

Sector Studies: Technology and the Energy Sector

Technology advances have acted as a catalyst in transforming the global energy landscape. Within the energy sector, developments in both oil and natural gas are especially relevant to follow because there may be material changes in each respective vertical in the near future. As different technologies evolve, importers can become exporters, new methods of extracting products (like oil) can be developed, and individuals may become more reliant on natural gas, due in part towards more environmentally friendly energy solutions.

Industry Trends

The United States is a heavy consumer of petroleum and natural gas products. Petroleum products provided approximately 37% of the United States' energy needs, while natural gas provided approximately 25%.¹ Petroleum, which includes oil and also products like gasoline, jet fuels, and ethanol, is an area where the United States has been forced to rely on other nations. Overall, the United States has received approximately 25% of its petroleum needs from outside countries. In addition, the United States has been the world's largest importer of oil, a petroleum product, with approximately 10.1 million barrels per day in 2016 (composing approximately 60% of all U.S. consumption). This trend is changing. Because technological innovations, and attitudes towards more

environmentally friendly products, the United States is projected to become an energy exporter by 2026, according to one source.² Along with these patterns, oil prices have dropped from over \$140 per barrel to under \$50 within the past decade.

So, the big question is: why? There are two main reasons for this: (1) new extraction techniques; (2) a preference towards using cleaner, more environmentally friendly products, such as natural gas.

Root Cause 1: New Drilling Techniques and Other Technologies

The United States has led the way in what is known as the "Shale Revolution." This movement refers to new drilling techniques that can access reserves of oil and gas that drillers were unable to reach prior to the technology. Without going into exhaustive detail, producers can use both horizontal drilling and a process known as "fracking" to reach a wealth of energy reservoirs.

Because these local producers can reach more of these energy products, it has helped decreased the reliance on other nations to meet its energy needs. In addition, the demand for these products has remained relatively stable over the past few years. Since the demand remains the same, but the supply is increasing, the price per barrel tends to decrease. These new techniques have also



been able to create more jobs locally, as well as boost local economies across the United States.

United States energy producers have also benefited from natural resource location technologies, such as seismic mapping. As these technologies become more and more sophisticated, combined with the advanced drilling techniques, producers can more accurately locate where, and when, they should drill. These points further bolster oil production, as well as profits, for local extractors.

Root Cause 2: Changing Consumer Preferences

Our society is changing the way we consume energy. Over the past decade, there has been a large (and very public) effort highlighting the possibility of global warming and its link to CO2 emissions. CO2 emissions derive primarily from energy consumption. Petroleum and coal products produce very high amounts of CO2 emissions, while natural gas produces fewer emissions.

Consumers seem to be looking for substitutes for oil and coal products, where possible. Additionally, consumers are using energy more efficient, which is evident from the rise in popularity of energy efficient products like light bulbs, thermometers, dishwashers, and washing machines/dryers.

Petroleum products will always play an important role in our society. However, as consumers shift towards non-petroleum products like natural gas, the United States is in a better position to compete with other nations that may be, inherently, more petroleum-rich. United States production of natural gas has risen over 30% over the past decade, which will only compound as technologies advance. Because the United States has the supply to meet this demand, it puts the United States in a position to become

an overall exporter of energy products in the next decade.

What Does This Mean for Investors?

Overall, there appears to be ample opportunity within the energy sector for investors. However, it is about locating the right opportunities and not impulsively investing based on short-term trends. In the energy sector, it may put foreign companies that currently export a large amount of oil/natural gas to the United States at a disadvantage. Instead, the long-term outlook seems to profit domestic producers of oil and natural gas. ■

¹<http://energy4me.org/all-about-energy/what-is-energy/energy-sources/petroleum/>

²<https://www.cnbc.com/2017/01/05/united-states-may-become-net-energy-exporter-by-2026-eia-reports.html>

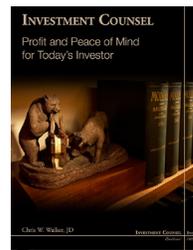
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Inside the Office



This fall, as with every year, we will be reviewing each portfolio to minimize any tax issues as well as reviewing all IRA accounts for any potential Required Minimum Distributions.

Outside the Office



Chris recently published a book on investments, "Investment Counsel: Profit and Peace of Mind for Today's Investor". It is available on Amazon and in E-book Kindle. We will also be mailing a copy to each client in the near future.