

Journal of Kolkata Society for Asian Studies: Vol 10. Special Issue II, December 2024

Trends and Dynamics in India's External Energy Policy

Gadde Omprasad

Trends and Dynamics in India's External Energy Policy

Gadde Omprasad

Abstract

In the new millennia, India's energy policy has been guided by objectives like having access to the energy sources at affordable prices, improved energy supply, diversity in energy resources, and emphasis on renewable resources; sustainability and economic growth. The energy security aspect is extremely important for the countries for faster and overall economic growth as the modern paradigm of economic development demands uninterrupted supply of energy sources at the affordable prices. India has oil reserves of about 783 million tonnes and extracts about 0.7 million barrels per day. The demand stands at about 4.85 million barrels per day and has been facing a domestic production shortage of about 4.1 million barrels per day. This gap leaves India in a vulnerable position of dependency on imports from foreign countries. This vulnerability is also influenced by the developments at the international level. In order to cope-up with the changing dynamics of international system on one-hand and growing demand for oil as well as imports on other, necessitates the country to adopt an external energy policy suitable for both, the country needs and also fluctuations in the international system. The paper attempts to connect the changing dynamics both at the international level and India's external energy policies since the independence.

Keywords: *External Energy Policy; Energy Security; Production of oil; Consumption; Demand-supply gap; Imports; OPEC;*

Introduction

External energy policy can be defined as a country's efforts in addressing its energy requirements through foreign policy approaches and strategies. It includes engagement with foreign countries, institutions, entities in regard to supply of the resources to satisfy country's domestic needs. These engagements also include bilateral to multilateral in nature and executed through trade agreements. External energy policy of a country is blended with energy security, economic and, foreign policies. It comprises un-interrupted supply of energy resources from foreign sources, ability to negotiate and adjust into the fluctuations in the costs of energy imports, mechanism to find alternatives as well as access to new sources during the critical situations at the international level, and thus distributing the energy resources to people at the affordable prices.

The external energy policies of a country consists (i) ways and means to access the energy sectors like oil and gas in the background of the competition at affordable prices, (ii) adjusting the foreign policy options according to the developments at international level, (iii) looking for new possibilities of supply and dealing with the interruptions of the same. In this whole process one can find two dimensions. One, the access to the energy resources at affordable prices, which is a commercial and economic dimension, while the other is adjusting the foreign policy directions and securing supply of energy resources, which is a strategic dimension. Hence it can be assumed that the external energy policy is a combination of the economic and strategic dimensions of a country. Since the modern economic activities largely depends of the availability of petroleum crude oil and natural gas, the absence of the same can disturb the economic paradigm and can cause potential damage to the day to day activities, increase in inflation and have huge impact on socio-economic security of the people and ultimately the very national security (Brown, 1977). Thus the external energy policies are connected to national security and national interests.

External energy policy plays a pivotal role in shaping a nation's strategic approach to energy-related issues on the global stage, influencing diplomatic, economic, and security considerations. A fundamental aspect of external energy policy lies in its role in ensuring energy security. The concept of energy security involves safeguarding a nation's access to reliable and affordable energy sources.

A well-crafted external energy policy addresses the complexities of energy security by diversifying energy sources, establishing strategic reserves, and fostering international collaboration. In an interconnected world, where energy markets are globally linked, ensuring a stable energy supply is essential for economic stability and development (Makari, 2014).

Geopolitically, external energy policy influences a nation's relationships with other countries and regional stability. Competition for access to and control over vital resources, such as oil and gas, can contribute to regional tensions and conflicts (Klare, 2002). A judicious external energy policy seeks to navigate these geopolitical complexities, promoting cooperation and preventing resource-related disputes.

The transition to cleaner and more sustainable energy sources represents another critical dimension of external energy policy. With the global imperative to address climate change, policies promoting renewable energy, energy efficiency, and environmental sustainability have become integral. External energy policies that align with global efforts to reduce carbon emissions contribute to mitigating climate change and fostering international cooperation in the pursuit of sustainable energy solutions (Victor et al., 2006).

