on transparent communication and ethical practices. They not only foster trust and loyalty among investors but also facilitate access to capital for KMI's growth initiatives. Furthermore, these connections extend to a diverse range of stakeholders, encompassing regulators, employees, local communities, and industry partners, and their engagement leads to positive outcomes, including regulatory support and enhanced reputation management. Ultimately, these relationships are instrumental in ensuring KMI's long-term sustainability and its ability to adapt to the ever-evolving energy sector (Kinder Morgan).

Capability: KMI transparent communication with investors is a pivotal competency, facilitated by its valuable resource of effective investor relations. This capability involves clear and timely reporting of financial performance, growth strategies, and dividend policy, fostering trust and confidence among investors. Transparent communication helps bolster trust in KMI's commitment to dividend sustainability, positively influences market perception, and supports long-term investor relationships. Furthermore, it aids in navigating industry challenges by openly addressing potential hurdles, ultimately contributing to KMI's enduring success in the dynamic energy sector (Kinder Morgan).

Strategic Planning and Growth Execution

Resource: KMI strategic plans and growth initiatives are vital resources that guide the company's long-term direction. These plans outline KMI's vision, goals, and steps for sustainable growth, including expanding its infrastructure to meet rising energy demand and optimizing existing assets for efficiency and reliability. These initiatives provide KMI with a competitive edge, support its adaptation to energy sector trends, ensure compliance with regulations, and foster investor confidence by offering a clear roadmap for long-term success in the dynamic energy industry (Rothaermel).

Capability: KMI core competency in developing and executing effective growth strategies is pivotal for its sustained success in the dynamic energy sector. This competency is centered on KMI's ability to identify and seize opportunities for expansion, asset optimization, and strategic investments, enhancing its market presence and competitiveness. Key components of these strategies include expanding its critical infrastructure, optimizing existing assets for efficiency and safety, and making strategic investments in emerging energy trends and niche markets. These growth strategies significantly contribute to KMI's market capitalization growth, attracting investors and increasing stock valuations, while also ensuring its competitiveness by meeting evolving industry demands. Moreover, KMI's strategic planning and execution enable it to proactively align with industry trends, such as the transition to cleaner energy and innovative technologies, positioning the company for long-term sustainability and relevance in the energy sector (Rothaermel) .

Adaptability and Innovation

Resource: KMI's capacity to adapt to evolving industry dynamics and embrace innovative technologies is a crucial resource that underpins its competitive advantage. This adaptability allows the company to swiftly respond to the ever-changing energy landscape, including technological advancements, shifting regulations, and evolving consumer preferences. Whether adjusting its operations, infrastructure, or business models, KMI can effectively align with emerging market realities. By embracing cutting-edge technologies, KMI remains at the forefront of innovation, enhancing operational efficiency, promoting sustainability, and ensuring competitiveness. Furthermore, this adaptability enables KMI to meet evolving customer demands, maintain a competitive edge, and proactively mitigate potential risks, ensuring resilience and success in a dynamic energy industry (Gitelman & Kozhevnikov 2023).

Capability: KMI's competency in staying at the forefront of industry trends and adopting innovative solutions is a valuable resource that plays a crucial role in its competitiveness and relevance in the dynamic energy sector. This adaptability encompasses a deep awareness of industry developments, the ability to assess the potential impact of emerging trends, and the capacity to seamlessly integrate new technologies and best practices into its operations. This competency ensures that KMI remains competitive and relevant by providing efficient, up-to-date, and in-demand services, aligning with evolving customer preferences, enhancing operational efficiency, staying compliant with changing regulations, and strategically positioning the company for growth. Moreover, KMI's proactive approach sets it apart from competitors, fostering a reputation for innovation and forward-thinking practices that attract customers, investors, and partners seeking cutting-edge solutions and sustainability initiatives (Gitelman & Kozhevnikov 2023).

Regulatory Expertise and Compliance

Resource: KMI knowledge of regulatory frameworks and compliance requirements is a critical resource that underpins the company's operations in the energy sector. This resource encompasses KMI's comprehensive understanding of the intricate and ever-evolving set of rules, laws, and regulations governing the energy sector, covering aspects like safety standards, environmental protections, pricing mechanisms, and permitting processes. Within the highly complex and regulated energy industry, KMI's ability to not only comprehend these regulations but also effectively navigate their intricacies is of paramount importance. This includes interpreting and implementing regulatory changes, staying current with evolving compliance standards, and ensuring that its operations strictly adhere to legal requirements. The significance of this expertise lies in several key areas: ensuring legal compliance, upholding environmental responsibility, prioritizing safety standards, proactively mitigating regulatory risks, and maintaining a reputation as a responsible and trustworthy company. Overall, KMI's proficiency in regulatory matters is a cornerstone of its commitment to conducting business responsibly and sustainably within the confines of a highly regulated industry (Farida & Setiawan).

Capability: KMI core competency in effectively navigating the complex regulatory environment is a critical resource. This competency encompasses its deep expertise in comprehending and adhering to the intricate web of rules and regulations governing the energy sector, including federal, state, and local laws related to safety, environmental protection, pricing, and permitting. The significance of this regulatory competency lies in its ability to proactively identify, assess, and mitigate regulatory risks in the highly regulated energy industry, ensuring the protection of investments and financial stability. KMI's commitment to meeting stringent environmental and social responsibility standards not only minimizes its ecological footprint but also fosters a positive reputation as a responsible corporate citizen. This reputation enhances trust among regulators, local communities, investors, and customers, leading to smoother regulatory interactions and more favorable business conditions. Additionally, KMI's regulatory competency provides a stable foundation for its long-term success by reducing the likelihood of legal disputes and regulatory obstacles, thus ensuring a stable and sustainable business environment. Moreover, it enhances stakeholder relations, fostering collaboration, regulatory support, and community goodwill, contributing to the company's overall success and minimizing regulatory challenges in the dynamic energy sector (Farida & Setiawan).

Risk Management and Competitive Strategy

Resource: KMI vital resources lie in its ability to expertly assess risks and analyze the competitive landscape. KMI excels in risk assessment, identifying and prioritizing potential threats, including market fluctuations, regulatory changes, geopolitical instability, and environmental hazards, impacting its operations and investments. Additionally, KMI possesses proficiency in analyzing the competitive landscape by monitoring rivals, market trends, technologies, pricing, and customer preferences, ensuring a comprehensive understanding of industry dynamics. These resources empower KMI to make informed decisions aligned with its long-term goals, proactively mitigate risks, gain a competitive edge, adapt to market trends, support growth initiatives, and foster stakeholder trust, enhancing its strategic agility in the dynamic energy sector (Farida & Setiawan).

Capability: KMI core competency lies in its remarkable ability to recognize and address a wide range of risks, particularly those stemming from competition with industry giants like Enbridge and Energy Transfer Lp (ET). In the fiercely competitive energy sector, where formidable adversaries can present substantial challenges, KMI's knack for identifying and assessing these risks is pivotal. What sets KMI apart is its proactive approach, not limited to risk recognition but extending to the strategic development and implementation of measures to mitigate them. Instead of reacting to challenges, KMI adopts a forward-thinking strategy that not only enables it to withstand competition but also excel. This proactive stance empowers KMI to stay ahead of industry shifts, adapt swiftly, and capitalize on market opportunities effectively, allowing it to establish a distinct presence and maintain a competitive edge, even when up against larger and more resource-rich competitors (Farida & Setiawan).

In summary, Kinder Morgan Inc. derives its competitive advantages in dividend yield and market capitalization growth from a diverse set of strengths. These encompass a substantial portfolio of physical assets like pipelines and terminals that generate stable cash flows, bolstered by robust financial resources for operational stability and flexibility. KMI's strategic prowess shines in risk assessment and mitigation, allowing it to navigate the volatile energy sector adeptly and proactively seize market opportunities. Additionally, a commitment to transparency builds trust among stakeholders, while a culture of innovation keeps KMI adaptable to emerging technologies and market trends. These combined core competencies not only consistently deliver value to shareholders but also equip KMI to effectively navigate the dynamic challenges of the energy sector.

Business Model and Value Chain

Business Model. Kinder Morgan, like most energy providers, operates with a business model most similar to pay-as-you-go or a toll-road. As a midstream service provider the firm makes money through three primary operations: processing, storing, and transportation of oil and gas products (Moore). In the first stage, raw products received from upstream operations are filtered to remove unwanted waste products to meet the appropriate industry standards. Depending on the level of consumer demand, the filtered product is either stored or transported to refineries for further processing. For the service Kinder Morgan provides, a fee is charged to the customer for use of their infrastructure (Kinder Morgan). Most utility companies follow this model and only charge what is used, however, Kinder Morgan modifies this model to protect against the volatility of oil demand. To guarantee steady revenue streams, take-or-pay contracts are negotiated for nearly 65% of all segment earnings as well as an additional 25% based on fixed-fee agreements (Rating Report, Kinder Morgan). This strategy in action has allowed KMI to achieve a stock evaluation equivalent to the middle of the midstream pipeline industry as of September of 2023 (Investors Observer).

Value Chain. Both primary and secondary activities make up Kinder Morgan's value chain in the process of converting upstream materials into downstream inputs. The two areas work in parallel to create profit margin for the firm. Among the three segments of the oil and gas industry, the midstream portion stands out as the most capital heavy aspect of the value chain (OSI). Within this segment, KMI is responsible for the management of the transmission pipelines, separation and storage facilities, pump stations, as well as terminals (OSI).

Primary Activities. Activities associated with adding value directly to the firm as it creates physical products or performs a service are referred to as primary activities. These activities are traditionally broken down into 5 categories along the production cycle: Supply Chain Management, Distribution, Operations, After-Sales Service, and Marketing and Sales (Rothaermel).

Supply Chain Management. To support upstream outputs, KMI builds transmission pipelines at the source site to prevent additional shipping risks/costs. In preparation for receiving the raw upstream materials, management must plan in advance to identify reliable pipeline suppliers to deliver quality components with agreed upon lead times. To ensure all suppliers behave with excellence and consistency, Kinder Morgan enforces a supplier code of conduct. This document serves as the governing document for the firm/supplier relationship to ensure no corruption or harm comes to the workforce or the environment.

Operations. In the midstream market, most of the operations are centered around product inventory/locations, construction of new pipelines, and maintenance on existing infrastructure. The amount of oversight for KMI's assets can be daunting, however, they have embraced digital transformation to provide information quickly and accurately. For example, logistics of natural gas assets are tracked through use of the geographic information system, or GIS, a pipeline integrity software that communicates maintenance requirements to mitigate risks and validate industry standards are in compliance (Lapraim). The level of tracking precision is required because operations are 24/7 for Kinder Morgan and it's more than 82,000 miles of pipelines and currently 140 terminal stations to upkeep (Kinder Morgan).

Distribution. At the end of the midstream cycle, KMI stores the processed products in terminal stations until they are ready for shipment to the customer. Inventory logs, means of distribution, and overall storage capacity are the driving factors at this stage. Transparent communication is key here to give the customer confidence with on-time delivery.

Marketing and Sales. Based on the level of demand for oil and gas products, it doesn't take much marketing to sell products to customers. KMI does, however, make mention in their 2022 Annual Report that marketing is managed for each segment (natural gas pipelines, products pipelines, CO_2, and terminals) as there are separate products and services that need to be tailored for the respective customers. Sales has a large influence over the firm's profit generation whether it's from negotiating contracts or selling off ownership of certain pipelines. For example, back in 2019 KMI sold off ownership of the Cochin pipeline in Canada which totaled roughly \$2.5 billion – nearly 19% of the total revenue from the 2019 Annual Report (Hart Energy).

After Sales - Service. Maintenance and repair activities are not to be taken lightly with the handling of volatile natural gas and oil products. Leaks and spills can incur environmental damage if not maintained properly, so it's important to monitor pipelines actively. Poor service management in this field can lead to costly lawsuits that disrupt the value chain as KMI is all too familiar with. There have been numerous pipeline explosions in the firm's history leading to deaths and significant legal reparations such as the Coolidge pipeline burst tied directly to poor tape wrapping which led to corrosion induced cracks (Wiles).

