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India's energy investments: A fresh approach

by **Amit Bhandari,** Fellow, Energy & Environment Studies Programme

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Amit Bhandari has worked in the business media and financial markets for over a decade. He started his career with Economic Times, where he tracked the energy sector. He was a part of the startup team of ET Now, the business news channel. Amit was responsible for setting up India Reality Research, a new research outfit within CLSA India, a stock broking firm. He has also worked with Deccan Chronicle Group as the business editor for their general dailies. He holds an Masters in Business Administration from IIM- Ahmedabad and a Bachelors degree in Technology from IT-BHU.

Table of Contents

India's investments in energy thus far have concentrated on buying stakes in oilfields in developing countries often at the risk of political unpredictability. With oil prices, and therefore oil company values, falling – India should revise this strategy and aim for better value and lower risk by making investments in companies in the developed world.

Oil is the single largest item in India's import bill as India relies on imports for over 80% of its oil requirement. The annual import of 1.6 billion barrels of crude oil makes India vulnerable to sharp spikes in energy prices. With limited domestic reserves, India has tried to reduce its vulnerability by investing in oil and gas fields overseas. State-owned oil companies have over 50 overseas investments spread across South America, Africa, West Asia and the former-Soviet Union, all of which have large oil reserves. Investments must be made where the oil is, and often, these tend to be volatile regions. Political volatility in some places like Venezuela, Iran and Sudan/South-Sudan, for example, has led to trouble for a few of India's investments. The purpose of investing as protection against price fluctuations gets defeated when geopolitical or other unrest leads to oil production reduction.

1. Trade and investment

The past decade has seen significant changes in energy geography and prices.

Energy Geography: The U.S. and Canada, are oil-rich countries that are also stable Western democracies. Both have large oil reserves and have augmented their oil production in the past decade. The U.S. alone accounts for over 70% of all new global oil production from 2008-18.

Table 1: 10 year change in oil production

	2018 Oil Production *(Figures in Thousand barrel/day)*	10-year change
U.S.A.	15,311	8,527
Iraq	4,614	2,186
Canada	5,208	2,001
Saudi Arabia	12,287	1,622
Russian Federation	11,438	1,473
UAE	3,942	829
Kazakhstan	1,927	442
Iran	4,715	300
Kuwait	3,049	267
Venezuela	1,514	-1,712
World	**94,718**	**11,649**

Source: BP Statistical Review of World Energy, 2019

1 *https://www.ppac.gov.in/WriteReadData/Reports/202009170938552725097SnapshotofIndia%E2%80%99sOil&Gasdata,July2020-Revised16.09.2020.pdf*

There has been an even larger shift in the global gas trade, which moves as liquefied natural gas (LNG). Australia has now become the second-largest supplier of LNG and is set to replace Qatar as the top exporter. The U.S., which in the last decade had planned to import LNG, is now its the third largest exporter, riding on natural gas produced from its shale rock formations.

Meanwhile, the rich gas reserves of Iran and Turkmenistan are unlikely to reach world markets due to geopolitical and regional factors. Russia, the world's largest producer of natural gas, may also find it difficult to increase its LNG exports because of U.S. sanctions.