Economic considerations also underscore the significance of external energy policy. The export and import of energy resources, as well as investments in the energy sector, play a vital role in a nation's economic well-being. External energy policies that facilitate responsible resource management and

promote fair trade contribute to economic stability and growth (Yergin, 2006).

Furthermore, external energy policy shapes a nation's technological and innovation landscape. Collaboration in research and development, technology transfer, and the exchange of best practices in energy-related technologies are essential components of a forward-looking energy strategy. The oil wealth can impact a nation's capacity for innovation and technological advancement (Colgan, 2010).

External energy policy holds immense significance in the contemporary global landscape. It is intricately linked to national security, geopolitical stability, economic prosperity, environmental sustainability, and technological advancement. A well-formulated external energy policy addresses multifaceted aspects, contributing to a nation's resilience, influence, and responsible participation in the global community.

Review of Literature

A comprehensive historical narrative, detailing the evolution of the global oil industry and its profound impact on economic, political, and geopolitical landscapes is unfolded by Yergin (2006), tracing the industry's trajectory from its inception. Yergin elucidates the intricate connections between oil, economic power, and international relations. Markari (2014) takes a holistic view of energy security, examining its dimensions from economic, geopolitical, and environmental perspectives. This interdisciplinary compilation enriches our understanding of the challenges inherent in ensuring stable and sustainable global energy supplies. Klare's (2002) work investigates the nexus between natural resources, especially energy, and global conflicts. Klare contends that competition for vital resources, such as oil, serves as a catalyst for geopolitical tensions and armed conflicts. Through historical and contemporary analyses, Klare provides insights into how resource competition shapes the global political and security landscape. Shifting focus to natural gas, Victor et al. (2006) explores the geopolitical implications of natural gas production and distribution. The authors delve into the role of natural gas in international relations, energy security, and economic dynamics, offering valuable perspectives on the evolving nature of energy geopolitics.

Colgan (2010) examines the intricate relationship between oil wealth and conflict. Colgan's analysis reveals instances where oil revenues contribute to political instability and may even trigger armed conflicts. By scrutinizing the mechanisms through which oil wealth exacerbates geopolitical tensions, Colgan sheds light on the complex connections between oil resources and global security dynamics. Gilpin (2001) provides a comprehensive overview of the political and economic dynamics shaping the global energy landscape. Gilpin's work emphasizes the interconnectedness of political and economic factors in understanding the complexities of global energy relations.

Additionally, the 'World Energy Outlook' reports by the International Energy Agency (IEA) serve as crucial resources, offering in-depth analyses and projections of global energy trends and policies. These annual reports provide valuable insights into the current state and future scenarios of the global

energy landscape, contributing to informed decision-making and the development of sustainable energy policies on a global scale.

Ghosh (2017) deliberates on global energy management, supply strategies, and conservation efforts. The work provides very useful insights into sustainable energy practices and highlights the relevance of the same in the changing context of global environmental politics. Belyi and Goldthau's (2010) edited volume explores the political dimensions of energy crises, investigating how they impact and are influenced by global politics. Victor and Lupu's (2012) article reviews the state of political science research on international law, providing insights into the intersection of political science and energy policy.

These seminal works collectively contribute to a nuanced understanding of external energy policy, offering historical context, interdisciplinary perspectives, and in-depth analyses of the intricate connections between energy, politics, and international relations.

Methodology

The study of external energy policy necessitates a multifaceted methodological approach to comprehensively analyse the intricate interplay of political, economic, environmental, and technological factors that shape a nation's engagement with global energy issues. A foundational aspect of this methodology involves documentary analysis, wherein official documents, policy statements, and international agreements are scrutinized to unveil the formal positions, goals, and strategies that underpin a country's energy policy. A holistic study of external energy policy demands a methodological mosaic that combines these approaches, ensuring a comprehensive exploration of the multifaceted factors and dynamics that characterize a nation's engagement with the global energy landscape.