Secondary Activities. Contrary to the primary activities listed above, the secondary support actions add value in indirect ways. Research and development work enables the company to cost reduce existing pipeline infrastructure and make smarter sealing designs to improve environmental outlook. Information systems are widely in use by KMI to monitor pipeline flow rates, maintenance schedules, and inventory. Continued use of IT controls will drastically reduce poor communication leading to better awareness for potential issues. Human resources serves a vital role in hiring a capable workforce. Poor judgment in hiring practices could lead to an increasing level of mistakes among the new hires and high turnover for highly experienced employees. Adhering to accounting and finance best practices (i.e. GAAP, adds value for both internal status keeping as well as a bridge of trust for external audits in times of merger or acquisition). Finally, the value chain is indirectly supported by the firm infrastructure and policies. If the guidelines and regulations enable efficient work methods and prevent unnecessary bureaucracy, then the firm will be able to achieve time savings.

Core Competency Value Chain Mapping

It is not uncommon for gas and oil providers to have strong capabilities in secondary operations such as firm infrastructure. By nature of the extensive capital costs of the pipeline service industry, there have been limited operational advancements with the hardware. The focus, therefore, shifts to how well you can manage strategic planning and projections for future growth. This is clear when we understand the backgrounds of the top managers at KMI. The majority of them, including the CEO and several of the business unit Presidents all have accounting, financial, and investor relations educations as seen in their management profiles (Kinder Morgan, Management).

Value Chain Location. Among the core competencies identified, most are aligned best to the secondary support activities. Firm Infrastructure captures the majority of the company's experience from financial and risk management, regulatory expertise and compliance, investor relations, and strategic planning. Adaptability and innovation fits best with research & development support activities typically related to data analytics tools, automation, and cost reduction research. Finally, operational efficiency is tied into the actual operations involved in transporting/processing the oil and gas products in KMI's portfolio.

Value Chain Explanation. Using the value chain locations as a reference, the following explains how the core competencies fit into the value chain framework:

Firm Infrastructure. The firm has leaned into its financing and accounting expertise as evidenced through its acquisition of eight companies, four of which have occurred in the last five years. The core competencies mapped into this portion of the value chain have led to significant wins for KMI including the $37.8B acquisition of the El Paso Corporation and sale of Terasen International for $3.7B back in 2007 (Mergr.com)

Research and Development. Innovation is an important part of hedging the company portfolio of a limited resource like fossil fuels. To protect against losing market share and prepare for the eventual exhaustion of crude oil, KMI has diversified their capabilities with unique renewable energy tech from their R&D department. One great example is the RNG initiatives to create renewable energy by converting landfill gasses into usable methane. This adaptability and out of the box thinking is starting to gain traction at KMI with the commissioning of three new site's in Indiana in 2023 (Kinder Morgan, RNG Assets).

Operations. As noted in the value chain analysis, use of analytic tools is imperative to operational efficiency at KMI. The GIS tool can capture different patterns of data in real-time to ultimately save the company money through predicting accurate operating conditions and fluctuations as well as more relevant time windows for maintenance (Lapraim). This can be tailored by specific geographic locations as weather and construction practices can vary by local standards.

How Competitive Advantage Drives Performance

The firm's competitive advantage, derived from its capabilities and core competencies, can significantly influence its performance as evidenced by the data provided above. An explanation for firm performance for each competitive advantage is listed below.

Dividend Yield and Payout Ratio. As detailed in the Value Chain Mapping section, KMI has a seasoned group of accounting, financial, and investment professionals who have years of experience in the industry. Leveraging their knowledge, KMI has made wise purchases to build market share and strategic sales to boost financial capital. When the firm has reached the required rate of return, the management team sells the business and uses the proceeds to pay out dividends and save for future acquisitions. This strategy has blossomed well for KMI because they target sectors in the market that share a common theme to their corporation: energy service & exploration of oil and gas (Mergr.com). With continued smart investments and oversight of new businesses, KMI is poised to maintain this competitive advantage and deliver a strong dividend yield with respect to the industry average.

Market Capitalization Growth. The growth rate for market cap is largely driven by the firm's stock price. External factors like political developments, technical advances or mishaps, and supply/demand changes can fluctuate stock prices wildly so a strong management team will succeed in balancing the factors that are in their control. KMI has embraced tools like GIS software, talked about in the value chain analysis, to achieve operational excellence and confidence in their service. The industry noticed which led to a 10% higher earnings for natural gas pipelines and 7% rise for terminals in Q1 of 2023 compared to the same time in 2022 (DiLallo). By adopting efficiency tools, mitigating environmental impacts, and investing into renewable energy, KMI has instilled confidence in the public that they are delivering value. The CAGR analyzed earlier proves that KMI is headed in the right direction as it currently outpaces the industry average.

Prominent Strengths and Weaknesses

The following table summarizes the strengths KMI can capitalize on and the weaknesses that need to mitigated:

Strengths	Weaknesses
Capitalizing on Capital and Reputation	Total Return Compared to Competitors
Business Segment Diversification	Low Market Cap Growth Compared to Competitors
Capitalizing on Storage Buildings	Weaker Stock Purchase Compared to Competitors
Brand Equity	Uncontrollable external influences

Table 8: KMI Strengths and Weakness

From the VRIO Framework analysis, the most prominent strengths that can potentially be capitalized are KMI's Capital and Reputation. On the Capital front, KMI maintains high Cash on Hand that it uses to maintain the company reach and acquire companies in order to expand. In the past three years, KMI has used the capital to obtain three-multimillion-dollar natural gas companies.

In addition, KMI is positioned in a rare and high barrier entry market, as the pipeline industry requires massive amounts of capital and equipment to be in. KMI diversified into an even more specialized sub sector in specialized storage where it maintains 19.2% of the market share. The other business sectors that KMI has extended into include natural gas and product pipelines, terminals, and CO2, and captures a significant portion of the market in most sectors the company invests in. As the company maintains a large reach, the reputation remains high, especially working with some of the largest oil and gas companies. KMI has a high level of resources dedicated to maintaining positive relationships across governments as well as other organizations, since the company serves as the main source of energy transportation in many of the areas they operate in. The main strength KMI has over Enbridge and ET is its Brand Equity and Building and storage capability.

From the three traditional frameworks, the main method used to assess competitive advantage was Shareholder Value Creation. Here, some weaknesses are shown as Enbridge and ET show stronger competitive advantages. The Total Return was higher for both Enbridge and Energy Transfer, at 10-year Total Return being 41.42% and 85.13% compared to Kinder Morgan's -19.02%. KMI's market cap is also lower than both competing companies, and is shrinking when looking at the 10-year compound annual growth rate. Lastly, the dividend outlook favors ET and Enbridge. However, KMI in recent years is starting to gain a small edge over Enbridge, since the market cap growth is higher over the one-year and three-year periods compared to Enbridge. In addition, ET may look better in terms of dividend returns, but due to being an Master Limited Partnership (MLP) may result in shareholders favoring KMI instead.

Balancing the weakness of KMI being a weaker stock purchase over Enbridge and ET might mean that in order to mitigate that particular weakness, some capital allocation would be beneficial. Short term, reducing the dividend would reduce the payout ratio; however, it would signal to investors that the fundamentals of the business might be weakening. Therefore, the best course to mitigate that weakness is to likely increase Cash on Hand rapidly post acquisitions, and focus on increasing revenue as well as reducing operating costs through technological innovation. Other weaknesses lie in the external environment, such as the energy infrastructure industry being dependent on economic conditions, energy demand, government, and, sometimes, societal pressure, legal issues, and/or regulatory changes. In order to mitigate these weaknesses, KMI needs to ensure that their capabilities and resources, such as their relationships with investors and other organizations, are strong. Their competencies need to be top quality to be able to navigate complicated situations. With a company the size and scale of KMI, small changes may have compound effects.

Current Internal Consistency

In the team's opinion, KMI has become complacent and lacks a vision for the future. KMI has been successful in the past and has used the past successes to build their reputation and establish relationships with their suppliers and customers. Our team not only looked at what the company has done, but also looked at what that company needs to do in the future. We asked the question of, "How do you evolve?".

In the team's opinion, KMI should use their reputation, storage facilities, and possibility of intellectual property going forward to possibly get a competitive strategic advantage. The breakdown of the following issues will show while that there is success to be made, the company's reluctancy to be future forward might be a hindrance for the company to progress. While the value chain activities are mutually enforcing for the most part, the primary internal gaps for KMI come from employee retainment/corporate culture (secondary), technological and environmental strategy development (secondary), and service (primary) (Rothaermel).

KMI currently has a 2.9 rating on corporate culture, compared to 3.4 for Enbridge and 4.5 for ET (Comparably). KMI currently has grades of C/C+ when it comes to the categories of Leadership, Executive Team, and Compensation, along with 45% of reviewers claiming they would not recommend the company (Comparably). While reviews for all companies on Comparably can tend to lean toward negative, several employee experiences for KMI point towards frustration from pay scale, toxic culture, and negativity compared to the rest of the industry.

There has been a big push within the oil and gas industry in the last five years towards digitalization and sustainability (Forbes). While KMI has been making an effort to lower their CO^2 emission footprint [estimated 10.1 million metric tons reduction per year going forward (KMI ESG Report 2022)] with natural gas projects and pushing sustainability initiatives, KMI displays another secondary gap when it comes to using their research and development department to further technological and environmental developments. While Enbridge has projects focusing on pipeline virtual reality and AI data analytic projects through their Innovation Lab (Enbridge) and ET has joined the Environmental Partnership (Energy Transfer), KMI has not shown any push towards evolving the industry with any research and development efforts.

While KMI's reputation is a major resource for the company, the last few years have seen a decline in the customer satisfaction with the company. As of 2023, KMI stands at -4 Net Promoter Score (customer loyalty score), while Enbridge and ET have Net Promoter Scores of +14 and +13, respectively (Customer Guru). While KMI still has strong standing partnerships with their suppliers and other oil and gas companies, there is a gap in the customer's satisfaction and future loyalty for the final product. With the push towards digitalization in all industries (Dataroid), KMI has fallen behind it's competitors in making an easier customer experience and creating loyalty.

The resources and capabilities within the value chain for KMI are currently adequate for the current production and produce a competitive advantage for other lesser companies in their industry, but there a potential gaps that could come with the company being complacent. The biggest problem KMI has with the competitive advantage is that Enbridge and ET also have the same competitive advantages when it comes to Capital and Reputation (Resources, Capabilities, and Core Competencies). KMI has the opportunity with their capital to build their resources and capabilities (which includes a better focus on creating new corporate culture and innovations within the industry) to become even better, but the company seems to be stuck in just surviving rather than thriving.

Dividend Yield and Payout Ratio

Competitive Advantage Recap. KMI's competitive advantage lies in its attractive Dividend Yield, which stands at 6.62% (Firm Performance Analysis). This high dividend yield appeals to income-oriented investors who seek a reliable stream of dividend income from their investments.

KMI's strategy to offer a high dividend yield has been effective in attracting income-focused investors. This strategy aligns well with KMI's historical role as a dividend-paying company, catering to a specific segment of the investor market. However, the sustainability of this advantage is a concern due to KMI's high payout ratio of 100.64%. This ratio indicates that KMI distributes essentially all its earnings as dividends, leaving limited financial flexibility for other crucial purposes, such as reinvestment in growth initiatives or building up reserves for unforeseen challenges. While the high dividend yield is undoubtedly appealing, it's important to acknowledge that a consistently high payout ratio can constrain the company's ability to react to market conditions, fund expansion projects, or navigate economic downturns effectively.

KMI's strategy for offering a high dividend yield has been successful in the short term by attracting income-oriented investors. However, for long-term sustainability, KMI may need to adjust its strategy to strike a better balance between rewarding shareholders with dividends and retaining earnings for reinvestment in the business. This adjustment would allow KMI to enhance its financial resilience and ensure it can seize growth opportunities and navigate market challenges effectively over the next five years. To achieve this balance, KMI may consider allocating a portion of its earnings towards capital expenditures, expansion projects, or debt reduction. This approach would not only maintain its attractiveness to income-focused investors but also position the company for sustainable growth and adaptability in a dynamic business environment.