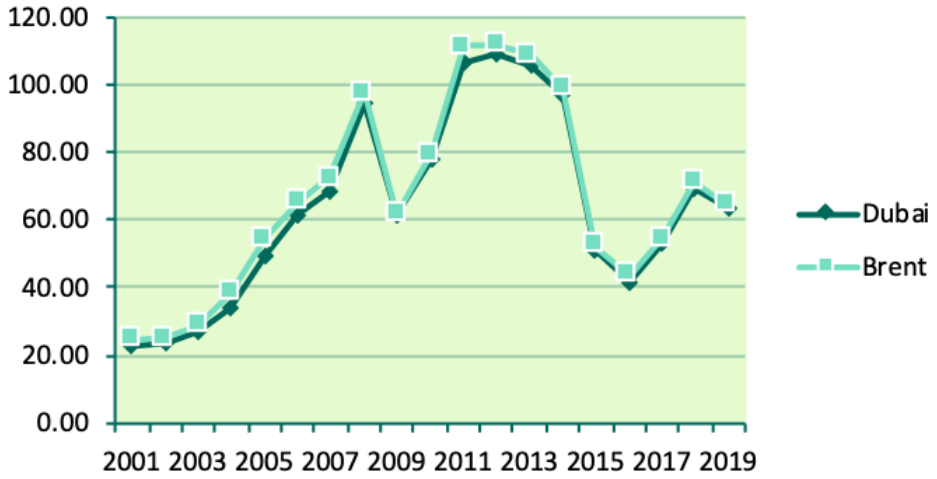
Table 2: Top LNG Exporters

	2019 Exports *(Figures in Million tons/year)*	**Market Share** *(%)*
Qatar	77.8	22%
Australia	75.4	21%
USA	33.8	10%
Russia	29.3	8%
Malaysia	26.2	7%

Source: World LNG Report, 2020

Energy Prices: From over $100 per barrel in 2008, the price of oil first fell to the more reasonable range of $60-70 per barrel. In 2020, because of demand destruction due to the COVID-19 pandemic, prices fell even further to $35-45 per barrel. In April 2020, in a never-before occurrence, the price of the U.S. traded benchmark West Texas Intermediate (WTI) became negative for some time due to the glut of oil in the market.

Figure 1: Oil Price History



As a result, the values of oil and gas assets have also fallen. As of mid-2020, the share prices of leading global energy companies, such as ExxonMobil were at their lowest levels in over a decade. Oil fields in the U.S. and Canada, which were earlier too expensive for Indian companies to consider, can now be acquired at more reasonable prices.

In light of these developments, India needs to reconsider its strategy on overseas energy investments and broaden its search to include rich western democracies.

This research has studied the opportunities available in the OECD countries - a group of rich, free-market democracies - as the target set. Of the 37 member countries of OECD , four are significant producers and exporters of oil or natural gas (Australia, Canada, Norway, and the U.S.) while one is an exporter (Israel) of natural gas (Refer Table 3).

Table 3: Oil and Gas reserves of energy rich OECD members

	Oil Reserves *(billion barrels)*	**Gas Reserves** *(billion barrels oil equivalent)*
Australia	2.4	14.1
Canada	169.7	11.6
Israel	NA	2.7
Norway	8.5	9
USA	68.9	75.7

Source: BP Statistical Review of World Energy, 2020

2. Investment Approach

Indian investment in the energy sector of stable, oil-rich Western democracies should be financial rather than operational, for several reasons.

First, Indian companies which acquired stakes in oil fields globally have all been public sector units (PSUs). This is usually not an issue when dealing with emerging markets in Asia, Africa, and South America. However, the role of foreign PSUs is viewed with suspicion in Western countries like the U.S. and Canada.

In 2005, China's CNOOC withdrew its takeover bid for the U.S. oil giant Unocal, when it ran into opposition from the U.S. Congress and the American public . A similar chain of events took place a few years later, when in 2012, CNOOC bid for Nexen, a Canadian oil company operating in the Alberta oil sands. CNOOC completed the acquisition in 2013. At almost the same time, Malaysia's state-owned Petronas bid for a Canadian company, Progress Energy. The Canadian government approved both the acquisitions, but also indicated that more such deals were not welcome.

"When we say that Canada is open for business, we do not mean that Canada is for sale to foreign governments," Canadian Prime Minister Stephen Harper said at the time, describing these transactions as the "end of a trend". The state ownership of both the acquirers clearly played a role in the Canadian government's stand.

CNOOC completed its acquisition of Nexenin 2013.

Both the U.S. and Canada now have additional guidelines in place to deal with takeovers of companies or assets by foreign government owned companies. The Investment Canada Act, 1985, governs such transactions in Canada while in the U.S., the Regulations Pertaining to Mergers, Acquisitions, and Takeovers by Foreign Persons does the same. Such transactions are subject to a review to assess benefits to the country as well as to examine political influence in the transaction, and any potential national security risks that may come up.