Quantitative data analysis followed for the study, which allowed a systematic examination of statistical data related to energy production, consumption, trade, and environmental impacts. This data-driven approach provides a comprehensive overview of trends, correlations, and potential causal relationships within the realm of external energy policy. The study also used a comparative analysis to discern patterns, differences, and commonalities in the data provided.

India's External Energy policy: Energy Security is the goal, Realism is the approach

Majority of the countries in the world have limited energy resources. The fossil fuels like petroleum crude oil and natural gas are the primary energy sources consumed by the countries. A country must have a policy for the uninterrupted supply of these fuels not only for accelerating the domestic economic activities but also in addressing the basic necessities including transportation of goods to satisfy the requirements of the society. Any situation of the gap between demand and supply creates problems both at the domestic and international levels. The implications of the demand supply gap

includes, emergence of an active world oil market, where the prices are subjected to volatility, political influences and domination of energy supplying countries or organisations.

Energy security has been an important objective of India's foreign policy since independence in 1947. Both industrial resolutions of 1948 and 1956 have emphasised on state control over exploitation of energy resources, oil exploration as well as electricity production. During the first decade after the independence, India recorded about 100 million tonnes of oil equivalent of (Mtoe) primary energy consumption (Jean-Marie, 2022) which needed to be increased substantially in order to bring a large number of populations under the ambit of energy security. India's effort to achieve this goal accompanied by economic development and inclusive growth required a foreign policy which is based on the principles of realism. India's engagements with both the cold war blocks and the adoption of Non-alignment Movement are parts of the realist approach to achieve the goal of energy security.

India's foreign policy approaches towards USA in 1960s in order to develop nuclear technology for peaceful purposes, Soviet-India relationship since 1970's in building the nuclear reactors were part of the goal of energy security. As the net importer of crude oil to satisfy the domestic requirements, India's relations with the OPEC and its position during the Arab-Israel conflict can be seen as another illustration of India's foreign policy approach based on the realism to achieve energy security. The oil embargo of 1970's exposed India's vulnerabilities in the crude oil sector (Baru, 1983) and necessitated it to maintain cordial relations with the west Asian region. At this point India's foreign policy guidelines of respecting territorial integrity, mutual non-aggression and settling the conflicts with peaceful negotiations (Ganguly and Pardesi, 2009) came in handy on one hand and maintaining equal distance so that the national interests are satisfied, on the other hand, could be observed.

Domestic demand- production gap: Main vulnerability

In the initial decades, India met the demand for petroleum oil with a larger share of domestic production. In 1966, 1967 and 1969 India's domestic production could meet up to 64, 82 and 75 per cents of total demand for oil respectively. The same trend could be seen from 1982 to 1991 where domestic production met more than 50 per cent of total demand for oil. Since then gradually the share of domestic oil production in total demand fell to just 13.5 per cent by the end of 2019. The average decadal gap analysis explains that from 1961 to 1970 domestic oil production satisfied 44.28 per cent of overall demand for oil, from 1971 to 1980 the same had been 33.88 per cent, from 1981 to 1990 it was 58.5 per cent, from 1991 to 2000 it fell down to 39.46 per cent, from 2001 to 2010, it further decreased to 24.85 per cent and from 2011 to 2019, its share fell down to the lowest to 16.27 per cent. It also depicts that since the year 1991 onwards the percentage share of domestic production gap has been increasing and India's dependence on oil imports have also been on the rise accordingly. Further, the ratio of non-commercial energy sources to commercial sources also increased from 80:20 in 1950 to 46:54 in 1990 (Jean-Marie, 2022).