Market Capitalization Growth

Competitive Advantage Recap. KMI enjoys a competitive advantage in terms of Market Capitalization Growth, which is particularly impressive given its relatively smaller market capitalization compared to competitors like Enbridge and ET. KMI's 3-year market cap CAGR is 5.36%.

KMI's strategy for market cap growth involves several key components, including efficient execution of operational and strategic plans, optimization of existing infrastructure, and seizing growth opportunities within the energy sector. The company has effectively communicated its value proposition to investors, building trust in the company's ability to achieve dependable financial performance and seize growth opportunities, despite its smaller size compared to competitors. KMI's strategic planning and execution have allowed it to maintain a competitive edge in terms of market capitalization growth.

KMI's strategy for market capitalization growth appears to be effective and sustainable, provided the company keeps on effectively carrying out its strategies. To sustain this advantage over the next five years, KMI must remain vigilant and adaptive in response to changing market dynamics and competitive pressures. Continued strategic planning, innovation, and differentiation from larger competitors will be key to maintaining investor trust and attracting capital for growth initiatives. Additionally, KMI should stay attuned to emerging trends in the energy sector, such as the transition to cleaner energy sources and technologies and be ready to adapt its strategy accordingly to ensure long-term relevance and success.

In summary, KMI has developed strategies that have effectively sustained its competitive advantages in Dividend Yield and Market Capitalization Growth to a certain extent. While the high dividend yield has attracted income-oriented investors, there is room for adjustment in terms of the payout ratio to ensure long-term financial sustainability. Regarding market capitalization growth, KMI's strategy has been successful, but the company must remain agile and innovative to navigate changing industry conditions and competition from larger rivals. Balancing shareholder rewards with reinvestment for growth and financial stability is essential for sustaining its competitive position in both dividend yield and market capitalization growth over the next five years and beyond.

KMI is indeed making good use of some of its strengths to capitalize on the opportunities presented by its environment. Exploring how KMI's strengths are being leveraged to seize the opportunities:

Capital and Reputation

Strength. KMI's robust capital reserves and impeccable reputation in the energy infrastructure industry are valuable assets.

Opportunity. The firm has been strategically using its capital to acquire companies, expand its reach, and diversify its operations. KMI's reputation allows it to collaborate with major oil and gas companies and maintain positive relationships with governments and organizations.

Analysis. KMI's strong capital position enables it to explore opportunities in cleaner energy initiatives, such as the transition to renewables. The firm can invest in research and development for sustainable energy solutions, establishing itself as a leader in the shift towards cleaner energy sources.

Business Segment Diversification

Strength. KMI's diversification into various sectors of the energy industry provides flexibility and resilience.

Opportunity. The company can use its diverse portfolio to navigate economic changes, including the predicted downturn in the oil and gas industry. By focusing on segments less impacted by industry fluctuations, KMI can diversify its revenue streams.

Analysis. Leveraging its diversified business segments, KMI can explore growth avenues aligned with emerging energy trends, such as renewable energy, and capitalize on societal and environmental preferences for cleaner alternatives.

Brand Equity and Building/Storage Capability

Strength. KMI's strong brand equity and specialized storage capabilities set it apart in the industry.

Opportunity. The company can emphasize its commitment to sustainability and responsible energy transportation and storage to align with growing environmental concerns.

Analysis. KMI can leverage its brand equity to attract partners, investors, and customers interested in environmentally responsible energy solutions. Its storage capabilities can be used for renewable energy storage, further aligning with the shift towards cleaner energy sources.

KMI is strategically leveraging some of its strengths, such as its capital, reputation, diversification, and brand equity. The company's push towards cleaner energy solutions and its ability to adapt to changing market dynamics demonstrate a proactive approach to aligning with environmental preferences and economic trends. However, there are still areas where further strategic alignment could enhance its ability to seize opportunities. For instance, addressing weaknesses, such as total return compared to competitors, low market cap growth, and weaker stock purchase compared to competitors may require a focus on increasing cash reserves post-acquisitions and optimizing revenue while reducing operating costs through technological innovation. Additionally, KMI should remain vigilant in managing external influences and ensure that its capabilities and resources, including relationships with investors and organizations, are continually strengthened to navigate potential challenges.

KMI is actively mitigating its weaknesses and combatting potential threats in its environment:

Transition to Renewable Energy. KMI's recognition of the opportunity in renewable energy represents a significant strategic shift. By investing in cleaner energy initiatives, such as the Kinetrex Group (Kinder Morgan), the company is taking proactive steps to align itself with changing societal values and environmental trends. This transition is not only a response to market demand but also a way to mitigate the growing threats associated with fossil fuels. As concerns over climate change and sustainability continue to rise, KMI's move toward renewables positions it favorably in terms of long-term viability and relevance.

Economic Adaptation. The predicted downturn of the oil and gas industry is a significant economic threat to KMI, given its reliance on these energy sources. To overcome this, the company is exploring ways to adjust its business model. By diversifying its operations beyond traditional energy sources, KMI is proactively mitigating the risk associated with over-dependence on a single industry. This economic adaptability enhances its resilience in the face of industry-specific challenges.

Addressing Legal Issues. KMI acknowledges its past and ongoing legal problems and recognizes the need to enhance its legal standing and public image. To achieve this, the company is likely implementing a multifaceted approach. This may include stringent compliance measures to ensure it adheres to all relevant regulations, transparent reporting practices, and actively engaging with stakeholders to address environmental concerns. By taking these steps, KMI is demonstrating its commitment to ethical business practices and reducing the potential legal threats it faces.

Workforce Improvement. As a leader in its industry, KMI understands the importance of a skilled and credible workforce. High turnover rates and workforce-related challenges can pose threats to operational efficiency. To address this, KMI is likely investing in workforce development programs, improving its hiring processes, and enhancing retention strategies. By doing so, the company aims to build a highly competent and reliable workforce, which can mitigate the risks associated with talent shortages and skills gaps.

KMI's strategic initiatives to transition to renewable energy, diversify its operations, address legal issues, and enhance its workforce underscore its commitment to mitigating weaknesses and responding to potential threats in its environment. These actions not only position the company for long-term success but also align it with evolving societal, economic, and environmental expectations. KMI's adaptability and forward-thinking approach are key factors in its efforts to thrive in a changing energy landscape.

Feasible Strategic Solution

KMI’s vision is simple: “Delivering Energy to Improve Lives and Create a Better World” (Kinder Morgan). Though their vision is simple, it highlights the role that energy plays in providing quality of life and driving progress. Without energy, everyday life would not be possible, certainly not in urbanized areas. Breaking down their vision, KMI highlights focusing on improving lives and bettering the world. Likely, coupled with their mission and values, KMI is attempting to imply that the company, through its actions, is a catalyst for societal betterment and being on the forefront of environmental and sustainable practices. However, when examining the vision statement closely, it is vague, missing the specificity that would make it more actionable.

This broadness also means that the vision doesn't distinctly set KMI apart from the other energy infrastructure companies that might have similar overarching goals, such as Enbridge. Enbridge’s Vision statement states, “be the first-choice energy delivery company in North America and beyond” (Enbridge). This vision statement is similarly vague, putting Kinder Morgan squarely in the middle of the pack when it comes to standing out for their vision statement. Something missing in their vision is the lack of an explicit focus on sustainability and renewable energy, which are both important in today’s society, in terms of providing value to their customers. This is somewhat addressed in their mission statement, however, is not covered in their vision statement. This absence raises questions about the company's commitment to sustainability at a time where sustainability has become a pressing issue and has long-term and global implications. Furthermore, the vision doesn't provide clear insights into Kinder Morgan's long-term aspirations and goals, leaving vagueness around the company's future direction. Another area of potential improvement is the vision's lack of emphasis on stakeholder engagement. Likely, shifting attention to stakeholder engagement in the mission statement, such as customers, stockholders, or even governments that have key interests in Kinder Morgan, would make the vision statement stronger.

A better vision might incorporate elements of collaboration and highlight stakeholders desires. While Kinder Morgan's vision is positive, it could benefit from better focus and clarity, differentiation, and focus on the future, especially when trying to stand out from other energy infrastructure companies. A suggested vision statement, which incorporates changes suggested above, is: “Blending tradition with innovation: Powering North America's sustainable energy future and creating a better world.”

KMI’s values are: “Integrity, Accountability, Safety, Excellence” (Kinder Morgan). For a company, values serve as the foundation of how the company conducts its business and decision making process. Again, though commendable, these values are similar to other energy infrastructure companies. Enbridge’s four values are “Integrity, Safety, Respect, Inclusion” (Enbridge). The main differences between the two companies are Enbridge has a focus on people, specifically employees, with inclusion being a core value. In addition, Respect is highlighted on Enbridge’s core values. This shows some juxtaposition with KMI, whose value is Accountability. Enbridge indicates their commitment to valuing all stakeholders and treating them with respect and dignity; in contrast, KMI’s focus on accountability suggests a dedication to taking responsibility for their actions and ensuring that they deliver on their promises. ET’s core values are also similar, citing “Integrity, Community, Excellence, Responsibility” (Energy Transfer).

All three companies share integrity as a core value. Enbridge and KMI share safety. To differentiate Kinder Morgan’s core values from other companies, some changes could be made. For example, none of the three companies highlighted innovation in their core values. According to Kimberly Dang, CEO of Kinder Morgan, Kinder Morgan’s core business will be around for a long time, but they are investing in transition to add new forms of energy (Kinder Morgan). Adding innovation to the core values of Kinder Morgan would differentiate them as well as highlight they are moving towards the future adamantly.

KMI's mission statement is as follows: "Kinder Morgan Provides Energy Transportation and Storage Services in a Safe, Efficient and Environmentally Responsible Manner for the Benefit of People, Communities and Businesses" (Kinder Morgan). In contrast, Enbridge's is: "We are committed to safely, reliably, and sustainably delivering the energy North America counts on to power our society and the economy" (Enbridge). Both statements differ in tone, focus and scope. One clear difference between Kinder Morgan's and Enbridge's is that Enbridge's tone indicates action and commitment on Enbridge's half, whereas Kinder Morgan's mission statement seems to be more of a description. Additionally, another difference is that Enbridge's region-specific focus on North America while KMI's broader mission statement doesn't pinpoint a specific region. The descriptive nature of KMI's mission statement could lead it to being seen as a weak mission statement, as it lacks a strong action-oriented tone compared to other companies. In addition, Enbridge utilizes a first-person perspective, using words such as "our" and "we. These inclusions indicate Enbridge including itself as part of the society, and by extension, connecting with the stakeholders. On the other hand, KMI's mission statement is much more held at a distance and lacks connection with the reader. Therefore, some improvements to the tone of the mission statement is likely paramount, such as focusing on innovation, strengthening the stakeholder engagement, and placing more of a focus on people. Revamping the mission statement based on the weaknesses discussed might look something like: "We are committed to maintaining our core energy business while innovatively providing safe, efficient energy transportation and storage, supporting the transition to renewables, and collaborating with people, communities and businesses for a better future."

Evaluating Goals

In its 2022's 10-K, KMI describes its business strategy as being to:

- "focus on stable, fee-based energy transportation and storage assets that are central to the energy infrastructure and energy transition of growing markets within North America or served by U.S. exports;
- increase utilization of our existing assets while controlling costs, operating safely, and employing environmentally sound operating practices;
- exercise discipline in capital allocation and in evaluating expansion projects and acquisition opportunities;
- leverage economies of scale from asset expansions and acquisitions that fit within our strategy;
- and maintain a strong financial profile and enhance and return value to our stockholders."

In its most recent, Q3 2023 investor presentation KMI explains its strategy as being generally to maximize value of assets on shareholders' behalf. KMI does not (at least not in its public disclosures) state specific financial goals (does not specify the magnitude or time frame) for the future, nor does it explicitly specify other timeline-specific goals for achieving its strategy of maximizing the value of its assets for shareholders.

