

## THE FUTURE OF OIL: AN ANALYSIS OF THE TRANSITION TO RENEWABLE ENERGY SOURCES

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### Abstract

**Purpose:** The study aims to investigate the future of Oil regarding usage of renewable energy resources to utilize and conduct its best usage. **Theoretical framework:** The oil industry is highly dependent on the resources of energy and it is very much important to consider those resources appropriately and accordingly. **Design/methodology/approach:** The focus of this study is towards the usage of how energy resources are going to be used and how much resources are required in order to make the oil future more secure by allowing them to get conducted more appropriately with all big powers in the nation. **Findings:** The findings demonstrated that the market timing hypothesis has ongoing effects whenever book leverage and market leverage are utilized. In addition to this, it has an effect on the financial structure of oil enterprises through influencing the most critical factors that determine the financial structure in oil industries. **Research, Practical & Social implications:** In this particular piece of research, the influence of market timing theory on the organizational finances of oil businesses was analyzed using not one but two distinct models. It is hypothesized that the small amount of profit that is distributed to stockholders contributes to the minimal level of stock trading that exists in the oil market. **Originality/value:** Previous studies have limited research now this study will elaborate more research regarding oil future with the usage of transition energy resources

**Keywords:** *Future of Oil, Renewable Energy Resources, Transition Energy Resources.*

### INTRODUCTION

This developing consensus about a near-term future of diminishing oil demand provides key indicators for the various levels of government in Canada as well as the country's oil production sector. These scenarios appear to highlight the inherent dangers associated with investing public or private capital in a sector that is struggling with demand issues. In order for Canadian oil businesses to remain competitive in the near term in a zero-energy future where demand is likely to decrease, it is necessary to be aware of these risks.

The oil and gas industry are facing an increasing amount of pressure to provide an explanation for how energy transitions will impact their operations and business models, as well as how they may contribute to the reduction of greenhouse gas emissions and the accomplishment of the targets set forth in the Paris Agreement.

There is a growing amount of social and environmental pressure being placed on a number of oil and gas firms, which raises a number of complex problems regarding the position of these fuels within the shifting energy economy and the society in which they operate.

However, in light of the rising levels of greenhouse gas emissions, the fundamental question is fairly straightforward: should the existing oil and gas organizations be seen solely as part of the problem, or could they at some point also play an urgent role in finding a solution to the problem? In this paper, which focuses

on the long-term program of analyzing the eventual fate of oil and gas that is being conducted by the IEA as part of its World Energy Viewpoint (WEO) series, the International Energy Agency (IEA) discusses the matter at hand (Danison, 2014).

This research does not intend to provide answers that can be considered conclusive due to the enormous range of oil and gas companies and business strategies that exist all over the world. It tries to map the risks that are faced by the various sectors of the industry, in addition to the many options and remedies that are available.

In the oil and gas business, there has been a rise in the number of requests for explanations regarding the significance of changes in energy for the industry's goals and strategies.

This inquiry is constrained in three different ways by various factors. First, there is the potential for an increase in demand for energy-related services as a result of a developing worldwide economy and a growing global population, a portion of which is currently unable to access modern forms of energy.

Second, the acknowledgment that the vision of the future requires affordable and dependable supplies of a variety of liquids and gases, and that oil and natural gas play an important part in the energy and economic systems that are in place today.

In addition, and this should not be considered the least important point, it is essential to cut down on energy-related emissions in order to meet global environmental targets.

In spite of the fact that it could look like these features are at odds with one another, this is not necessarily the case. The World Economic Organization's (WEO) Feasible Improvement Situation (SDS) shows a path that is entirely predictable with the Paris Agreement by keeping the rise in global temperatures to "well below 2°C... and seeking to limit [it] to 1.5°C" and meeting the targets. This can be accomplished by limiting the rise in global temperatures to "well below 2°C... and seeking to limit [it] to 1.5°C." combined with improved availability of energy and improved air quality (Davies, 2018).

The study also discusses a condition known as the expressed arrangement situation (STEPS), which reveals where the industry of energy would be headed if the existing strategy of wants and plans were implemented. These results are not even close to meeting the globally agreed-upon sustainability goals.