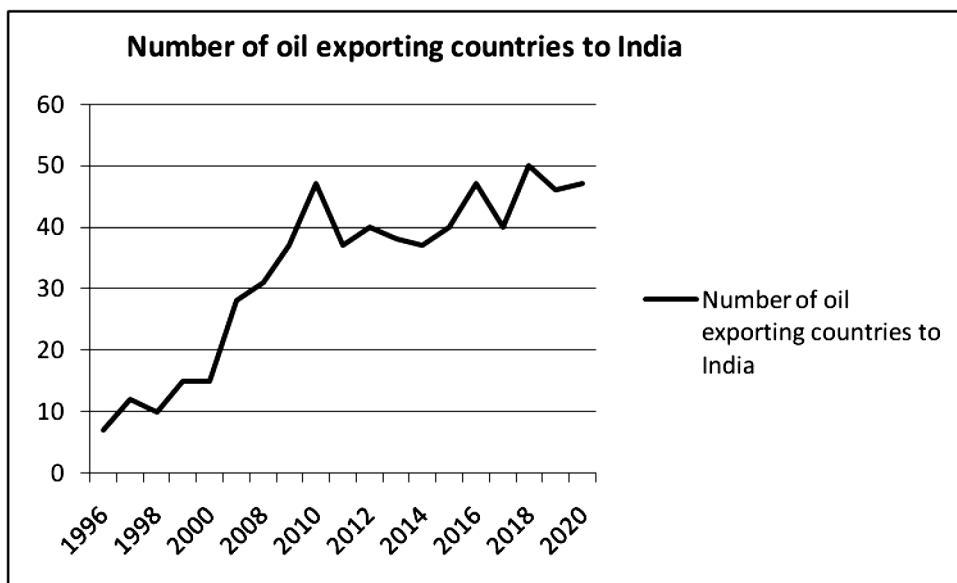
The data of OPEC (2021) further indicates that, though there has been a steady increase in both demand for oil with an average growth rate of 5.77 per cent between 1960 to 2019, and the domestic crude oil production with an average growth rate of 6.04 per cent, the same has not been reflected in real time growth of crude oil production leading to a massive gap of 4.18 million barrels per day by end of 2019. The same had been 144 thousand barrels per day in 1960. The average gap between oil demand and oil production from 1960-2019 has been 5.62 per cent.

As the country has been marching towards the economic development, demand for energy resources is also on the rise which reflected in crude oil imports. The data on the imports of oil since 1980 shows that there has been a substantial increase in its imports which were about 3 lakh barrels in that year to more than 4.5 million barrels by the end of 2019 with an average growth rate of about 31 per cent (ibid).

Share of crude oil imports in overall imports of the country has been a major concern as a large share of foreign exchange reserves are spent on these imports. In the overall imports, the share of petroleum has been on the rise for nearly two decades from the middle of 1990's. During that time the import of crude oil took the share of about 13 per cent, increased to 28.62 per cent in 2000-01 and further reached to the peak of 32 per cent in 2013 (ibid). But since the beginning of 2014, there has been a trend of reduction as it had been reduced to 21.66 per cent in the year 2019 and further to about 15 per cent in the year 2020-21(ibid). The average per centage share of crude oil imports in the overall imports for the last two decades has been around 24, about one fourth of the total foreign exchanges spent on imports (Department of Commerce 2022). As a result there has been a growing policy shift towards production of bio-fuels, which gained momentum since 2006 onwards as part of India's effort to shift towards decreasing dependency on oil imports. This attention towards bio-fuels contributed to a significant increase of about 6 folds since 2014 and by the end of 2019 India produced about 38000 barrels of bio fuels (OPEC 2021).

How Diversified India's crude oil imports?

India's heavy dependency on the imports of petroleum and crude oil from foreign countries has made it to adopt a careful path of accommodating national interest in foreign policies. In an environment of conflict and cooperation in the international system, the import sources also have been diversified over a period of time. Till the year 1996, India used to import the petroleum and crude oil from about 7 countries which have been increased to 47 countries by the end of 2020 (Figure 1) (Department of Commerce 2022).



Source: Based on author's compilation of data extracted from Trade and Statistics, Ministry of Commerce, Government of India, <https://tradedstat.commerce.gov.in/eidb/default.asp>.