2 *https://www.oecd.org/about/document/list-oecd-member-countries.htm*

3 *https://www.cnoocltd.com/art/2005/8/2/art_8431_1130461.html*

4 *https://www.voanews.com/archive/chinese-bid-unocal-sparks-sharp-debate-us-congress*

5 *https://www.voanews.com/archive/american-public-hostile-chinese-bid-unocal*

6 *https://www.cnoocltd.com/art/2013/2/26/art_8351_1663741.html*

7 *https://www.ctvnews.ca/canada/ottawa-approves-15b-chinese-takeover-of-nexen-1.1070698*

8 *https://www.cnoocltd.com/art/2013/2/26/art_8351_1663741.html*

9 *http://laws-lois.justice.gc.ca/eng/acts/I-21.8/index.html*

10 *https://www.treasury.gov/resource-center/international/foreign-investment/Documents/CFIUS-Final-Regulations-new.pdf*

11 *https://www.treasury.gov/resource-center/international/foreign-investment/Documents/Section-721-Amend.pdf*

Given this background, and that India's oil industry is largely state owned, outright acquisitions of significant size should be ruled out and only minority stakes should be targeted. Rather than the PSUs themselves acquiring minority stakes, this can be done by a sovereign wealth fund (SWF), specifically created for the purpose. The advantages are two-fold.

1. Sovereign wealth funds and state-controlled funds such as pension funds from across the world invest freely in financial markets, without major restrictions. As financial investors, they don't face the same restrictions as PSUs conducting takeovers or seeking influence in management.
2. Just as oil-rich countries set up sovereign wealth funds when oil prices were high to build a cushion, India as an oil importer should set up a SWF to cash in on low oil prices and protect against future price spikes.

Second, the oil and gas industry across the world presents unique challenges. In the U.S., companies need to innovate to produce oil from shale at ever lower costs, while in Canada they have to work with oil sands, which are very different from conventional oil fields. Even for conventional oil, there are unique challenges posed by geography and geology.

In this scenario, it would be counterproductive for any Indian company to become involved in operating oil and gas fields in other countries – as fresh management bandwidth and technical expertise for each of these regions/acquisitions would need to be created.

Finally, there is also a risk in operating an extractive business in the rich, advanced world – penalties, in case of an accident, can be severe, as BP discovered after the 2010 Gulf of Mexico oil spill. If an Indian PSU takes on a risk like this, then eventually the Indian public – the ultimate shareholders of the enterprise, will be liable in case of an unfortunate event. The mandate is to reduce India's exposure to geopolitical risks, but not to do so by taking on other major risks.

Taking these factors into consideration, the appropriate investment route will:

1. Buy minority stakes in western oil assets
2. Make purely financial investments, without operational control
3. Use a sovereign wealth fund to invest, not the PSU oil companies

Any company targeted for an equity investment by an Indian SWF should have a minimum threshold of market value – at least $5 billion – to be able to absorb a meaningful equity investment from an Indian SWF.

12 https://www.epa.gov/enforcement/deepwater-horizon-bp-gulf-mexico-oil-spill

3. Countries to consider investment in

The five advanced economies that have the potential for significant energy exports and can be targeted by Indian energy investments are: Israel, Norway, Australia, Canada and the U.S.

3.1 Israel

Of the five countries, Israel has the smallest gross domestic product and is also the least dependent on natural resources – not surprising given its small landmass. Israel has historically not been considered to be rich in oil or gas. This changed in 2009, when a consortium led by Houston-based Noble Energy and its partners announced a major offshore gas discovery – Tamar 1, off Israel's Mediterranean coast. It was estimated to contain 240 billion cubic meters (bcm) of gas, equivalent to 1.4 billion barrels of oil. In 2010, the consortium announced another offshore discovery, Leviathan, estimated to contain 500 bcm of natural gas.

These discoveries are sufficient to cover Israel's energy needs for decades and leave a surplus for exports. Israel has started exporting natural gas to Jordan and Egypt starting early 2020 and plans to export to Europe via the East-Med pipeline. The location where these gas discoveries have been made also has potential oil reserves.

The Leviathan consortium has three partners – Noble Energy and two Israeli firms Delek Drilling and Ratio Petroleum. Delek has a market value of just over $1 billion, while Ratio Petroleum is worth less. The companies themselves are not large enough to be able to absorb significant equity investment from India.

