Need to Unshackle from Oil

Picture: Flamingostech

"Let the good work go on. We must ever remember we are refining oil for the poor man and he must have it cheap and good."

That was John D. Rockefeller, one of the greatest oil barons in history, writing to a business partner. His strategy ensured that the benefits of oil reached all strata of the society including the less privileged classes. It also meant that Rockefeller intended to make the general populace heavily dependent on his oil, so once they started using it, they wouldn't want to stop. In essence, he wanted his customers to get addicted to this slimy commodity.

Over the century the addiction to oil has surged to such an extent that in importance it is rivalled only by the essentials of air, water, and food. Today it is inconceivable to imagine a world without oil. Yet, just two centuries ago, humanity had found contentment in traditional energy sources such as wood, crop waste, charcoal, and animal oil. However, as society shifted towards oil as its primary energy source, a plethora of interconnected issues emerged, which ensnared the modern world. Oil reserves no doubt have historically provided a reliable source of energy, but depending solely on them for energy security poses significant risks, basically because of two reasons.

Firstly, the geopolitical landscape surrounding oil-rich regions is often volatile, subjecting oil supplies to disruptions caused by conflicts, political instability, or embargoes. This vulnerability exposes nations reliant on oil to sudden shocks and price fluctuations, undermining their energy security.

With oil assuming paramount significance, its influence has deeply permeated the economies and political landscapes of nations worldwide. The finite nature of oil resources, coupled with their uneven distribution across the globe, has resulted in a glaring disparity between demand and supply. This mismatch has led to exorbitant prices in most regions, while those fortunate enough to possess abundant oil reserves reap unparalleled benefits. Such inequality has sparked geopolitical crises, some of which have escalated into bloody conflicts.

Moreover, the absolute dependency on fossil fuels has dire environmental consequences. Climate change, driven in part by carbon emissions from oil consumption, presents a fundamental threat to global stability and security. Relying solely on oil perpetuates this unsustainable trajectory, jeopardizing the long-term well-being of both current and future generations. More importantly, there remains a widespread lack of understanding regarding the precise implications and the extent of the impact of climate change on individuals. The alteration of the Earth's atmosphere due to the combustion of oil is potentially irreversible, yet the global hesitance to transition to alternative energy sources only serves to aggravate environmental degradation. This persistent reliance mirrors the prophetic desire of Rockefeller, to see a world addicted to oil.

This study endeavours to delve into the underlying causes of society's addiction to oil, exploring its profound influence on contemporary geopolitics, the entrenched reliance of economies on oil, and the feasibility of emancipating the world from its grip. By broadening the scope of analysis, we can gain deeper insights into the multifaceted nature of this dilemma and devise more nuanced strategies for charting a sustainable path forward.

The indispensability of oil

While society often faces criticism for its reliance on oil, it's undeniable that this resource serves indispensable purposes. Beyond the familiar sight of gas stations and the role of oil as a primary energy source for homes, oil permeates nearly every facet of modern life. From keeping kitchen fires burning to providing warmth in our homes, its utility is pervasive.

The ubiquitous presence of plastics, a critical material of the 20th and 21st centuries, owes its existence to crude oil. Polyester, another widely used material, is derived from the same source. Even the clothes we wear, whether directly made from oil-based materials or made of cotton and silk are processed in factories powered by electricity generated from oil.

In healthcare, oil plays a vital role, in facilitating the transportation of patients and healthcare personnel. Moreover, crucial organic molecules used in drug manufacturing are sourced from petroleum. Petrochemicals aid in purifying plant-derived drug ingredients, underscoring oil's role in the pharmaceutical industry. For instance, aspirin, a widely used pain reliever, is derived from benzene, a hydrocarbon found in petroleum.

The impact of oil extends to the realm of cosmetics, where chemicals derived from petroleum are fundamental. Furthermore, transportation infrastructure heavily relies on oil, evident in asphalt roads and bitumen-based surfaces, as well as the composition of vehicle tires. In agriculture, oil is a linchpin, powering machinery like tractors and combined harvesters, as well as serving as the foundation for fertilizers and disinfectants.