Figure 1: Number of Oil exporting countries to India from 1996 to 2020

Tables 1 to 3 are self explanatory in projecting the changing nature of India's crude oil imports from various countries during three governments, i.e. United Front government, UPA I and II, subsequently NDA II & III governments. The data pertaining to country wise imports from the year 2000 to 2005-06 is not available in the data bank of the ministry of commerce, government of India. During these three governments one can observe the imports which were largely coming from less than ten countries in 1996 slowly but gradually increased to more than 45 other countries by the end of 2020-01.

Table 1: Top ten sources of petroleum and crude oil imports from 1996 to 2000

(in per cent)

1996-1997	1997-98	1998-99	1999-2000
Nigeria (28.27)	Nigeria (24.24)	Nigeria (31.24)	Nigeria (30.47)
Saudi Arabia (22.04)	Saudi Arabia (21.17)	UAE (17.76)	Saudi Arabia (18.61)

Kuwait (14.56)	Kuwait (15.27)	Saudi Arabia (17.67)	UAE (14.42)
UAE (2.31)	UAE (14.94)	Kuwait (11.70)	Kuwait (11.45)
Iran (12.61)	Iran (9.94)	Iran (6.92)	Iran (8.93)
Egypt (1.10)	Iraq (4.35)	Malaysia (5.90)	Malaysia (4.76)
Malaysia (4.14)	Egypt (3.96)	Egypt (4.50)	Egypt (4.37)
	Malaysia (3.90)	Iraq (4.25)	Yemen (2.60)
		Pakistan (0.05)	Iraq (2.06)
			Qatar (1.24)
100	97.78	100.00	98.92

Source: Based on author's compilation of data extracted from Trade and Statistics, Ministry of Commerce, Government of India, <https://tradestat.commerce.gov.in/eidb/default.asp>.

During the period, from 1996 to 2000, petroleum and crude oil imports were diversified from just 7 countries to more than 10 countries. These countries occupied 97 per cent to 100 per cent share in India's overall crude oil imports in these years. Further Nigeria, Saudi Arabia, Kuwait and UAE were the largest suppliers, occupying the share of more than 70 per cent of total imports. Throughout these years Nigeria and Saudi Arabia were the largest suppliers of the petroleum and crude oil to India. Nigeria accounted for more than 28 per cent of India's total imports, while Saudi Arabia with about 20 per cent. Both Iran and Iraq supplied less than 10 per cent of these products and did not feature prominently in the list of India's import destinations (Table 1).

Table 2: Top ten sources of petroleum and crude oil imports from 2006 to 2014

(in per cent)

2006-2007	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13	2013-14
Saudi Arabia (23.20)	Saudi Arabia (23.60)	Saudi Arabia (20.50)	Saudi Arabia (18.12)	Saudi Arabia (17.61)	Saudi Arabia (19.68)	Saudi Arabia (19.62)	Saudi Arabia (21.55)
Nigeria (14.69)	Iran (15.22)	Iran (14.37)	Iran (13.19)	Nigeria (11.35)	Iraq (13.99)	Iraq (13.24)	Iraq (12.72)

Trends and Dynamics in India's External Energy Policy

Iran (13.86)	Nigeria (11.38)	UAE (11.85)	Kuwait (9.44)	Iran (9.95)	Kuwait (10.68)	Kuwait (10.00)	Kuwait (10.49)
Iraq (11.70)	Iraq (10.67)	Nigeria (11.12)	Nigeria (9.24)	Iraq (9.66)	Nigeria (10.16)	Venezuela (9.77)	Venezuela (9.70)
Kuwait (10.54)	UAE (10.08)	Kuwait (10.29)	Iraq (9.03)	Kuwait (9.46)	UAE (9.34)	UAE (8.74)	Nigeria (9.45)
UAE (7.36)	Kuwait (9.59)	Iraq (9.81)	UAE (7.03)	UAE (8.49)	Iran (8.74)	Nigeria (7.74)	UAE (7.68)
Malaysia (4.88)	Malaysia (3.63)	Venezuela (5.32)	Angola (5.46)	Venezuela (5.63)	Venezuela (4.97)	Iran (6.63)	Iran (5.92)
Yemen (3.99)	Turkey (2.03)	Malaysia (3.60)	Venezuela (3.64)	Angola (5.50)	Angola (4.89)	Angola (4.91)	Angola (4.18)
Venezuela (1.50)	Yemen (2.02)	Angola (1.87)	Oman (3.54)	Oman (3.33)	Qatar (3.84)	Qatar (4.63)	Columbia (3.32)
Egypt (1.38)	Libya (1.79)	Qatar (1.84)	Qatar (3.10)	Qatar (3.32)	Brazil (2.13)	Mexico (2.24)	Qatar (2.98)
93.11	90.01	90.57	81.79	84.30	88.42	87.52	87.98