As a consequence of this, the focus of this paper is on accelerated energy transitions, the forces that could drive them (whether they originate from society, politics, technology, investors, or industry itself), and the effects that this would have on various components. The oil and gas sector as it exists now.

The oil and gas business is about to be put to the ultimate test when it comes to compensating temporary workers who have had their work permits revoked. Companies are pushing for carbon reductions as well as energy service improvements at the same time. Oil and gas firms are able to successfully supply the fuels that are necessary for the operation of the modern energy system. The question that these companies must now answer is whether or not they are able to assist in the organization of the environment in which ships operate (Garrison, 2019).

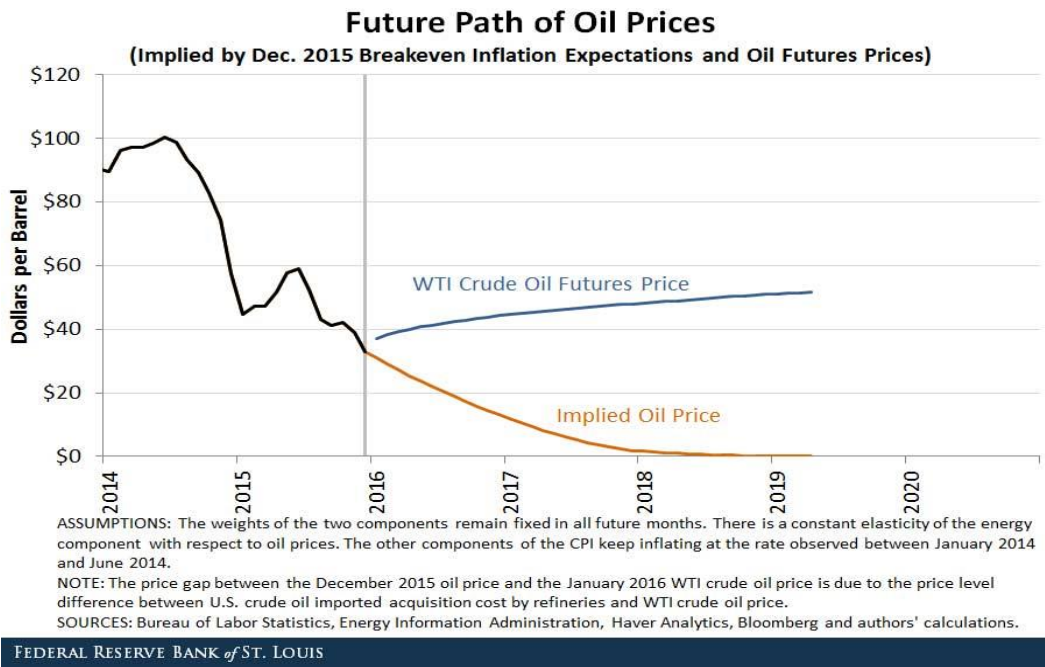
## **Purpose**

The main purpose of this report is to know what is the future of oil industry connected it with transition of renewable energy. The findings of the research presented in this report indicate that this may be feasible, provided that the oil and gas industry takes the necessary steps. This makes it possible for the oil and gas industry to become a part of the "grand coalition" that the International Energy Agency (IEA) deems to be

essential in the fight against climate change. Already, there are some companies engaging in this practice. This effort would be significantly bolstered if a greater number of oil and gas companies committed themselves wholly and entirely to it. The rising prices of developing technologies with lower carbon emissions are a direct result of growing interest in the potential of businesses to prosper over the long run.

### LITERATURE REVIEW

The shift toward clean energy will have an effect on each oil and gas company, the industry as a whole need to think about how to react to it. The competitive environment of the sector is highly varied, and as a result, there is no singular strategy approach that is successful in all circumstances. The Seven Majors are the seven main integrated oil and gas firms that have a considerable impact on the practices and direction of the industry. These companies are receiving a lot of attention as of late because of their prominence. The majors are responsible for 15% of production, 10% of estimated emissions from industrial operations, and 12% of oil and gas reserves; however, the business as a whole is significantly larger (Zakari, 2020). More than half of the world's oil output comes from national oil corporations (NOCs), which are owned by their respective national governments. National oil firms also hold an even bigger share of the world's oil reserves. Even while there are few NOCs that are doing an admirable job, the majority of them are not prepared to adjust to the shifting dynamics of the global energy market (jeremy, 2020).