The undeniable utility of oil across various sectors of the socioeconomic landscape highlights its lasting importance in contemporary civilization. Thus, society can hardly be faulted for its hesitance to relinquish its reliance on oil. However, it's equally true that this dependency exacts a considerable toll on fostering harmonious international relations, exerting abnormal pressure on countries' macroeconomic indicators, and, most importantly, wreaking havoc on the Earth's atmosphere. il BIL III

Oil and Economics

As pointed out earlier the unequal distribution of this precious commodity results in a disparity between demand and supply, burdening many nations with substantial energy expenses, while disproportionately advantaging countries endowed with vast oil reservoirs. Nations compelled to import crude oil face additional expenses in shipping and/or pipeline transportation. To grasp how oil impacts a country's macroeconomic

Oil importing country	Crude oil imported in billion USD 2022	GDP in 2022 (trillion USD)	Oil Import as a percent of GDP in 2022	Population in 2022 (millions)	Annual CO2 emissions in tonnes per capita in 2022
India	173.52	3.385	6.52	14,171	2
Spain	47.75	1.398	3.73	48	5.2
China	366.51	17.963	2.49	14,258	8
Italy	44.92	2.01	2.38	59	5.7
Japan	100.92	4.231	1.99	124	8.5
Germany	63.15	4.072	1.64	83	8
United Kingdom	39.46	3.071	1.48	68	4.7
USA	204.72	25.463	0.98	338	14.9

indicators, it's essential to broadly categorize nations into two groups: those that consume (demanding countries) and those that supply (supplying countries).

Effects of oil on economies of consuming countries

Countries that lack significant natural oil reserves must depend extensively on imported oil to meet their energy needs. Prominent among the world's largest importers of petroleum are the European Union, China, India, Japan, and the United States. Except for the United States, these nations are unable to produce enough crude oil internally and thus rely heavily on imports from the oil-producing and Exporting Countries (OPEC). The accompanying chart illustrates the substantial portion of GDP these countries allocate to oil imports.

Effects of oil on economies of petroleum producing and exporting countries

Oil significantly influences the economies of the leading oil-exporting countries, much like how petroleum consumption impacts the economies of oil-importing nations. The revenue generated from exporting surplus crude oil substantially boosts the Gross Domestic Product (GDP) of these exporter countries. In many cases, the economic structures of these nations are heavily reliant on their oil reserves, a dependency that presents both opportunities and risks. This reliance on oil can lead to economic vulnerability due to fluctuating oil prices and global demand changes.

Furthermore, the dependence on oil can stifle diversification in other sectors, which has the potential to make these economies less resilient to economic shocks. It is crucial for the leadership in these countries to acknowledge this over-reliance and to implement strategies aimed at economic diversification. By developing other sectors such as

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EBN	Oil Exporting Country	Export of oil in billion USD in 2022	% share of world oil export market	GDP in 2022 (trillion USD)	Oil Export as a percent of GDP in 2022	Population in 2022 (millions)	Annual CO2 emissions in tonnes per capita in 2022
	Iraq	111	7.62	0.26	42	45	4
	Kuwait	62.6	4.31	0.19	34	4	25.6
	Kazakhstan	47.6	3.28	0.22	22	19	14
	Saudi Arabia	236	16.2	1.11	21	37	18.2
	UAE	105	7.24	0.51	21	9	25.8
	Nigeria	52.1	3.59	0.48	11	219	0.6
	Norway	58.9	4.06	0.58	10	5	7.5
	Russia	133	9.14	2.24	6	145	11.4
	Canada	123	8.48	2.14	6	38	14.2
	United States	118	8.16	25.46	0	338	14.9

technology, manufacturing, and services, these nations can create more stable and sustainable economic foundations. This shift is essential not only for enhancing economic stability but also for securing long-term prosperity as the global economy gradually transitions towards renewable energy sources.

Interestingly, the top oil-importing and exporting nations (with some exceptions) are also among the top contributors to global carbon emissions. This correlation highlights a broader environmental impact, suggesting that their heavy reliance on oil not only affects economic parameters but also has significant environmental ramifications. As these countries continue to consume large quantities of fossil fuels, their role in global carbon emissions remains a critical issue in international discussions on climate change and sustainable energy practices.