However, in its Q3 2023 investor presentation, KMI does identify important aspects of its strategy toward maximizing the value of its assets for shareholders (consistent with the above-noted items from its 2022 10-K):

1) Holding stable, fee-based assets

2) Investing in lower carbon future

3) Having financial flexibility

4) Following a disciplined capital allocation

5) Enhancing shareholder value

These aspects appear to reasonably set out KMI's goals for achieving its desired outcome of maximize value of assets on shareholders' behalf. KMI has had some success toward each of these goals, which it sets out as follows:

1. Stable, fee-based assets
    - Core energy infrastructure
    - Safe & efficient operator
    - Multi-year contracts
    - Approximately 93% take-or-pay, hedged, and fee-based cash flows
2. Invest in a lower carbon future
    - Established energy transition ventures group in 2021
    - $3.7B backlog with 80% allocated to lower carbon investments
    - Investing in natural gas, RNG, liquid biofuels, and CCUS infrastructure at attractive returns
3. Financial flexibility
    - 4.0x 2023B expected YE Net Debt/Adjusted EBITDA
    - Long-term target remains around 4.5x
    - Low cost of capital
    - Mid-BBB credit ratings
    - Ample liquidity
4. Disciplined capital allocation
    - Conservative assumptions
    - High return thresholds
    - Self-funding capex & dividends for last 7 years
    - Reduced net debt by more than $11B since 1Q 2015
5. Enhance shareholder value
    - Maintain strong balance sheet
    - Attractive investments
    - 2023B dividend growth; +2% YoY
    - Share repurchases; $330M YTD

As stated above, KMI does not have explicitly-stated goals with measurable, targeted magnitudes and timelines. It should consider developing more explicit, measurable goals, preferably in accordance with the balanced scorecard approach to consider such goals around the questions of how shareholders view it, how customers view it, what core competencies does it need, and how does it create value (Rothaermal).

Nonetheless, KMI's goals appear to be well-aligned with its strategy for the future. However, the goals are not stated (at least publicly) with specific targets and timelines. Based on the information that is stated, the goals appear to align with what the firm should do for leveraging its strengths and filling gaps to improve its competitive position in the industry. As discussed below, KMI may need to improve its execution in certain areas for advancing its goals, but the goals themselves appear to be on the right track.

First, regarding the goal of enhancing shareholder value, KMI notes that it has maintained a strong balance sheet, made attractive investments, achieved dividend growth (by 2% year-over-year), and has repurchased shares of its stock (by $330M year-to-date). KMI also notes that its dividend yield (of approximately 6.4%) is a top-10 dividend yield (S&P500). However, as explained above (How Competitive Advantage Drives Performance), KMI's dividend yield over the past 10 years trails that of its major competitors, Enbridge and Energy Transfer.

Thus, its focus on increasing its dividend yield year-over-year is a good approach for improving its shareholder return relative to its major competitors in the industry. Also, as the above analysis in this report shows above (How Competitive Advantage Drives Performance), such shareholder value measures as Total Return and total market capitalization over the past 10 years also favor Enbridge and ET, and so KMI's goal of enhancing shareholder value and taking actions like repurchasing shares of its stock are appropriate.

Also, its goals of maintaining financial flexibility and disciplined capital allocation should also help it to be well-positioned for leveraging its strengths and making investments into developing and building out its future network for new types of energy resources, making strategic acquisitions into valuable areas, and buying back further shares of stock. Having such financial flexibility and disciplined capital allocation should help to insulate KMI against increasing interest rates, as it will have its own funding for projects rather than being required to take on high-interest debt. KMI notes that it has had self-funding capex and dividends for the past seven years, and reduced debt (net) by more than $11B since 1Q 2015.

In the near-term, KMI's goal of maintaining stable, fee-based assets using its core energy infrastructure to support long-term multi-year contracts, while focusing on being a safe and efficient operator is also an appropriate goal for using its strengths to work toward improving its competitive advantage and thus maximizing shareholder value. KMI generates stable, fee-based revenues from its extensive midstream infrastructure network, and its business model is relatively less exposed to commodity price volatility than upstream and downstream companies, allowing it to generate a substantial cash flow by charging fees for the use of its midstream assets (Zacks Equity Research). For 2023, it projects earnings of $1.12 per share, and expects adjusted earnings before interest, taxes, depreciation, and amortization (EBITDA) of $7.7 billion. Zacks Equity Research (2023). To fortify its balance sheet, KMI intends to achieve a net-debt-to-adjusted-EBITDA ratio of 4 times by the end of 2023, which will provide the company with considerable flexibility, enabling it to consider opportunistic share repurchases or further investments. Indeed, KMI reports that it has approximately $770 million capacity available for attractive investments, including share repurchases. 2023 Q3 Investor Presentation, Slide 8.

Lastly, for the longer-term outlook, investing in a lower carbon future is an important goal to ensure that KMI can be the industry leader with a competitive advantage in years to come. If KMI can leverage its existing network and infrastructure for supporting alternative fuels, then it may be able to successfully pursue a blue ocean strategy by reducing its costs (through use of its existing infrastructure and know-how) while raising value in such newly-identified market. KMI notes its established energy transition ventures group (in 2021), and its investment in natural gas, renewable natural gas (RNG), liquid biofuels, and carbon capture, usage, and storage (CCUS) infrastructure as already providing attractive returns. While it notes that energy transitions take time, and thus its current assets and services are expected to still be needed for traditional crude oil and natural gas for a very long time to come, it is also positioned for energy future with a vast network of critical assets and lower carbon focus. Indeed, KMI notes that building new infrastructure networks is difficult and costly, and thus its existing assets are likely to remain valuable, particularly as some renewable fuels can be moved on its assets today and its current pipeline and storage assets could be upgraded or repurposed to handle renewables, lower carbon fuels, or other transition-driven products.

Overall, KMI should continue its hybrid approach for a build-borrow-buy framework to filling its resource gaps for continued growth. Its build focus should include building on its core competency for holding and operating assets in strategic geographic areas for storing and transporting resources. It has the in-house know-how, capabilities, and experience, as well as the strategically-located physical resources in place for building on its network infrastructure and management of storage and transport resources.

Further, KMI's borrow strategy is very strong with its established long-term contracts, strategic alliances, and joint ventures. It has developed an effective alliance management capability for partner selection and alliance formation, alliance design and governance, and post-formation alliance management (KMI Presentation). This capability itself is a core competency which it should leverage to its competitive advantage going forward for both growing and deploying assets in strategic geographic areas, as well as developing ways of leveraging and using its assets for future needs such as with the alliances and joint ventures it has for supporting more clean and renewable energy sources.

Lastly, KMI has demonstrated an effective ability to identify (in strategic areas), acquire and integrate other companies into its operations. Such acquisitions should be approached cautiously and as a last resort, largely favoring instead strategic alliances and joint ventures. However, particularly in the new, clean energy market space, KMI may leverage its experience for successfully acquiring and integrating companies to quickly acquire resources/capabilities that it identifies as gaps concerning that space and eliminate potential competition, particularly where high closeness with such company is needed (KMI Presentation).

Importantly, KMI notes that it is approximately 13% owned by management and board so that management is highly aligned with significant equity interests should discourage opportunism and self-interested behaviors of management that are not aligned with KMI's goals and strategy set out above (KMI Presentation).

One additional goal that should be (and appears to already be) a focus of KMI is its environmental, social, and governance (ESG) efforts. KMI notes that it has high ESG ratings from various bodies (KMI Presentation).

Current Strategies

Corporate Level Strategy: KMI's current corporate-level strategy is related diversification-constrained (i.e., all of the company's businesses are connected to its core energy infrastructure business, but they don't all have the same competencies). The company's primary business is in the energy industry, where it specializes in the transportation and storage of various energy commodities, including natural gas, crude oil, and other energy products. While energy infrastructure remains their core business, they have begun to diversify into the low-carbon and renewable energy markets. This diversification is in line with their expertise and takes advantage of their existing infrastructure.

Business Level Strategy: As per 2022 KMI's 10K, KMI's current business-level strategy is around being a reliable, fee-based provider of energy delivery and storage with a strong emphasis on safety, efficiency, and environmental responsibility. With multi-year contracts and approximately 93% of their cash flows coming from take-or-pay, hedged, and fee-based sources, they position themselves as a dependable operator. Furthermore, they are strategically investing in low-carbon energy options such as natural gas, renewable natural gas (RNG), liquid biofuels, and infrastructure for carbon capture, use, and storage (CCUS).

Evidence of Implementation of Strategies. As per 2022 KNI's 10K and their strategy, we can say that the company is implementing their strategy. The company's finances and actions act as evidence of the above.

Focus on Stable, Fee-Based Energy Transportation and Storage Assets. KMI puts a lot of emphasis on fee-based assets, which means they want to make sure their cash flows are predictable. According to their financial reports, they get around 93% of their money from take-or-pay, hedged, and fee-based sources. KMI continues to invest in new infrastructure to enhance the productivity and dependability of its operations. In 2022, KMI announced an investment of $1.1 billion to expand its Permian Basin natural gas pipeline network. The company is committed to enhancing its operational effectiveness and dependability, which ultimately contributes to its strategy of providing services at a low cost.

Employing Environmentally Sound Operating Practices. KMI has demonstrated its commitment to a lower carbon future by investing in a variety of renewable energy projects, such as Renewable Natural Gas (RNG), Liquid Biofuels, and Carbon Capture and Storage (CCUS) infrastructure. These investments demonstrate the company's dedication to sustainability and are in line with its objective of delivering value in the shift to cleaner energy sources.

Financial Discipline. KMI's balance sheet and capital allocation policies reflect the company's commitment to financial flexibility, as evidenced by its reported metrics. For example, KMI aims to achieve a 4x NDT/Adjusted EBITDA ratio by 2023.

Maximizing the Value of its Assets for Shareholders. You can see KMIs commitment to giving back shareholders by increasing their dividend (by 2% this year) and buying back shares (by $330 million so far this year).

New Strategy Proposals

KMI has shown a glimpse of success through the previously mentioned industry-average based competitive advantages, however, complacency in strategy has made several mid-stream competitors climb to higher market capitalizations. The following suggestions will enhance the corporate and business strategies and better align them to the firm's goals.

Corporate Strategy. The external environment for the oil and gas industry is rapidly changing due to supply and demand, environmental impacts, and government regulations. To maximize the external fit with these industry threats, KMI needs to consider where to compete including new markets, geographical changes, or potentially new industries. Jumping into new markets is not uncommon for KMI as they have made numerous million, even billion, dollar deals by acquiring new firms including the 2021 buyout of Stagecoach Gas Services LLC for roughly $1.23 billion (Krishna). The Stagecoach investment expanded KMI's reach in the northeast United States, an area with growing interest in its shale gas deposits. This acquisition leveraged economies of scale, best practices, and government relationships from the firm's vast connection of pipelines in the southern United States. A similar execution was attempted in Canada with the aforementioned Trans Mountain pipeline project, however, intense pressure from foreign government and environmental activists led them to sell off their international interests. While many of the arguments surrounding this pipeline project centered around use of native lands and the provincial government intervention, it does highlight the sensitivity to regulations that U.S. pipeline firms have to deal with outside the countries jurisdiction. Considering the difficulties internationally as well as the successes witnessed with the Stagecoach acquisition, KMI should focus expansion into currently non-utilized markets of the north central and western parts of the U.S. When comparing locations of natural gas pipelines in the country vs. KMI pipeline assets as seen in Figure 1, there appears to be numerous geographical markets that could be targeted.