Source: *Based on author's compilation of data extracted from Trade and Statistics, Ministry of Commerce, Government of India, <https://tradestat.commerce.gov.in/eidb/default.asp>.*

During UPA I and II governments which came to power in 2004 first term and again in 2009 in the second term, one can find the reduction in the dependence on the top ten sources of petroleum and crude oil as their share from about 93 per cent in 2006 got reduced to about 88 per cent in 2013. This reduction could be attributed to the changing stand of the government in its dependence and a policy shift to focus more on the diversification of the crude oil resources (Chatterjee, 2012). During this period Saudi Arabia continued to be a large exporter of crude oil to India averaging more than 20 per cent of total imports. It can also be observed that in terms of per centage share of imports Saudi Arabia maintained to occupy about 20 per cent of the total imports where as imports from Nigeria reduced to almost 50 per cent than the previous government. Similarly the share of imports from Iran recorded a decline from 2007 onwards from 15 per cent to less than 6 per cent by the year 2013. At the same time imports from Venezuela had been on the rise (Table 2).

Table 3: Top ten sources of petroleum and crude oil imports from 2014 to 2020

(in per cent)

2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Saudi Arabia (18.71)	Saudi Arabia (20.47)	Saudi Arabia (19.34)	Iraq (20.07)	Iraq (19.53)	Iraq (22.16)	Iraq (21.65)
Iraq (12.17)	Iraq (16.31)	Iraq (16.43)	Saudi Arabia (17.47)	Saudi Arabia (18.76)	Saudi Arabia (19.81)	Saudi Arabia (18.10)

Nigeria (11.12)	Nigeria (13.71)	Iran (12.60)	Iran (10.28)	Iran (10.56)	UAE (10.67)	UAE (12.36)
Venezuela (9.98)	Venezuela (8.62)	UAE (9.60)	Nigeria (9.38)	UAE (8.38)	Nigeria (8.74)	USA (9.01)
Kuwait (9.86)	UAE (8.30)	Nigeria (9.55)	UAE (7.00)	Nigeria (8.31)	Venezuela (5.87)	Nigeria (8.23)
UAE (9.50)	Iran (6.48)	Venezuela (7.79)	Venezuela (6.70)	Venezuela (6.36)	USA (4.75)	Kuwait (5.25)
Iran (6.04)	Kuwait (5.44)	Kuwait (4.16)	Kuwait (6.05)	Kuwait (4.76)	Kuwait (4.71)	Mexico (3.33)
Angola (3.79)	Angola (4.02)	Angola (3.03)	Angola (3.53)	Mexico (3.74)	Mexico (3.22)	Angola (2.21)
Mexico (2.31)	Qatar (2.26)	Malaysia (2.79)	Mexico (3.15)	USA (3.16)	Angola (2.56)	Oman (1.93)
Brazil (2.16)	Mexico (2.10)	Mexico (2.61)	Oman (2.76)	Angola (2.87)	Kazakhstan (2.09)	Qatar (1.61)
85.64	87.7	87.9	86.39	86.41	84.60	83.69