In both charts, the United States stands out as a major player in the oil market, with its oil exports nearly half as much as its imports. But why does the U.S. both import and export crude oil? The explanation is more technical than commercial. Most U.S. refineries are designed to process the denser oil varieties imported from the Middle East, rather than the lighter crude produced domestically. Recently, American crude production has surged, primarily due to the extraction of shale oil, which is plentiful in the U.S. shale formations. With the rise in shale oil production, the U.S. has begun exporting surplus crude, which also helps in maintaining the country's trade balance. Upon closer examination of the two charts, it becomes intriguing to observe that nations blessed with ample oil reserves, although constituting only one-sixth of the combined population and one-fifth of the combined GDP of oil-importing countries, exert considerable influence over nations with much larger GDPs and populations. Conversely, the inverse holds as well, given that the substantial reliance of their GDP on oil exports renders the countries depicted in Chart 2 susceptible to fluctuations in demand for oil from the oil-importing nations.

Factors influencing international oil prices

International oil prices are primarily governed by the Organization of Petroleum Exporting Countries (OPEC), a group that decides the daily pricing of a barrel (159 litres) of oil. The most widely used benchmark for oil prices is Brent Crude. The pricing of oil largely hinges on supply and demand dynamics.

Thus increased economic activity in China leads to escalation of oil demand, which in turn leads to increased prices in the international oil market. This surge affects all oil-importing nations, which have to bear the price escalation regardless of their economic health. This system particularly impacts developing countries that rely heavily on imported oil to drive their economies.

In practice, OPEC often acts more like a cartel than a consortium, limiting production to inflate prices when demand wanes.

External factors also play a significant role in price fluctuations. For example, the ongoing conflict between Israel and Hamas in the Red Sea region is straining supply chains, causing prices to spike. Similarly, the 2020 blockage of the Suez Canal by a malfunctioning ultra-large container vessel led to significant price increases.

Oil demand isn't solely influenced by economic factors; strategic considerations also matter. Countries may decide to stockpile oil escalating short-term demand which can lead to further price escalations.

Oil & Geopolitics

Britain & Middle East oil politics

ITE NOW ADS The discovery of a scarce yet immensely valuable resource, such as oil, inevitably breeds geopolitical tensions among nations. Similar to the sudden discovery of an abundance of gold amongst the natives of South America during the 16th century, which sparked conflicts, invasions, and rivalries among European powers, oil—often referred to as "Black Gold"—has been a focal point of contention among 20th-century superpowers. The British, recognizing the strategic importance of oil, have strategically redrawn maps in North Africa and the Middle East to capitalize on the region's vast oil reserves. Their involvement in Gulf politics dates back to the early 20th century when the Royal Navy ITE IDIN transitioned from steam-powered to oil-driven vessels.

As a dominant colonial power in the first half of the 20th century, Britain heavily relied on the uninterrupted flow of oil to sustain its naval supremacy—a cornerstone of its global hegemony. Entire territories like Iraq were carved out, disregarding ethnic complexities, solely to secure control over valuable oil fields, resulting in ongoing tensions fuelled by tribal divisions and ethnic clashes.

However, Britain's influence in the Middle East began to decline following the Suez Crisis in 1956. This marked the entrance of the United States into the region, ostensibly to safeguard maritime trade routes but more significantly to assert its influence over the politics of oil-rich territories.

Entry of the United States

The tensions in the Middle East need careful consideration, stemming not only from the Israel-Palestine conflict but also from the ongoing power struggles among major global players vying for control of the region's rich oil resources. Saudi Arabia, the world's leading oil exporter, has a complex history intricately intertwined with the United States. This relationship traces back to 1945 when King Ibn Saud of Saudi Arabia and President Roosevelt of the United States forged an agreement ensuring American protection for the Saudi regime against both internal and external threats. This pact continues to remain in force even today and is the basis of the American influence in the region. In exchange for this security, Saudi Arabia provides oil to the US, while the Americans, in turn, maintain the balance of payments, and support the Saudi military with arms, ammunition, and training. Consequently, Saudi Arabia boasts one of the most formidable military forces in the Gulf, after Israel, Iran, and Egypt.

The U.S. strategy in the Middle East extends beyond bilateral relationships. Successive American administrations have emphasized the importance of aligning Gulf countries with U.S. policies, maintaining significant influence over the oil-rich Arab states to control regional dynamics. This stance was famously articulated by President Jimmy Carter in the Carter Doctrine during his 1980 State of the Union Address, stating the U.S. would not shy away from using force to safeguard its oil interests in the Middle East. This doctrine justified U.S. military interventions, including the conflict in Kuwait in 1990 and the ousting of Saddam Hussein from Iraq in 2003.