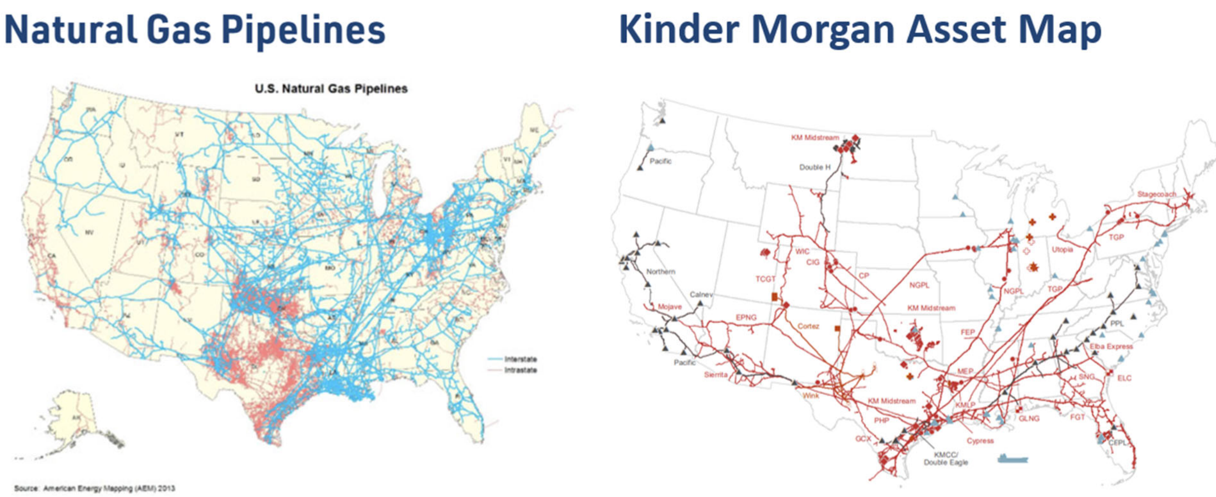

Figure 1: USA vs. Kinder Morgan Pipeline Assets

Capital spending discipline remains another tool to consider for corporate strategy improvement. Dividend yield (6.62%) is consistent with obtaining a high return for stakeholders but leaves little room for expansion and acquisition efforts that could command larger capital returns. As alluded to before, the industry average dividend yield is 3.93%, which provides plenty of margin for KMI to still deliver strong financial returns for their shareholders. By reducing this dividend overage, KMI can invest the additional capital into additional acquisitions or reduce debt that was incurred industry wide during the demand restrictions in place for COVID-19 travel protocols.

Business Strategy. In order for a firm to have a successful business strategy, the effects from internal transactions and the external environment must be accounted for. To plan for potential changes in firm capabilities and competitors' strategies, KMI must constantly evaluate how to compete in the industry environment. From an internal standpoint, there is sufficient evidence, as identified in the Current Internal Consistency of this report, that points to poor company culture and confidence in the executive team. These issues can ultimately lead to a higher attrition rate where KMI can lose valuable core competencies. To avoid losing critical internal resources, the firm should listen to anonymous employee feedback (both active and former) on overall satisfaction and recommended improvements. In the available experience data pulled from Comparably, discontent with pay scale and a negative/toxic culture was clear. An adjustment to pay discrepancies compared to the industry standard will help ease some frustration, however, its imperative the company determine the source(s) for the toxic culture. Pending those results, the firm must either provide training to adjust behavior or in some cases terminate the employee. Culture is incredibly important to firm performance as it is tied into the effort level the workforce will put into their projects. One study even found that companies with a motivating vision from their leaders increases employee perception 12% higher than firms with poor team synergy (Smith, Jayne). The poor feedback analyzed above from former KMI employees echoes this study and provides some explanation for why their market cap remains low compared to other midstream oil and gas players.

Another issue prominent at KMI is the casual approach to pipeline quality. The firm has stated in their 2022 annual statement the goal of controlling costs yet operating safely. Typically, these two ideas run counter to each other as a lower cost solution generally comes with reduced quality or safety standards. While these are the stated goals, the true business direction is seen in the actions of the firm. Numerous safety violations throughout the years show the misalignment with their safety goal including over 180 explosions/fires, oil spills, and fatalities during an 11-year period ending in 2014 (Whittington). One analyst, Kevin Kaiser, after reviewing the mountain of evidence against KMI stated it was the high-level business strategy for the firm to ignore and deprive regular maintenance of their pipelines in favor of providing favorable dividends for their investors. With such a poor reputation built, significant changes are needed to ensure pipeline maintenance standards are upheld as well as a commitment to the employees and community to highlight new safety initiatives. The required safety measures can be primarily flowed down through operational controls rather than forcing replacement of poor pipeline designs which would deviate from the firm's low-cost leadership strategy. Improving the quality of safety controls will have very visible effects for the environment as well as reputation in the industry.

With failure modes that can dump hundreds of thousands of gallons of crude oil through a pipeline spill or burst, poor safety protocols will immediately impact the firm’s stock price when large events like this happen.

Disclaimer: **After our discussion with the professor, the team is adjusting our opinion of KMI's strategy mindset to low-cost leadership for this next submission. However, we will also still be referring to some ideas and sections in Section 3.**

The team feels that KMI has become complacent to the company's organizational inertia, as well as structural centralization. Overall, we feel KMI needs to optimize its current structure to handle the internal and external pressures currently in the oil and gas industry (Rothaermel). While the current organizational layout and low-cost leadership may not hurt the company immediately, our suggestions will hopefully help KMI from falling even more their two main competitors, Enbridge and ET.

The following table displays the team's value-generating activities that will amount to significant changes within the company's value chain (Rothaermel):

Change Category	**Corporate Strategy**	**Business Strategy**
Organizational Design	Expansion (Geographically)	Expansion (Sustainability)
Value Chain Activity	Operations (Primary)	Operations (Primary)
Organizational Structure	Focused Differentiation	Span of Control Hierarchy
Value Chain Activity	Procurement (Primary)	Firm Infrastructure (Secondary)
Organizational Culture	Corporate Culture	Employee Retention
Value Chain Activity	Human Resources (Secondary)	Human Resources (Secondary)
Organizational Control Systems	Safety	Employee Feedback
Value Chain Activity	Firm Infrastructure (Secondary)	Human Resources (Secondary)

Table 1. Value-generating activities

Organizational Design and Structure – Corporate Strategy

Expansion (Geographically). Currently, KMI has pipelines, terminals, storage facilities, and other assets located across the United States, mostly focused in Texas and Gulf Coast, with some projects extending into the southwest (EPNG/Mojave Pipeline) and northwest (Stagecoach) (Kinder Morgan). There are certain regions of the United States (mainly the northwest and Midwest regions), as well, where KMI could possibly focus on expanding with interstate assets into states such as Alaska and Colorado that are in the top five oil producing states, but KMI has little to no presence in (Williams).

While KMI's attempt to expand internationally with the Trans-Mountain Pipeline did not succeed due to political factors, there is one possible rising oil and gas market where the company could strive: Brazil. While competitors Enbridge and ET have strongholds on the pipeline industry in the northwestern U.S./Canada and Gulf Coast, respectfully, an expansion into a country that is currently producing the second most oil and gas fields (18 fields total) in the world could be a major opportunity (Ferris). There could be opportunities to even work with Shell (a former business partner of Kinder Morgan) to provide transportation and storage (due to a majority of Brazil's drilling being offshore) as the country continues to grow as a major oil and gas producer that is not nationalized (Ferris).

Focused Differentiation. KMI has an opportunity to differentiate itself from Enbridge and ET by focusing on using the storage facilities for other projects and also perusing NLG projects. The storage space can be used for other products, and LNG is becoming a big commodity overseas in China and Europe (Bloomberg).

Organizational Design and Structure – Business Strategy

Expansion (Sustainability). KMI should look into expanding projects that are alike to Kintrex, to be more sustainable and keep up with the rest of the industry.

Span of Control Hierarchy. KMI currently has a centralization organizational structure, with planned emergence being found by decentralized organization. By doing a hierarchy with a narrow span of control combined with the idea of using a tailored SBU method, KMI can benefit from having employees get a clear view of their processes and goals going forward (Rothaermel).

Organizational Culture and Control Systems – Corporate Strategy

Corporate Culture and Safety. Kinder Morgan, as a large corporation, maintains an expansive organizational culture. As such a large company, it can be difficult to maintain a cohesive organizational culture across all their operations. Their approach to maintaining consistency lies within their Code of Business Conduct and Ethics, which outlines Kinder Morgan and its employees expected behavior, in order to achieve their vision. The Code of Business Conduct and Ethics is based on their company values, which are integrity, accountability, safety, and excellence.

The Code of Business Conduct and Ethics is, by definition, one of KMI's organizational control systems, where it serves as an administrative control. Key highlights from the code of business conduct and ethics are policies on employees, integrity, and communities. For example, Kinder Morgan, places a strict policy on substance abuse, as operating equipment places a risk on safety of the employees and co-workers, and can have even more harmful implications. Kinder Morgan even places a strict policy around handling of social media, providing clear guidelines on the responsible use of social media and emphasizing the importance of protecting company assets.

The organizational controls that Kinder Morgan uses mainly revolves around preliminary Controls, concurrent controls, and feedback controls. Interestingly, the Code of Business Conduct and Ethics contains somewhat contradictory information on the topic of whistleblowers, where Kinder Morgan has stated that they have a zero tolerance for retaliation, and whistleblowers are protected at their company. However, this may not be as integrated into the company culture in practice.

Even though KMI has clear organizational control systems to limit the influence of bad actors, such as an ethics hotline which is a feedback control system employing impartial reviewers to complaints, these controls might not be robust enough to combat organizational culture failures. According to the Department of Labor, in 2019, Kinder Morgan violated the “whistleblower provisions of the Pipeline Safety Improvement Act" and was ordered to back pay an employee it had terminated in 2018 for reporting to a contractor about Kinder Morgan’s attempt to avoid complying with regulations (dol.gov).

The organizational culture in practice, seems to be contradictory towards their code of business conduct. Additionally, some contrasts exist in terms of one of KMI’s core values, which is safety. Even in their Code of Business Conduct and Ethics, there is a high emphasis placed on safety. However, according to violationtracker.com, Kinder Morgan has had 76 safety- related violations over the course of the last 22 years. Some of KMI’s incidents resulted in loss of life, such as in a pipeline in Walnut Creek, California. The incidents prompted fines from Pipeline and Hazardous Materials Safety Administration and resulted in KMI having to implement 90 million dollars in safety upgrades and inspection procedures (ehstoday.com). While Kinder Morgan’s Code of Business Conduct and Ethics provides a comprehensive and detailed framework for the company’s values and expected behaviors, there is a disparity between the actions of the employees and management of the company and the ideals of the Code of Conduct, as well as the company’s actions. The discrepancies, particularly in areas of safety and whistleblower protection, underscore the challenges large corporations face in ensuring that their organizational culture aligns consistently with their values.

Implementation Plan for Corporate Strategies

Expansion (Sustainability). KMI should create an exploratory SBU to pursue new locations for business opportunities and LNG and storage facility alternatives.

Span of Control Hierarchy. KMI currently has a centralization organizational structure, with planned emergence being found by decentralized organization. By doing a hierarchy with a narrow span of control combined with the idea of using a tailored SBU method, KMI can benefit from having employees get a clear view of their processes and goals going forward (Rothaermel).

Corporate Culture. KMI should create consistency and reinforcement of the company's ethics and values through new training materials, and creation of employee resource groups.

Safety. KMI should create a renewed emphasis on safety issues and Code of Business Conduct and Ethics through new training materials, and increasing safety audits and drills to reinforce safety practices.

Organizational Culture and Control Systems

Corporate Culture and Safety. In terms of their sociocultural and workforce choices, the primary activities that define KMI are fostering healthy employee relations, diversity, and inclusion, such as equal employment, and investing in development programs. The change issues would be to improve their organizational culture and organizational control systems, in order to promote a better workplace culture. In order for Kinder Morgan to improve its organizational culture, some activities likely need to take place.

Firstly, above all, there needs to be consistency in the company culture and the embedding of values needs to be deeper than surface level. This would require regular training for all employees, beyond what is currently being practiced. Embedding the values in every operation and decision-making process is required, even perhaps to the level of recording adherence to values on every decision-making process. Strengthening the whistleblower protections is also key, as employees who do value Kinder Morgan's core values should be protected, and there is no chance for retaliation. This also ideally means that transparency of decision-making will be highlighted.