Source: *Based on author's compilation of data extracted from Trade and Statistics, Ministry of Commerce, Government of India, <https://tradestat.commerce.gov.in/eidb/default.asp>.*

From 2014 onwards, it is characterised by a steady decline in the imports from top ten countries, yet they occupied more than 80 per cent of India's total petroleum and crude oil imports. During this period Iraq emerged as the largest exporter of the petroleum resources to India followed by Saudi Arabia and UAE. Interestingly for three years, from 2016 to 2019 Iran was one of the largest exporter of crude oil to India before US imposed sanctions came into existence in full scale. From 2019 onwards USA has emerged as one of the top ten crude oil exporter to India and this sudden appearance in the list can be explained through its attempts to substitute for Iran (Table 3).

In all the years the west Asia region has been a major exporter of oil resources to India and the country's relations with the region stood time tested, political, conflict turmoil, by and large attributed to India's successful negotiations, neutral stand and well maintained relations through bilateral ties (Wadhwa, 2021).

India-OPEC Energy Cooperation

India's association with Organisation of Petroleum Exporting Countries has been historic and ever since the OPEC was formed in the year 1960, India maintained cordial relations with member countries of the organisation, without interfering in the internal matters and on the issues of conflicts among the members. As collectively OPEC holds about four-fifths of the international proven petroleum reserves and accounts for more than two-fifths of world oil production (OPEC, 2003), the organisation plays an important role in maintaining the oil economy in the world (Fattouh and Sen, 2016). As

world's third largest oil importer, India's imports from the OPEC countries constitute 85 per cent of our total crude imports and 94 per cent of the gas imports (Ministry of Petroleum and Natural Gas n.d.). Due to various religious and political reasons, the members of OPEC particularly in the west Asian region is marked with geo political interests of major powers (Issah, 2021). The conflicts since the beginning of the formation of Israel, the Arab-Israel war 1948, the Six-Day War, 1967, Yom Kippur War 1973, Palestinian terror hostages, 1975, the Iran Revolution, 1979, Iran–Iraq War 1980–1988, Iraqi occupation of Kuwait, 1990–1991, US war on Iraq, 2003–2011, Arab Spring, Libyan Crisis, and economic sanctions on Iran were the major challenges to India's foreign policy. In all these conflicts, India either remained as a spectator or called for peaceful resolution of the conflicts (Pradhan 2004). Major challenge to India's foreign policy appeared during the first gulf war of 1991, where it had a dilemma to condemn Iraq for its invasion of Kuwait, as Iraq had been a major supporter of India's Kashmir policy (Ministry of Petroleum & Natural Gas, 2002). Both Iraq and Kuwait accounted for more than 40 per cent of India's crude oil imports and also hosted about two hundred thousand workers during that time (Malik, 1991). In order to boost the relations between India and OPEC an annual conference, "OPEC-India Energy Dialogue" has begun in 2015, to look into the key energy issues such as ensuring India's energy security and access (OPEC, 2017). But it has to be noted that the OPEC could not provide an alternative or increased its supply at the discounted prices on the eve of India's reduction of petroleum and crude oil imports from Iran and Venezuela on the eve of US sanctions against these countries (Mahajan, 2018). As a result India had to turn towards US for the imports of oil to satisfy the domestic demand.

India's Energy policy towards its South Asian Neighbourhood

There are three institutions dealing with the energy cooperation in South Asia including- (i) South Asia Association for Regional Cooperation (SAARC), (ii) South Asia Sub-regional Economic Cooperation (SASEC) and (iii) Bangladesh-India-Myanmar- Sri Lanka-Thailand-Economic-Co-operation (BIMSTEC). SAARC established its energy centre in 2006 in Islamabad, Pakistan to enhanced energy cooperation among the South Asia Region (SAARC Energy Centre, n.d.). Due to the political reasons, the initiatives like SAARC could not meet its desired objectives. As a result India's policies towards its other neighbours have been so far more bilateral than multilateral. India is part of South Asia Regional Electricity Market (SAREM) funded by the World Bank group and as part of the programme, the emphasis is given on strengthening regional transmission connectivity between India-Nepal, India-Bangladesh and India-Bhutan (World Bank live 2022). Through these transmission lines, Nepal started exporting about 364 MW of electricity to India from the hydro electricity generated in multiple plants in Nepal (The Hindu 2022). It is a significant contribution to the foreign exchange earnings to Nepal as the country is expected to earn about Rs 4.78 billion through this trade. India-Bhutan electricity trade is an example of mutual benefits. India has constructed four hydro power plants in Bhutan with a total capacity of about 2100 MW and construction of another three power plants with an estimated