Mirroring British tactics in the early 20th century, which focused on maintaining oil flow for the Royal Navy, the U.S. seeks to ensure a continuous supply of oil for its global military operations. Notably, the U.S. military is the world's largest single consumer of oil and gas, using an average of three hundred thousand barrels of oil daily—more than the entire consumption of countries like Greece, Austria, or Israel. This staggering demand highlights the strategic imperatives driving U.S. involvement in Middle Eastern geopolitics.

Russia – Ukraine war and fluctuating oil prices

Over the past couple of years, the global oil landscape has undergone significant shifts, largely influenced by events in Europe. The conflict between Russia and Ukraine resulting in stringent economic sanctions imposed on Russia, has fundamentally altered the dynamics of the oil trade. Historically, Russia held a prominent position as the largest oil supplier to the European Union. However, with sanctions effectively cutting off European reliance on Russian oil, the EU, being the world's largest oil importer, alongside China, the USA, and India, had to swiftly pivot towards alternative sources. This shift in demand naturally redirected attention towards oil suppliers in the Gulf region.

Russia, which previously commanded a substantial 10% share of the global crude market, was suddenly side lined; the resultant decrease in supply drove oil prices upwards. Desperate for funds to sustain its military campaign in Ukraine, Russia began offering oil at discounted rates. Despite facing sanctions from the US, both China and India asserted themselves by opting to purchase discounted Russian oil. This move by the second and fourth largest oil importers effectively diverted their oil procurement away from the traditional Middle East sources of OPEC Brent oil.

With a slew of global oil-importing nations seeking cheap Russian oil, the accompanying events led to stabilizing the of international oil prices. Economists worldwide heaved a sigh of relief as this helped in control of runaway inflation in many countries.

The Future of Oil & Alternatives

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Just like any other natural resource extracted from beneath the earth's surface, oil reserves are finite. Experts warn that at the current extraction rate, existing reserves may not last more than forty-five years unless new reserves are discovered. The oil extraction industry demands substantial investments in technology and manpower to remain profitable. As global awareness of the environmental impact of fossil fuels grows, governments worldwide are increasingly shedding their hesitancies towards transitioning to sustainable energy sources. Oil companies, cognizant of these sensitivities, are gradually becoming more reluctant to invest in exploration and extraction ventures. Hence it can be expected that the current production levels of 82 million barrels per day will start tapering off in the coming years and decades.

Interestingly it now seems that the utility of oil in the future is slowly dimming not only due to exhausting reserves but also because of rising awareness about its effect on the environment and the need to eschew its use at the earliest.

However, transitioning to alternative energy sources poses considerable challenges. Take electric vehicles, for example. While significant strides have been made in developing high-end batteries, much of this progress is concentrated in developed nations, posing accessibility challenges for the global south. Additionally, establishing the necessary infrastructure for a seamless transition to electric vehicles, such as a network of charging stations, remains a significant hurdle that is further exacerbated by resistance from petrol-driven automobile lobbies.

Similarly, harnessing solar energy, arguably the most promising sustainable energy source, presents its own set of challenges. Like with electric vehicles, the technologies required for solar and wind energy can be costly. Nonetheless, governments are increasingly committed to shifting towards sustainable energy sources. Ambitious plans are underway, particularly in tropical regions with ample year-round sunlight. Proposals include the establishment of electricity grids connecting countries via undersea cables, and facilitating continuous 24/7 electricity generation through solar panels in tropical nations, with distribution facilitated by these international grids. Other renewable energy sources like wind, nuclear, and ocean currents could also integrate into this global grid system. True energy security lies in diversification and innovation. Investing in renewable energy sources, enhancing energy efficiency, and promoting sustainable practices are essential steps towards reducing reliance on oil and mitigating its associated risks. Embracing these alternatives not only fosters greater resilience but also paves the way toward a more sustainable and secure energy future.

Till other alternatives gain widespread acceptance, the world has to continue with its addiction to Black Gold and the geopolitical strains and conflicts associated with it.

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