Lastly, safety, a core value, needs to be highly emphasized as something integral to real-world practices and proactive instead of reactionary. A pivotal starting point would likely be to ensure regular review of the Code of Business Conduct and Ethics. In addition, increasing the amount of safety audits and drills, perhaps through external sources, to remove internal conflicts of interest, would likely increase the employee's faith in the company's core values

Implementation Plan for Business Strategies

Expansion (Sustainability). KMI should emphasize investing in companies similar to Kintrex and exploratory SBU.

Sapn of Control. KMI should look into implantation of a system with employees having to report to less managers.

Employee Retention. KMI should implement a required anonymous employee survey on what the biggest issues are in the company. Using the survey, create a new employee improvement team to discuss possible changes and how the company can improve

Employee Feedback. KMI should improve the ethics hotline, and be more transparent on all incidents and issues experienced by the company.

Organizational Design and Structure Changes

In addition, while the improvement of an ethics hotline is great and should be standardized among all companies, Kinder Morgan should work on its feedback control mechanisms, offering better routes for anonymous reporting and guaranteeing transparent comprehensive investigations for every report, and in addition, showing actual consequences for retaliation beyond a stated zero tolerance for retaliation. Likely, because of its stringent rules on confidentiality, reporting issues is likely not to be anonymous and opens up room for under the table retaliation.

A better organizational control system likely needs to be created to balance this issue, and remove potential conflicts of interest. Transparency, in all interactions, will be the baseline of trust-building with stakeholders, both internal and external. Kinder Morgan should openly communicate about any incidents or challenges, including communication with regulatory bodies and local communities. Improving these aspects will tackle KMI's weakness in the legal and Sociocultural/Workforce threats.

As discussed above, and shown in Charts 1A-B and 2A-B below, the activities that are recommended for KMI include both corporate-level and strategic business unit (SBU)-level activities. Some of these activities include tasks that need to be performed sequentially, while other tasks can be performed simultaneously. Also, as shown in Charts 1A-B and 2A-B below, some of the corporate-level and SBU-level activities can be undertaken in parallel, while others are to be initiated at a later stage (after completion of other activity tasks). The recommended corporate-level and SBU-level activities, along with specific tasks for each activity, along with their respective start and stop times are briefly discussed here with reference to the timelines shown in Charts 1A-B and 2A-B below. Because this report is being provided in Q4 of 2023, the recommendations shown in the timelines of Charts 1A-B and 2A-B are targeted to begin in Q1 2024, and they are projected out for five years thereafter.

The "corporate-level" activities are ones that can be performed across the SBUs, rather than being implemented and driven by specific SBUs, while the SBU-level activities are ones that should be pursued in one or more of the individual SBUs. It should be noted that the new exploratory SBU that is being proposed is shown with the SBU-level activities (Chart 2B), even though the first few tasks (i.e., forming that SBU, identifying its leadership, and funding it) are corporate-level activities – it is shown with the SBU-level activities because its operation/goals/strategy will be SBU-specific.

The corporate-level activities (Charts 1A-B) include more formally restructuring to a multi-division (M-form) with multiple strategic business units. That activity involves various tasks such as those shown in Chart 1A. First, the proper SBUs to be formed should be identified. This is targeted to be performed in Q1 2024, as the SBUs can likely be identified fairly quickly by aligning with the business segments that KMI already operates. For instance, the SBUs may be identified as corresponding to those business segments for which KMI already maintains separate financial reporting. Also, we recommend creating one additional, new SBU as an "exploratory" SBU for future growth, as discussed below in connection with Chart 2B that exploratory SBU will be focused on exploring related diversification opportunities for sustaining future growth of KMI.

Continuing with creating the formal M-form structure, the company's leadership next needs to determine human resources for each SBU, as well as the structure of each SBU. For instance, are the SBUs going to all share finance, legal, marketing, and/or other resources of the company, or are they going to have their own dedicated employees in each of these areas? Again, this should be fairly straightforward as there are likely human resources that are already fairly aligned with certain segments of the business, and thus it is expected that task can be performed in the second quarter of 2024.

The next recommended task is to determine the leadership (e.g., president/CEO) for each SBU. This task is expected to be completed in the third quarter of 2024, as candidates can likely be identified as part of the human resource analysis conducted in Q2 2024. And, it appears that the company has leaders already mostly in place for each of its business segments that will be aligned formally to SBUs. Also, in the third quarter of 2024, the vision and strategic goals for each SBU (e.g., whether each will follow a strategy of differentiation or low-cost leadership, and the level of focus) will be explicitly set out. Again, the vision and broad strategic goals for each SBU are largely already defined in the context of the existing business segments of KMI, but those should be reviewed closely because the same strategy (low-cost leadership) may not be best for each SBU (e.g., the sustainable/clean energy SBU may consider a differentiation or even blue ocean strategy).

With the goals and strategies for each SBU in mind, the next step is to fund (allocate budget) to each SBU, which is projected for Q4 2024. KMI has available funds for reinvesting into its business, and clearly the SBUs will compete with each other for funding by the company. The longstanding SBUs that are current "Cash Cows" of the company should be maintained, and as discussed below, there may even be some opportunities for geographic expansion as well as potential for exploring new uses of their solutions. However, much of the profits generated by those Cash Cow SBUs can be used for funding the Question Mark and Rising Star SBUs (using the Boston Consulting Matrix), such as funding the new exploratory SBU. Thus, for years 2025-2028 the SBUs operate in accordance with their individual strategies, and the corporate-level leadership reviews their respective performance and opportunities each year to reallocate their respective budgets and analyze whether any change in the M-form structure is appropriate (such as divestment of a SBU in the event that it turns to a “Dog” or is believed to be more valuable stand-alone).

Another corporate-level activity is to address the feedback control and whistleblower/non-retaliation issue identified above. In light of the other corporate-level initiatives for code of conduct and safety training, as well as improving transparency in reporting that are discussed below as being started in Q1 2024, we propose initiating this further initiative addressing feedback control and whistleblower protection in Q1 2025. Starting in Q1 2025, KMI should implement an improved feedback system, and thereafter maintain that feedback system and review its operation and effectiveness annually. Similarly, in Q1 2025, KMI should improve its hotline to ensure anonymity and initiate training (maybe in connection with annual code of conduct training) concerning non-retaliation against whistleblowers. Thereafter, the hotline should be maintained and the amount of reporting through it should be reviewed annually (to ensure it is being used effectively), and non-retaliation training and employee reminders of the existence of the hotline should be repeated annually.

As discussed above, another important corporate-level activity is for KMI to perform employee training on its code of conduct and safety (particularly in light of some costly safety issues it has had of late). As Chart 1B shows, we recommend conducting employee code of conduct and safety training in 2024, then repeat such training along with conducting drills and audits annually.

Lastly, as also mentioned above, KMI should improve its transparency in reporting. This should be investigated in 2024 to identify needed reporting and develop appropriate reports to improve this transparency. Thereafter, such reporting will be maintained and updated as appropriate.

Turning to Charts 2A-B and some of the SBU-level activities, a first recommendation is to explore geographic expansion for one or more of the SBUs. We recommend forming a cross-SBU task force (in Q1 2024) for exploring opportunities to expand geographically either through partnering with or acquiring other companies that have existing operations in targeted geographic areas, or acquiring needed real estate for implementing new operations in those areas. While the formal SBUs are being formed in 2024, we believe that this work can be performed in parallel across the existing business segments as those segments are being moved more formally into a SBU structure. Two specific geographic areas to be targeted, as shown in Chart 2A, include: 1) U.S. expansion into Colorado, Alaska, and potentially other Northwest and Midwest areas, and 2) international expansion into Brazil. Investigation of those opportunities can be conducted by the task force in parallel.

Another important SBU-specific activity for KMI concerns expansion of its sustainable, clean energy operations. Once the SBU for that business segment is formalized in 2024, we recommend that it put into place a task force starting in Q1 2025 that will investigate various opportunities for expanding KMI's footprint for this important future market opportunity, including reuse opportunities (how KMI may adapt and reuse its existing resources and platforms to support that market), borrow and buy opportunities through partnering with or acquiring other existing companies with technology and/or important geographic holds in this market, and build opportunities for KMI's own R&D for technological developments in this space.

Another important SBU-specific activity for KMI is investigating potential differentiation (as shown in Chart 2B), particularly with its LNG business. Again, we recommend starting this activity after the LNG SBU is formally formed. Thus, we propose that SBU create a team to explore differentiation opportunities, starting in Q1 2025. This should include exploring both new uses of existing storage facilities, as well as investigation of new LNG projects.

Lastly, we suggest that KMI form at least one new SBU, which we refer to as the exploratory SBU, to focus on identifying and pursuing related diversification opportunities. Such opportunities may prove to be the future rising stars and eventual cash cows of KMI to ensure its long-term growth for sustainable competitiveness. As shown in Chart 2B, the tasks of forming this new SBU, identifying its leadership (preferably from a cross-sampling of employees from the other SBUs), funding the new SBU, and developing its strategic plan and approach for investing related diversification opportunities can be pursued in 2024 in a manner that parallels the formal formation of KMI's other SBUs. Then, in Q1 2025, this exploratory SBU can begin executing on its plan for investigating and pursuing viable related diversification opportunities (through partnerships, joint ventures, acquisitions, and/or in-house development within KMI, as appropriate).