Table 4: Israeli Oil Companies (Partners in Leviathan)

	Oil & Equivalent Production *(,000 barrels/day, 2019)*	**Market Value** *($ billion, 15 Sep 2020)*
Delek Drilling	37	1.07
Ratio Petroleum	NA	0.171

Source: Compiled by Gateway House

Any participation in the Israeli natural gas sector will have to be a direct participation in the Leviathan project – not an indirect investment in the project developers. That is beyond the scope of this paper.

13 *http://www.energy-sea.gov.il/English-Site/Pages/Oil%20And%20Gas%20in%20Israel/History-of-Oil--Gas-Exploration-and-Production-in-Israel.aspx*

14 *https://www.delekdrilling.com/natural-gas/gas-fields/leviathan*

15 *https://www.gov.il/en/departments/news/east_med_190720*

3.2 Norway

Oil production in Norway began in 1969. In 2019, Norway produced 1.7 million barrels/day of oil, while total oil consumption was just over 200,000 barrels/day, leaving a surplus of 1.5 million barrels/day for exports. Norway has known oil reserves of 8.5 billion barrels.

The country is now best known for its sovereign wealth fund, created from the oil revenues, and set up to shield the economy from oil price fluctuations. The Government Pension Fund Global now manages over $1 trillion in assets. The two largest listed oil producers in Norway are Equinor and AkerBP. Equinor is Norway's largest company and is controlled by the government which owns 67% of its equity. has also been investing in oil fields across the world and now has investments across 25 countries. It gets 40% of its oil production from global operations outside Norway. This includes the Bekken and Eagle Ford shale-oil basins in the U.S. Equinor's daily oil and equivalent production from its worldwide operations is just over 2 million barrels making it a bigger upstream company than its Indian counterpart, state-owned ONGC. The other Norwegian oil company of significance, AkerBP, is a partnership of two majors, Aker ASA (40%) and British Petroleum (30%), with public shareholding accounting for the remainder. AkerBP's operations are entirely within Norway.

In the cases of both Equinorand AkerBP, an outright acquisition is not possible as the controlling shareholders own 67% and 70% of the companies. In small countries like Norway, major acquisitions by foreign state-owned enterprise bring unwelcome attention. Here too, a financial investment is wiser than an acquisition of oil fields in Norway, and then having to set up and manage operations in the North Sea.

Table 5: Leading Norwegian Oil Companies

	Oil & Equivalent Production *(,000 barrels/day, 2019)*	**Market Value** *($ billion, 12 Aug 2020)*
Equinor	2,074	53.44
AkerBP	156	7.35

Source: Company Annual Reports

16 https://www.nbim.no/en/the-fund/about-the-fund/

17 https://www.dfat.gov.au/about-us/publications/trade-investment/trade-at-a-glance/trade-investment-at-a-glance-2019/Pages/default#:~:text=Two%2Dway%20trade%20expanded%20by,Republic%20of%20Korea%20and%20India

3.3 Australia

As a large, thinly populated and resource-rich country, Australia is a large exporter of minerals. Of the top ten exports of Australia, seven are minerals. Australia is also the world's second largest exporter of LNG, with its 2019 exports marginally lower than Qatar, the top LNG exporter. Mining and resource extraction are key pillars of Australia's prosperity and, therefore, it is less likely for environmentalists to hinder this industry.

China is the largest market for Australia's exports, but there are increasing tensions between the two countries. China may try to use trade as an instrument of leverage – so Australia has an interest in developing fresh export markets. This is an opportunity for India.

Table 6: Australia's Top Exports (2017-18)

Commodity	Billion AU$	Share of Exports *(%)*
Iron ores & concentrates	61,357	15.2
Coal	60,356	15.0
Education-related travel services	32,434	8.0
Natural gas	30,907	7.7
Personal travel (excl. education) services	21,580	5.4
Gold	19,293	4.8
Aluminiumores & concentrates (incl. alumina)	9,448	2.3
Beef	7,963	2.0
Crude petroleum	6,507	1.6
Copper ores & concentrates	5,720	1.4

Source: DFAT[17]

Compared with Israel or Norway, Australia is a significantly larger economy, with more companies to choose from. Australia's stock index, the ASX100, has nine listed energy companies, four with a market value exceeding $5 billion.