(Alzahrani, 2021)

To this day, oil and gas corporations have only invested a fraction of one percent of their overall capital expenditure in areas that are not directly related to their primary industry. There are currently very few indications that there will be a big shift in the amount that businesses spend on investments. The reallocation of capital towards low-carbon industries necessitates not only the development of new competencies within companies, but also the identification of alluring investment opportunities in emerging energy markets for companies that are eager to diversify their energy operations.

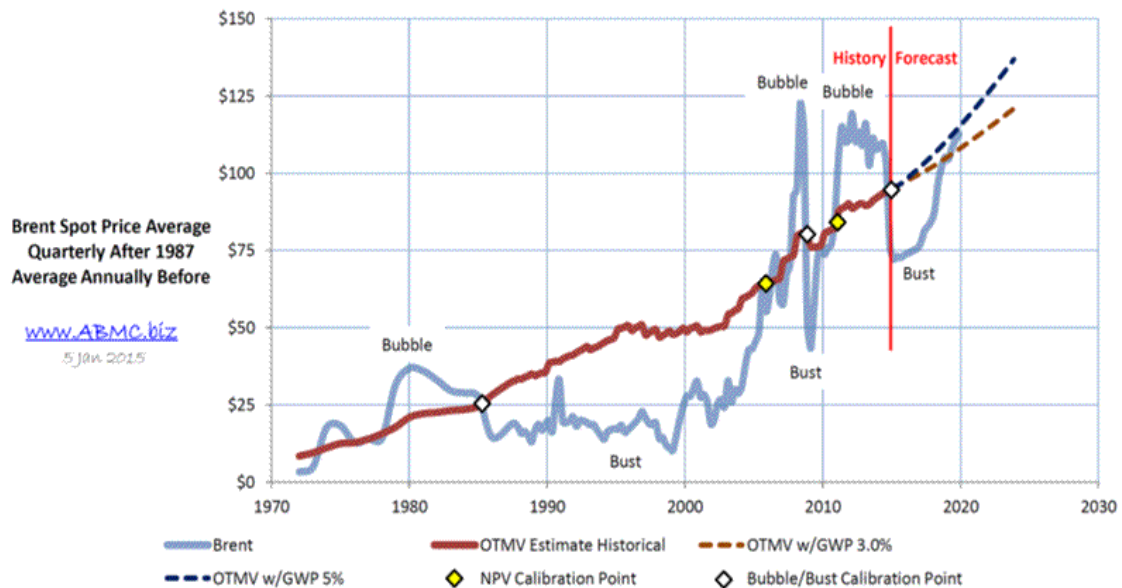
At the moment, individual companies spend around 5% of their budgets on shared projects that are located away from the oil and gas supply core, with the majority of their money going toward solar photovoltaics and wind power. In addition, several oil and gas companies have expanded into new regions by purchasing existing decentralized organizations. These companies specialize in areas such as power distribution, charging stations for electric vehicles, and batteries. At the same time, these companies have advanced creative work practices.

The acceleration of energy advancements may be anticipated if there is a significantly vaster shift in share and large cash. There is a lot that can be done right now by industry to lessen the impact that its operations have on the environment. The degree to which a company is exposed to what the future holds is a significant test; yet, this does not provide a sufficient justification for companies to "sit back and watch" when contemplating the most important choices. Reducing emissions from nuclear, oil, and natural gas activities should be everyone's primary priority, regardless of the course that will be taken during the transition (Henry, Enoc sets out five-year strategy, 2016).

There are adequate and financially sophisticated potential chances to reduce the release energy of transported oil and gas by limiting associated gas flares and CO<sub>2</sub> emissions, handling methane emissions, and coordinating renewable energy and low-carbon energy into new upstream and condensed petroleum gas (LNG upgrades). These steps can be taken to reduce the amount of energy that is released when transporting oil and gas.