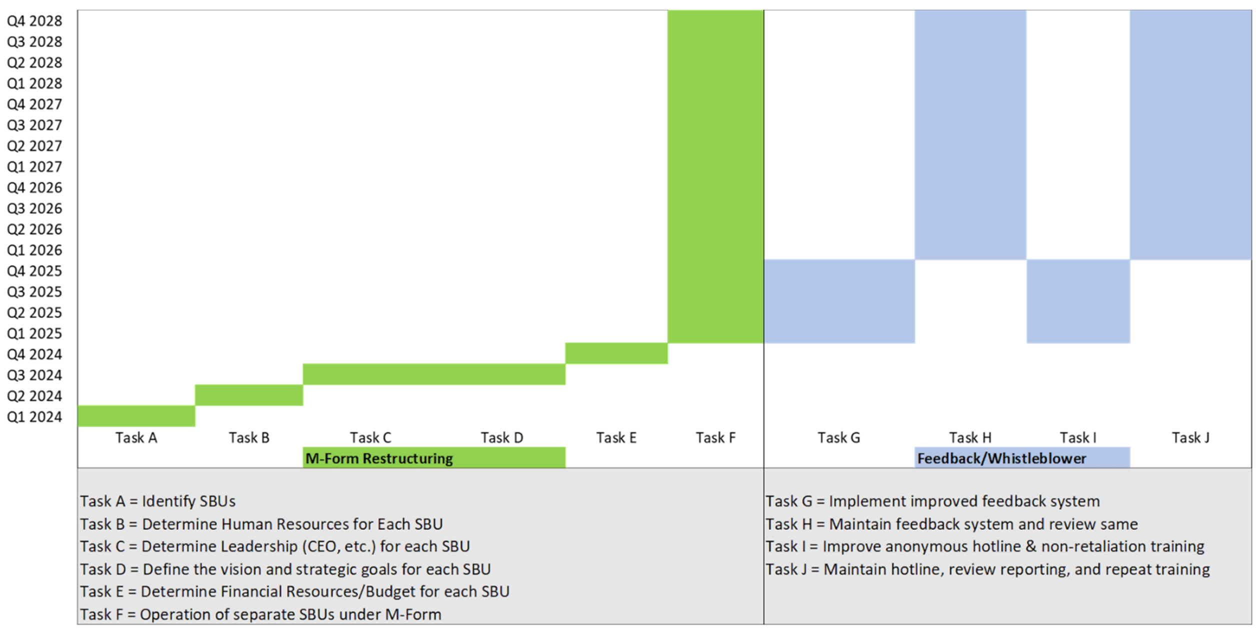

Chart 1A: Timeline for tasks for corporate-level activities

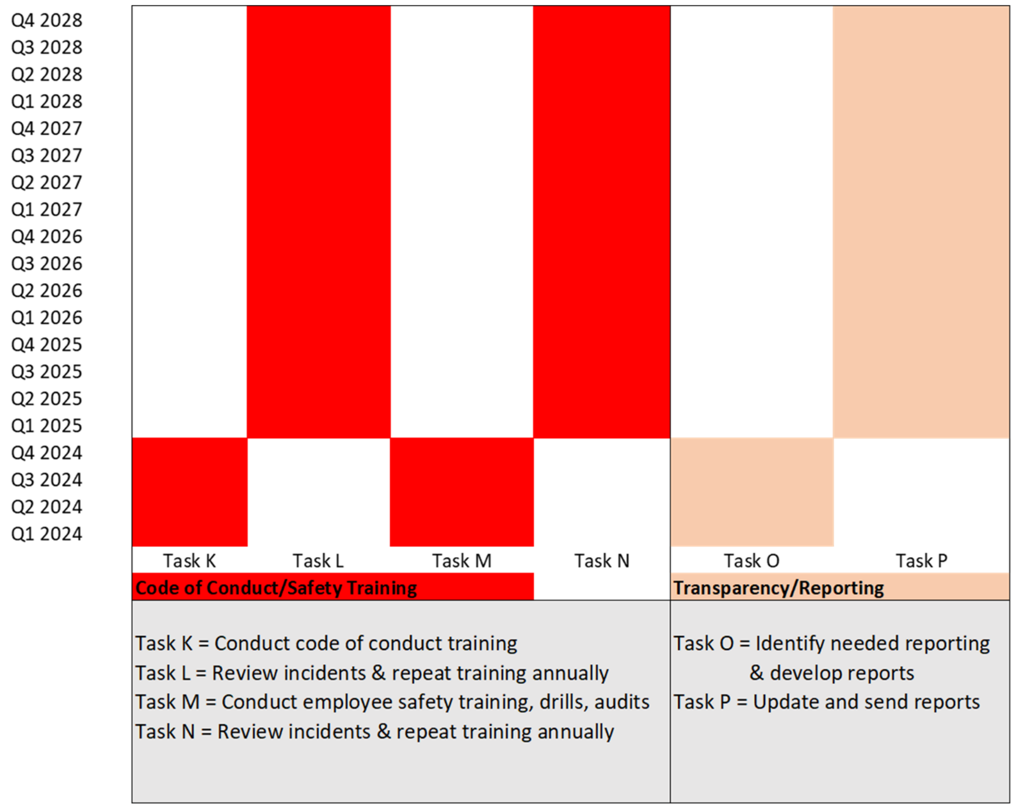

Chart 1B: Timeline for tasks for corporate-level activities

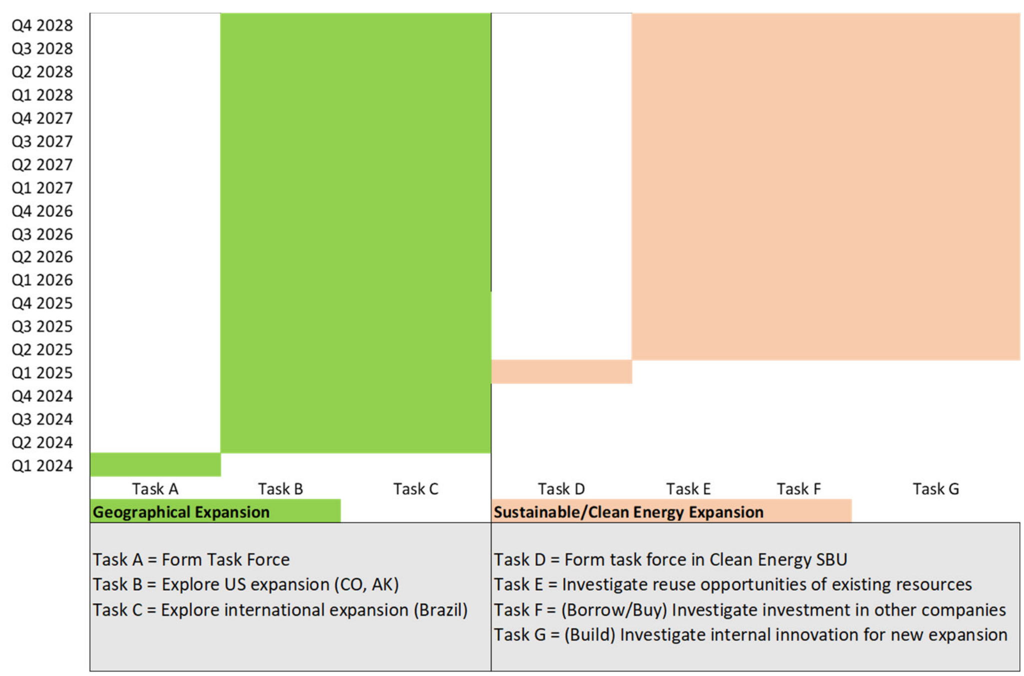

Chart 2A: Timeline for tasks for SBU-level activities

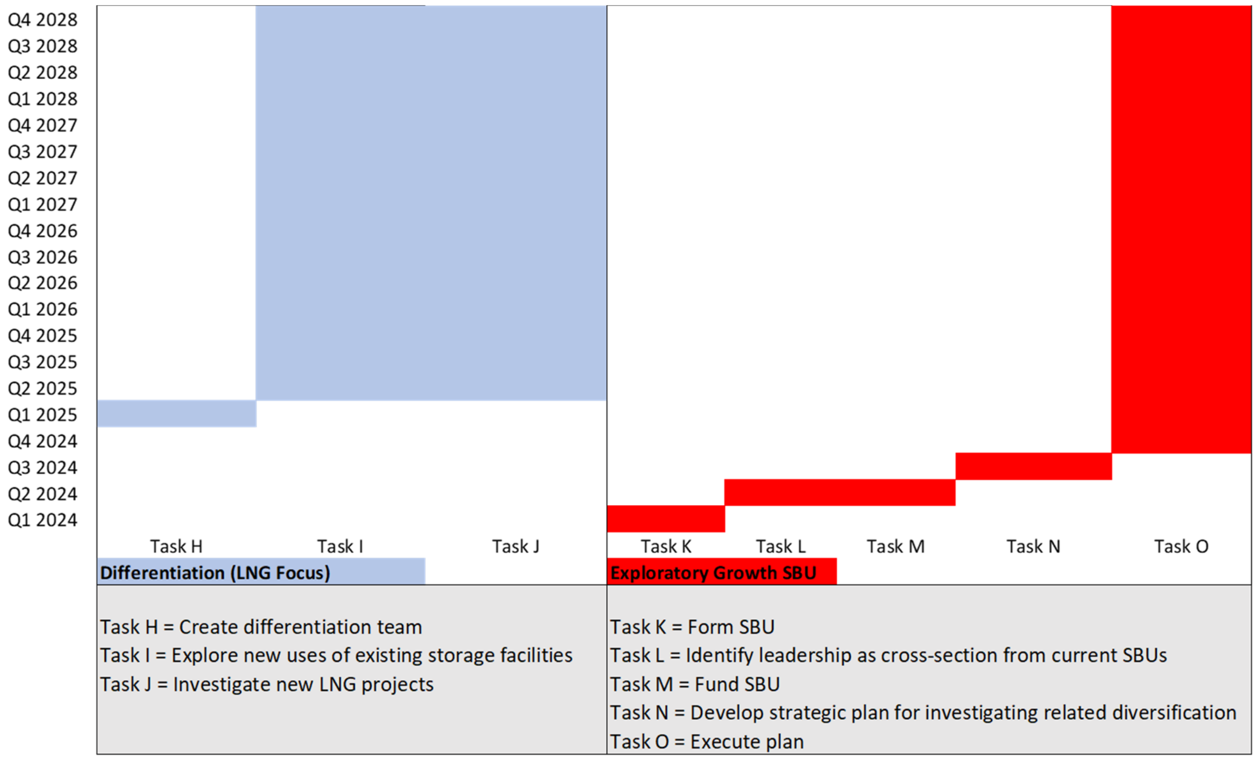

Chart 2B: Timeline for tasks for SBU-level activities

Value-Generating Cost Impacts

For each of the listed initiatives, cost justification and assumptions are detailed to inform the proposed impact on the firm. When available, actual data was used to inform costs and referenced, accordingly. Figure TBD below highlights the suggested implementation timing for each activity on the basis of upfront or initial costs. Future operational and service fees are out of scope for this costing exercise as the complementing benefit analysis or ROI was not requested. Pipeline estimates shown here are determined by multiplying the average pipeline construction costs, including labor and materials, by the pipe diameter and overall length.

Organizational Design. Pipeline expansion is a strong component for KMI's organizational design. The pipeline estimates shown here are determined by multiplying the average pipeline construction costs times the pipe diameter and overall length. According to relatively recent pipeline construction costs based on pipeline diameter, the average cost per inch-mile is $260,416 including labor and materials (OGJ Editors). The below expansion proposals factor in this assumption.

Corporate Impacts

Geographic expansion has long been a tool used by Kinder Morgan to create larger carrying capacity for customer demand surges while generating higher returns for the firm. Most of the expansion has taken place near the headquarters in the southern United States, however, the company gained valuable experience in colder regions thanks to its diversification into the Transmountain Pipeline in Canada a few years ago. There has also been a surge in demand for jet fuel at Eielson Air Force Base (AFB) in Fairbanks, Alaska to protect advances from Russian bombers that have increased in presence recently (Ellis). To meet this customer need and leverage new core competencies in cold weather pipeline design, the estimates have assumed the construction of a 72-mile pipeline 16" in diameter that connects the AFB to the Trans-Alaska Pipeline Pump north of the Fairbanks. With the project cost totaling $299,999,232, a pipeline of this magnitude would take approximately 3 years to build (OGJ Editors). The total cost for this expansion project was therefore spread equally over the expected construction timeframe for the domestic expansion.

Additionally, KMI could consider international expansion in the emerging markets of Brazil. The Brazilian market can leverage slightly cheaper labor in comparison to the domestic United States, however, as this effort will be the first South American venture for the firm, the project will require more expensive American construction advisors to verify quality compliance. The average pipeline costs are therefore assumed to be the same as the domestic effort. Location is important when planning business opportunities internationally and the best target of opportunity exists with the growing city of Petropolis. As Rio De Janeiro expands its influence into surrounding cities, Petropolis is the next city to boom with large infrastructure. To aid this evolution, a 42-mile long pipeline 10" in diameter is assumed for cost giving a total of $109,374,720. Alternative to domestic projects, a 5% government and permit approval process has been assumed for the international endeavor giving a grand total of $114,843,456. The implementation of this effort is staggered in time to allow for the Alaskan expansion but should only take 1.5-2 years to implement for a pipeline this size.

Business Impacts. KMI has had success in the past by embracing differentiation of product offerings of LNG. Back in 2014 the firm agreed to enter into a 20-year agreement with SK E&S LNG to build a pipeline in TX (BIC Magazine). With the latest blockade of Russian LNG over in Europe, demand has been in surge for US based LNG exports. Entering a similar agreement to what was done with SK E&S, KMI can gain a partial stake in new pipeline capacity while expanding its product breadth. Based on a project of similar size, KMI should account for an investment into an LNG pipeline build for $150M spread over 20 years. The recurring annual cost for the first 5 years would calculate to be $7.5M per year.

In total, the corporate and business changes for organizational design comes out to $107,499,744 annually.

Organizational Structure.

Corporate Impacts. Investments into alternative fuel companies have been a significant driver for KMI's diversification strategy. Back in 2022, a $135M acquisition of North American Natural Resources was completed giving KMI ownership of their seven gas-to-power factories (DiLallo, Trash into Cash). As the world shifts its focus away from fossil fuels, KMI should allocate funds to invest in more RNG facilities and expand its range of product offerings. An investment of $100M is assumed to be accumulated for this purpose but will wait till 2027.