Not all of these are oil producers. Origin Energy for instance, is a big power and gas distribution retail business. Though it is an energy company it has no relevance to Indian investment requirements as described in this paper.

The most interesting Australian energy company is Oil Search Limited, based in Papua New Guinea but also listed on the Australian Stock Exchange. Oil Search operates an LNG export terminal in Papua New Guinea: the island has recently become a gas exporter and Oil Search is also developing an LNG project in Alaska.

Table 7: Australia's Top Exports (2017-18)

	Oil & Equivalent Production *(,000 barrels/day, 2019)*	Market Value *($billion, 1 June 2020)*
Woodside Petroleum	245	15.75
Santos Energy	207	8.25
Origin Energy	NA	7.7
Oil Search Ltd	76	5.3

Source: Compiled by Gateway House

However, Australia has recently modified its acquisition laws – following the COVID-19 pandemic. It has reduced the threshold value of foreign acquisitions and takeovers which require an approval from the Government to zero. However, the original law identifies those actions as significant which result in 'a change in control involving a foreign person'. A stake acquired by an oil company seeking operational control will trigger this threshold, while a purely financial investment will be acceptable.

3.4 Canada

Canada is larger than Australia in landmass and population,and significantly richer in hydrocarbons, with the world's third-largest known oil reserves (after Venezuela and Saudi Arabia).

However, most of Canada's oil is in the form of oil sands, more expensive (and technically more difficult) to extract oil from compared with conventional oil fields, which can be pumped. So, despite relatively high levels of oil production, the high cost of production decreases the market values of Canadian oil companies. This means a company such as Canadian Natural Resources Limited (CNRL),which produces over 1 million barrels of oil equivalent per day, is worth less than Suncor, which produces 30% less oil.

Table 8: Canada's Top Energy Majors

	Oil & Equivalent Production *(.000 barrels / day, 2019)*	Market Value *($billion, 15 Sept. 2020)*
Suncor Energy Inc	777	24.3
Canadian Natural Resources Ltd	1,099	21.1
Imperial Oil Limited	374	11.6
Cenovus Energy Inc	452	5.5
Husky Energy Inc	290	3.5
Tourmaline Oil Corp.	298 (81% natural gas)	2.8
Ovintiv Inc.	563	2.5

Source: Compiled by Gateway House

18 *https://www.legislation.gov.au/Details/F2020L00435* 19 *https://www.legislation.gov.au/Details/C2020C00023*

Similarly, Ovintiv, a Canadian oil firm with operations in the U.S., produces over half a million barrels of oil per day, but has a market value of just $2.5 billion. The share prices of these companies fell sharply in early 2020 as oil demand tanked (short term) and prices in North America fell.

Investing in Canada looks like an opportunity for India; but there are some caveats. Apart from the technical difficulty posed by oil sands, most of Canada's oil is in the inland province of Alberta, far away from the consumer and cannot reach markets easily. It must be either piped to the U.S. or to the Pacific coast, where it can be shipped to other global markets. Two pipelines currently carry the oil to the U.S., the Keystone and Enbridge pipelines, while a third, the Trans-Mountain Pipeline, takes the oil to the Pacific coast.

The capacity of these pipelines has not been expanded for a number of years. As a result, Alberta can produce more oil than can be pumped to customers. Local opposition has played a role in this freeze. In 2019, the government of Alberta imposed production caps on oil companies because of insufficient pipeline capacity. This has had a negative impact, with Alberta's oil trading at steep discounts of up to $50/barrel compared to benchmark prices. The lesson? A company may have impressive oil reserves and an attractive valuation but may face constraints when bringing its product to market. This is an additional complicating factor toconsider before investing in Canada.

3.5 The U.S.

Oil productionin the U.S., which had been in decline since the 1970s, began to pick up in the early 2000s as shale gas and then shale oil became commercially viable. In 2019, the U.S. produced 17 million barrelsof oil/day, over twice the 7.27 million barrels/day produced in 2009. This increase is more than 80% of Saudi Arabia's total oil production and has allowed the U.S. to reclaim the title of being the world's largest oil producer, by a wide margin.