At the present time, 15% of the world's greenhouse gas emissions are attributable to the process of extracting oil and gas from the ground and distributing it to customers. Limiting the amount of methane that is released into the atmosphere is the most essential step that industry can take to minimize these emissions, and it is also the most cost-effective.

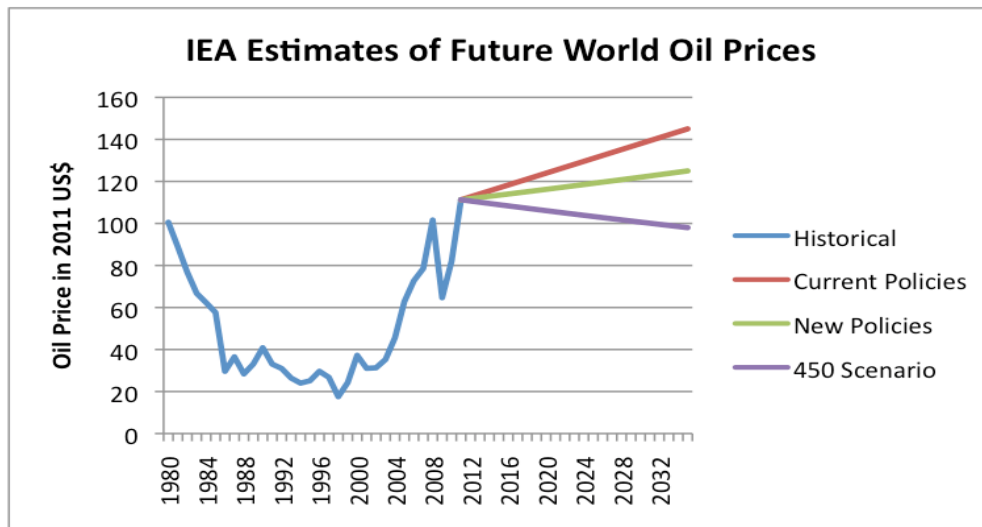
It is not possible for force to be the primary vector of change in an energy field. At the core of the various approaches to reducing emissions is the obligation placed on oil and gas companies to fulfill their customers' demands for clean energy around the world. Even though electricity accounts for twenty percent of the world's total consumption, the ever-increasing demand for energy services indicates that electricity alone is not sufficient to manage energy transitions (Williams, 2020).



When it comes to assisting nations in achieving the environmental benefits of utilizing fuels that produce less emissions, one of the most important steps that can be taken is to cut emissions from nuclear oil and natural gas activities. In any case, organizations ought to promote interest in low-carbon hydrogen, biomethane, and advanced biofuels, as these can transmit the benefits of a hydrocarbon energy framework without the clean byproducts of fossil fuels. In addition, biomethane and advanced biofuels have the potential to be produced using existing agricultural waste. Within the next ten years, the investment in these low-carbon fuels would need to account for approximately 15% of the total investment in the fuel supply (Paul, 2021).

The oil and gas industry will be absolutely necessary for the development of several significant and capital-intensive clean energy technologies in their latter stages of maturity. With the resources and experience available inside an industry, emission levels from even the most difficult-to-reduce types of businesses can be dramatically lowered. Wind power generated offshore, hydrogen with a minimal carbon footprint, biofuels, and technologies that capture, store, and use carbon dioxide (CCUS) are some instances of this. Large-scale engineering and project management capabilities, which are well matched to the capabilities of large oil and gas firms, will be required in order to scale up these technologies and cut their costs. This will require large-scale oil and gas companies.

More than one-third of all funding for CCUS projects comes from the oil and gas industry. This is because oil and gas operations account for three quarters of the CO<sub>2</sub> that is currently being captured by CCUS at big sites. If the industry is able to collaborate with governments and other stakeholders to build viable business models for large-scale investment, this might dramatically enhance deployment (Trinit, 2010).