Business Impacts. The firm has shown evidence of poor ethics implementation as noticed by numerous lawsuits on pipeline failures previously mentioned as well as ones related to discrimination as seen in an on-going situation related to racial bias (Lewis v. Kinder Morgan Inc). While the building blocks for promoting ethical behavior are in place, it is possible the level of hierarchy is spread too thin to effectively convey the importance of good ethics. To counteract this culture issue, KMI should reduce the span of control by hiring full-time ethics consultants in areas of the company that need it most. These external officers can facilitate the annual training, provide a safe and external to the firm resource for employees, and make regular visits to employees to ensure their needs are being met. The assumption for now will be 6x new officers per business unit until the culture can fully be adopted. A $60,000 salary is assumed for the role and is projected to be a reoccurring need for the next 5 years.

In total, $100,360,000 must be budgeted in order to support the corporate and business impacts for organizational structure.

Organizational Culture

Corporate Impacts. Culture is innately tied into the provisions that corporate approves for diversity and inclusion. With limited resources dedicated to expanding employee experiences and backgrounds, culture will continue to be siloed if not suppressed. To build comradery and a strong cultural backbone, KMI should invest into employee resource groups (ERGs) that show how different perspectives can echo the company values of respect for others, teamwork, and pride in what we do. These groups can involve sharing cultures from other countries, common interests and hobbies, and career stages but they are aimed at breaking down the walls of not knowing that information about fellow coworkers. A study by SHRM shows that an average annual budget for ERG's is about $7,203 per 100 members (FTN). Since KMI has around 10,525 employees, we have assumed 50% of them will want to join the groups so the estimated cost impact is ~5,262 times the $7,203/100 member. The resultant of $381,759 is assumed to be reoccurring to facilitate the same level of interested employees over the analyzed 5 years span.

Business Impacts. An internal employee survey on work satisfaction has been recommended as a great way to gather anonymous employee feedback. Based on the data received, the firm can better understand what makes employees enjoy their jobs in the hopes that new policy or provisions can keep retention high. Survey costs can vary depending on the length, number of participants, and how the data is reported but generally land somewhere between $3,000-$25,000 (Trust XP). Knowing the degree of employee concerns with the organization via external websites, we have assumed a $10,000 survey is required.

Furthermore, the firm's ethics training material has also been determined to be inadequate due to its lack of relevance to the industry. Therefore, it is recommended the training be overhauled to include specific examples from previous KMI violations. The approximate cost to overhaul the training is $250,000 which accounts for a 6-month development time for 2x individuals to direct and edit the material created by a few paid actors. This cost is considered an initial cost and not part of the already allocated ethics training budget that KMI prepares annually.

The total cost reflected for these transparency initiatives (tailored training and survey) is then calculated to be a one-time payment of $260,000.

Organizational Control Systems

Corporate Impacts. Following the prescribed safety and maintenance intervals of pipeline infrastructure has been overlooked by the cost-leadership direction pushed by management at KMI. These are essential controls that must be implemented, however, with little information into costing some assumptions will need to be made. The proposed plan assumes the increase in audits will warrant 1x additional hour per mile of pipeline, every month, for ~3% of the oldest infrastructure within the 82,000 miles of pipeline the firm owns. Assuming the auditor is paid $30/hr. that total translates to a recurring cost of $980,000.

Business Impacts. There has been employee feedback expressing the lack of safety in expressing ethical concerns via the provided hotline phone number. Inherent to phone calls, users are forced to express their feelings audibly which could give away their identity. To provide more anonymity in case the hotline operators were protecting poor performing managers, the firm should incorporate a digital presence with an online chat feedback system. To build this functionality into the firm's website, $4,000 should be paid to the in-house software engineers.

To sum up the corporate and business contributions, the firm should allocate $984,000 to support the organizational control system changes.

The Key Assumptions for the 5-Yeat Proforma income statement and balancesheet are as follows:

The general economic conditions would remain stable or improve over the next five years, which could be based on things like GDP growth rate or inflation rate or unemployment rate.
Industry conditions would also remain stable or improve in the pipeline industry, which KMI is part of . Company-specific factors could include things like management team, competitive advantages, financial strength, etc remains consistent.

The assumptions for the 5-year proforma income statements and balance sheet are:
15% constant revenue growth rate each year

Operating costs (excluding strategic change costs) are projected to increase at the same pace as revenue. The costs associated with strategic changes are included in the “General and Administrative” expenses. The income tax expense is expected to be 21% of pretax income, which is the typical corporate tax rate for the United States. For the balance sheet, KMI needs to achieve a high degree of consistency in almost every single financial metric we looked at**.**

Pro-Forma Income Statement (2024-2028)(In millions)					
Year	2024	2025	2026	2027	2028
Revenue	25392.00	29200.80	33580.92	38618.06	44410.77
Operating Costs (excl. strategic changes)	20016.04	23018.44	26471.21	30441.89	35008.17
Strategic Change Costs	109.49	109.23	109.23	163.91	163.91
General and Administrative (including strategic changes)	736.00	736.00	736.00	736.00	736.00
Income Before Income Taxes	4639.96	5446.36	6373.71	7440.17	8666.59
Income Tax Expense	974.39	1143.73	1338.48	1562.44	1819.98
Net Income	3665.57	4302.62	5035.23	5877.73	6846.61

Pro-Forma Balance Statement (2024-2028)(In millions)					
Year:	2024	2025	2026	2027	2028
ASSETS					
Current Assets					
Cash and Cash Equivalents	$775	$806	$838	$871	$905
Accounts Receivable	$1,840	$1,900	$1,960	$2,020	$2,080
Other Current Assets	$304	$310	$316	$322	$328
Total Current Assets	$2,919	$3,016	$3,114	$3,213	$3,313
Property, Plant, and Equipment					
Net PP&E	$35,599	$37,100	$38,610	$40,131	$41,663
Investments	$7,653	$7,800	$7,950	$8,103	$8,260
Goodwill	$19,965	$20,100	$20,240	$20,385	$20,535
Other Intangibles	$1,809	$1,840	$1,871	$1,902	$1,933
Deferred Income Taxes	$0	$10	$20	$30	$40
Deferred Charges and Other Assets	$1,249	$1,260	$1,271	$1,282	$1,293
Total Assets	$69,194	$71,126	$73,306	$75,664	$78,184
LIABILITIES & EQUITY					
Current Liabilities					
Current Portion of Debt	$3,385	$3,400	$3,415	$3,430	$3,445
Accounts Payable	$1,444	$1,475	$1,506	$1,537	$1,568
Accrued Interest	$515	$525	$535	$545	$555
Other Current Liabilities	$857	$875	$893	$911	$929
Total Current Liabilities	$6,201	$6,275	$6,349	$6,423	$6,497
Long-term Liabilities and Deferred Credits					
Long-term Debt	$28,403	$27,600	$26,800	$26,000	$25,200
Deferred Income Taxes	$623	$650	$680	$710	$740
Other Long-term Liabilities	$2,008	$2,040	$2,073	$2,107	$2,141
Total Long-term Liabilities	$31,034	$30,290	$29,553	$28,817	$28,081
Total Liabilities	$37,235	$36,565	$35,902	$35,240	$34,578
Stockholders' Equity					
Common Stock	$22	$22	$22	$22	$22
Additional Paid-in Capital	$41,673	$41,700	$41,730	$41,760	$41,790
Accumulated Deficit	($10,551)	($10,375)	($10,194)	($10,008)	($9,816)
Accumulated Other Comprehensive Loss	($402)	($398)	($394)	($390)	($386)
Total KMI's Stockholders' Equity	$32,648	$32,744	$32,852	$32,884	$32,900
Noncontrolling Interests	$1,311	$1,819	$2,407	$2,996	$3,606
Total Equity	$33,959	$34,563	$35,259	$35,881	$36,506
Total Liabilities & Equity	$69,194	$71,126	$73,306	$75,664	$78,184

KMI has adequate cash on hand and whether it has sufficient short-term and long-term funding options, we can analyze the information provided in the Pro-Forma Balance Statement for each year:

Current Assets: KMI's current assets represent the assets that are expected to be converted into cash or used up within one year. These assets include cash and cash equivalents, accounts receivable, and other current assets. The increase in current assets from $2,919 million in 2024 to $3,313 million in 2028 is a positive sign for KMI. It suggests that KMI has been able to build up its short-term liquidity over the years. The growth in current assets indicates an improving ability to cover short-term financial needs.

Current Liabilities: KMI's current liabilities are the obligations that are expected to be settled within one year. These liabilities include items like the current portion of debt, accounts payable, accrued interest, and other current liabilities. The increase in current liabilities from $6,201 million in 2024 to $6,497 million in 2028 shows that KMI's short-term financial obligations are also growing. This signifies a need for short-term funding to cover these increasing liabilities.

Long-term Liabilities: KMI's long-term liabilities encompass obligations that extend beyond one year. This includes long-term debt, deferred income taxes, and other long-term liabilities. The decrease in long-term debt over the years is a positive development for KMI, as it signifies a reduction in long-term obligations. This reduction may free up cash flow for other uses or investments. However, it's crucial to note that other long-term liabilities and deferred income taxes increase slightly, suggesting that there are other long-term commitments KMI needs to address.

Short-term Liquidity (2024-2028). The assessment of short-term liquidity looks at the relationship between current assets and current liabilities. In each of the years analyzed, KMI's current assets (including cash and cash equivalents) exceed its current liabilities. This indicates that, at a high level, KMI has adequate cash on hand to cover its short-term financial obligations. However, the continuous increase in current liabilities underscores the importance of managing liquidity carefully.

Long-term Funding Options: KMI's long-term funding options primarily consist of long-term debt. The decline in long-term debt suggests a reduction in KMI's long-term financial obligations, which can be seen as a positive trend. This means that KMI is less reliant on debt financing. It's essential to monitor other long-term liabilities and deferred income taxes, as these obligations have increased slightly. Evaluating KMI's ability to meet these commitments is crucial to ensure it has adequate long-term funding options.

In summary, KMI is in a generally healthy financial position with adequate cash on hand to cover its short-term obligations. However, the increasing short-term liabilities indicate the need for careful liquidity management. The decrease in long-term debt is a positive sign, but monitoring other long-term liabilities is essential to ensure that KMI maintains adequate long-term funding options. Overall, KMI's financial health appears stable, but it should remain vigilant about its evolving financial obligations.

From KMI's financial statements and proposed strategic plan, the key considerations regarding the need for additional debt or equity financing:

Short-term Financing Needs: KMI's short-term liquidity position appears adequate, as current assets consistently exceed current liabilities in the provided years. However, the continuous increase in current liabilities indicates that short-term financial obligations are on the rise, putting pressure on liquidity. The annual costs associated with the strategic plan, ranging from $109 million to $164 million, are not negligible but seem manageable given the company's size.

Long-term Financing Needs: KMI's long-term debt is decreasing over the plan period, which is generally a positive trend as it reduces long-term financial burdens. On the other hand, other long-term liabilities and deferred income taxes are slowly increasing, possibly due to the strategic plan or other commitments. Overall, long-term obligations appear manageable for a company of KMI's size.

Profitability and Cash Flow: KMI's growing Net Income suggests profitability, and this can potentially provide internal cash flow to cover financial obligations. Operating costs are increasing in line with revenue growth, which is normal for a growing business. As long as revenue growth outpaces cost increases, KMI's profitability and cash flow should remain healthy.

In summary, while KMI may not immediately require additional short-term or long-term financing, this are factors to consider:

Short-term Financing: Given the increasing short-term liabilities and the costs associated with the strategic plan, KMI may benefit from additional short-term financing to enhance liquidity and flexibility.

Long-term Financing: The decreasing long-term debt is a positive sign, but the increase in other long-term liabilities suggests a need for careful management. KMI should assess the nature and timing of these obligations and consider additional long-term financing to ensure it has adequate funding options in place.

In summary, KMI's current financial position seems stable, and the company appears to have the internal resources to meet its financial obligations, both in the short-term and long-term. While additional financing options are always worth considering, especially for flexibility and strategic growth, there is no immediate, pressing need for additional debt or equity financing.

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