Unlike conventional oil and gas fields which remain in production for decades, shale wells are easier and quicker to drill and have a short life of a few weeks or months. As a result, shale oil production can react quickly to market signals: if prices are low, drilling of new wells can be slowed down and production will start falling almost immediately. Conversely, production can be raised in response to high prices in a few months.

The U.S.equity market is the largest and most liquid of any across the world. Unlike the other four economies (Israel, Norway, Australia and Canada), where the key players can be easily counted, the U.S. has thousands of oil and gas companies, ranging from small producers to global supermajors such as ExxonMobil. Many of these companies, including smaller players such as Noble and Anadarko, have operations outside of the U.S. as well.

The oil production volumes and market values of leading U.S. oil producers shows that this market has the volumes and liquidity required by an investor. Being in the U.S., these companies are under continuous pressure to return cash to investors in form of high dividends or share buybacks – a positive for a financial investor. The cash flow from these investments will increase in times of high oil prices, as has happened in the past.

Table 9: Some Leading oil majors from the U.S.

	Oil & Equivalent Production *(.000 barrels / day, 2019)*	**Market Value** *($billion, 15 Sept. 2020)*
ExonMobil	3,950	153.4
Chevron	3,058	142.5
ConocoPhillips	1,348	36.25
EOG Resources	818	22.5
Occidental	1,029	10

Source: Compiled by Gateway House

4. Investment Criteria

Between the four developed economies, there is a large pool of listed oil and gas companies in whichIndia can pick up small stakes. India must focus on investing in companies with a:

1. **High dividend-payout ratio.** India will be relying on these investments to soften the impact of high oil prices. No physical flow of oil will result from these investments, increased cash flow in form of dividends will provide relief. There must be a clear preference for companies with higher dividend payout ratios.
2. **Conservative debt profile** – Unlike most of the developing world, where oil companies are state backed, the oil companies in these countries are private businesses. In bad times, some of them fail, as has been seen in the U.S. shale oil industry in wake of low oil prices. To reduce India's risk from high oil prices, these companies should first be able to survive the long term; low debt levels are one way to ensure longevity. Investments should therefore target companies with conservative capital structure.
3. **Strong exploration track record.** Companies such as ExxonMobil and Anadarko (now Occidental) develop oil and gas projects worldwide. Often, they are responsible for large new discoveries such as Guyana (Exxon) and Mozambique (Anadarko). An investment in a company that actively looks for oil can have greater upside than a company operating a single, known resource (Canadian oil sands for instance). Other things being equal, companies with a strong track record of oil exploration must be preferred.

20 *https://www.worldoil.com/news/2020/6/29/chesapeake-joins-more-than-200-other-bankrupt-us-shale-producers*

21 *https://corporate.exxonmobil.com/News/Newsroom/News-releases/2020/0908_ExxonMobil-announces-Redtail-discovery-offshore-Guyana*

22 *https://www.mzlng.total.com/homepage*

5. Conclusion

The energy world has seen multiple upheavals in the past decade – the emergence of the U.S. as the world's largest oil producer, the shift of global oil demand from West to Asia and from fears of peak-oil to peak-demand. In the past, India was a marginal player in the global energy market and was hurt by sharp price fluctuations. It is now a central player in the global oil trade and the ongoing trends favor it.

India must use the current window of low oil prices to reduce its vulnerability to price fluctuations and unfavorable geopolitical developments. This needs a much broader approach than what India has followed in the past – different type of investments (financial vs physical) targetting different geographies (OECD vs emerging markets).

Norway is cited as the most successful oil economy because of its adept management of the oil windfall of the past, by channelling it into a rainy-day fund. Low oil prices since 2015 represent a similar windfall for India, and India needs to follow Norway's example for its own financial and energy security. Just as Norway, an oil exporter, has set up a fund to reduce its vulnerability to low oil prices, India, an oil importer, must set up a fund to reduce vulnerability to high oil prices. The time to set up such a fund is now, when oil prices have been low for a number of years and there is pessimism about the industry's long-term prospects. When the energy cycle turns again, as it has done multiple times, India will be much better placed to weather the change.