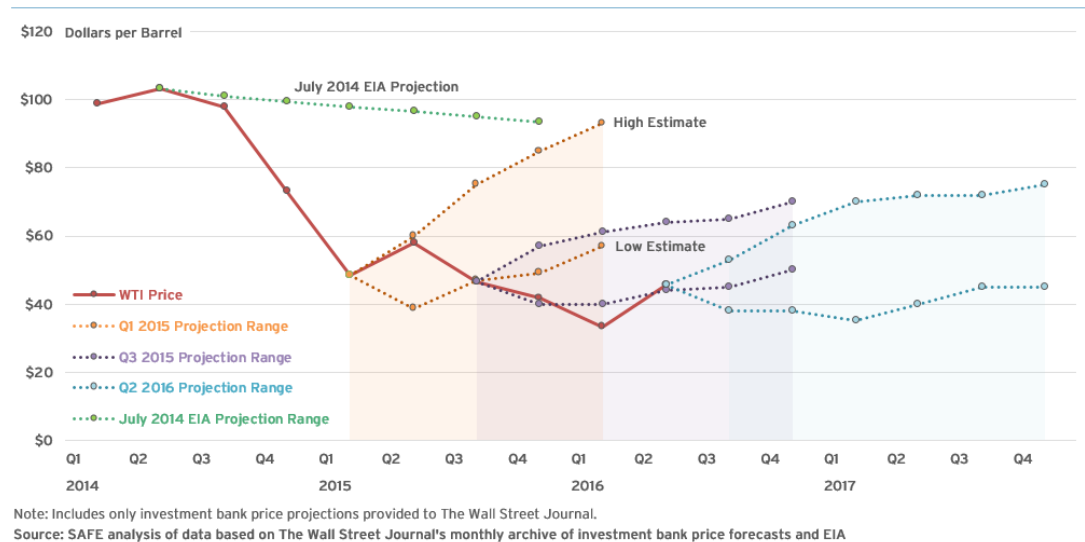


The upstream industry would undergo a dramatic transformation as a result of the fast energy field. Even with streamlined processes, maintaining an interest in upstream tasks is necessary; yet, the types of assets developed and the ways in which they are supplied are undergoing major transformations. In the absence of any investments, the annual fall in production from already-existing fields is larger than any possible decline in world demand. This is because there are no new fields being developed to replace the old ones. Consequently, interest in both traditional and several emerging fields is still a component of the picture. Nevertheless, as a general rule, business is decreasing, and the markets are gradually becoming more serious, those who have minimal asset costs, strict expenditure control, and environmentally responsible execution may be in the best position to benefit (Shi & Variam, 2017).

In order for businesses to effectively manage the transition risks associated with shifting their focus from "oil and gas" to "energy," they are being forced out of their comfort zones. Some of the largest oil and gas companies intend to transition into "energy" companies in the near future. These "energy" companies will offer their customers a diverse selection of fuels, electricity, and other energy-related services. This means expanding into areas such as electricity, for instance, where there is already a large number of entities that specialize in the field.

CHARTS OF THE QUARTER

### Future Prices Remain Uncertain



(Jenefier, 2018)

Additionally, the financial characteristics and scope of the majority of low-carbon investment opportunities are significantly different from the characteristics and scope of traditional oil and gas projects (with the possible exception of offshore projects). Wind).

Because it outpaces oil in the rate of accelerated energy development as the primary component of the buyer to make an effort, power presents a fantastic opportunity for growth over the long term. This opens up a wonderful open door for development. Investors will be keeping a careful eye on the ability of the sector to achieve a balance between diversification and expected returns and dividends. However, this opens the way to bigger and broader corporate emission reductions, which in turn alleviates social constraints (Jordan, 2017).

### RESULTS/FINDINGS

It is likely that some of these variables, some of which have components that are persistent, will more than outweigh any downward pressure on consumption that becomes part of the new normal after COVID-19. Because major economies appear to be focusing on replacing petroleum products, and because mass vehicle manufacturers have responded by focusing on replacing gas-powered motor vehicles with electric vehicles in the medium term, this could be the last Super cycle for oil over time. As a direct consequence of this development, the oil market will shift in order to become more congruent with climate goals. However,

economies that are dependent on oil run the risk of undergoing a disorderly adjustment that has the potential to have far-reaching effects and, in some cases, could cross their borders (Meng, 2017).

**Oil Investment Crisis** Despite relatively low oil prices, corporations that mine and explore for oil have made a lot of money recently. This has led to a crisis in the oil investment market. At the same time, they decreased their investments, possibly due to the realization that the future held fewer opportunities for them. The number of wells and oil fields producing oil is falling, and the reserves are running out very quickly. Around the year 2014, there is no cessation in either the use of capital or the replacement of oil savings (Kruckeberg, 2018).

The impact that COVID-19 had on the decline in investment was significant. For instance, shale oil production, which has a shorter production cycle and is consequently more sensitive to changes in investment, is currently expanding by a half a million barrels per year, which is an increase from the two million barrels that were produced annually before to the epidemic. Even though the recent announcement by the Biden administration that they will prohibit drilling on federal land in the United States will not have a significant impact on shale mining, it does demonstrate that the federal government is becoming more antagonistic toward the oil industry. The companies that produce shale have adopted an investment strategy that is noticeably more conservative. Because of this, they will be able to run their business with positive cash flows, which are cash flows that they previously used to spend on investments. As a result of this reduction in investment, the function of shale as a swing product will be lessened, which also plants the seeds for a price Super cycle to take root (Parsoya, 2020). On the other hand, the Association of Gasoline Sending Nations most likely will construct a monster in order to combat the vertical cost pressure that is being applied.

**Discussion on peak demand** there are a number of experts and large firms in the oil market, such as BP and Shell, who believe that the global demand for oil reached its highest point in 2019 at approximately 100 million barrels per day and will never reach that level again because to the structural changes produced by the pandemic. This perspective seems to lend credence to the idea that there should be a major cutback in the quantity of oil that is used for transportation, including the production of jet fuel. The number of passengers who canceled their flights in March 2020 caused a significant drop in the use of jet fuel, which then rose to a higher level when restrictions on traveling became less stringent (Kutlu, 2018). Those who believe that consumption has reached its maximum level still anticipate that gasoline consumption will increase around the middle of the year 2021, despite the fact that prices have increased as a result of the inevitable lag that exists between any demand-driven increase in oil production and the rise in refined products to meet demand. With the advent of vaccines and the hope inspired by the imminent reopening of economies around the world, it is anticipated that oil consumption will continue to rebound, albeit at levels that are lower than they were before the pandemic. This will effectively mark the peak of oil use (Larrison, 2019).

## **CONCLUSION/RECOMMENDATION**

Those who believe that oil demand has already peaked, on the other hand, fail to take into account the structural increase in consumption that will eventually outweigh any drop that may be caused by COVID-19. There will be a rise in the demand for personal automobiles and air travel as a result of rising expectations for the comfort of day-to-day life as well as the expansion of the working class in China and India. Therefore, even if there is a slowdown in economic growth, the demand for travel will still be supported by the large number of people who earn enough to afford a car. Because of worries about the availability of charging stations, any transition to electric vehicles in emerging countries like China and India is likely to take place at a slower pace than it does in developed economies. Given that fuels account for half of the world's total oil

demand, the rate at which electric vehicles become widespread will be a significant factor in determining future oil demand. An oil price super cycle is likely going to be supported – and kept alive for some time – by the underlying growth in interest in oil, as well as the continued fall caused by insufficient business. But would rising oil prices, as they have in the past, lead to increased investment and a subsequent price crash?

The ripple effects of technological advancement might bring about a different outcome this time. It is likely that the new technology that automakers are relying on to support their goals to replace internal combustion engines with electric vehicles will discourage considerable investment. Tesla, a company that manufactures electric vehicles, is capitalizing its stock market value on the impending shift in the automotive industry. Tesla's market value is substantially higher than that of traditional manufacturers, despite the fact that traditional automakers produce a significantly greater number of vehicles than Tesla. Because of this inconsistency, traditional automakers have committed to making the transition from producing cars powered by internal combustion engines to producing electric cars. As a direct consequence of this, automotive manufacturers have made significant financial commitments to the research and development of electric vehicles in an effort to increase their market share.

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