capacity of 2820 MW are underway (Siddiqui 2020). This cross border electricity trade has facilitated electricity trade between India and Bangladesh. At the moment Bangladesh imports about 1200 MW of electricity from India and is expected to increase the trade in near future as the country's estimated demand for the electricity will grow upto 60,000 MW by 2041 (Hossain, 2022).

India's International Solar Alliance initiative

One of the significant part of external energy policy of India is to launch in collaboration with France in 2015 an International Solar Alliance (ISA), with objectives of addressing the issues related to the production of solar energy, to cooperate with each other on the issue of production cost, financing and technology and to mobilise required funding of about US \$ 1000 billion dollars reducing the cost of finance and cost of technology for immediate deployment of competitive solar generation; and (iii) to mobilise more than 1000 Billion US Dollars by the year 2030. Indian initiative could successfully mobilise about 121 solar resource rich countries and the initiative is seen as an India's effort to achieve the objectives mentioned in both Paris agreement on climate change (CoP 21) and the United Nations Framework Convention on Climate Change. India allocated about Rs.1750 millions as financial assistance for the initiative and for setting up of ISA and till date released a sum of Rs 1450 millions for creating a corpus fund, building infrastructure and meeting day to day recurring expenditure. So far about 70 countries have signed the Framework Agreement of the ISA. 44 of these countries have ratified the ISA treaty (Ministry of New and Renewable Energy 2018).

India's energy policy towards big powers: From Cold War to Russia-Ukraine War

India's first nuclear power plant, Tarapur Atomic Power Station, with a boiling water reactor was built with the collaboration of United States and was commissioned in the year 1969 (Logan, 2022). The collaboration was significant in the context where the US was not a keen supporter of the transfer of nuclear technology and agreed under the collaboration to supply the enriched uranium for 30 years (Noorani, 1981). But soon the agreement on this supply of nuclear fuel was over after India's first round nuclear tests in 1974 (ibid). Though the India US collaboration in the field of nuclear energy began in the initial period of India's independence, India's foreign policy did not tilt towards adopting any sides in the context of cold war politics and particularly India's refusal to sign the Non Proliferation Treaty sighting the reasons of discriminatory policies towards achieving the complete nuclear proliferation (Thomas, 1998). This policy continued in the later year's Comprehensive Nuclear-Test Ban Treaty (CTBT), in which India participated at the negotiations level but refused to sign the final draft as it felt that the treaty did not address a number of core concerns raised by India (United Nations, n.d.). The success of India's foreign policy in terms of achieving the confidence of the world powers in nuclear technology could be visible in the form of India-US Civilian Nuclear Agreement signed in the year 2005, in spite of the fact that India is not a signatory to either NPT or the CTBT. India's negotiations with the Bush administration persuaded US to amend the Atomic Energy Act of 1954,

exclude India from the list of non cooperation on the nuclear technology transfer, exceptions for India from the Nuclear Suppliers Group (NSG) and India's agreement to separate its civilian nuclear power plants from the non civilian ones (IAEA, 2009). The agreement marked a significant change in US policy towards India in two perspectives, one, the relations began to be seen from the strategic perspective, a long term partnership with India as part of its grand strategy to counter China and second, a marked divert from "South Asia region" policy or "India-Pakistan" policy to a separate India policy. In the subsequent years India signed major agreements for civilian nuclear cooperation with France, Russia, Namibia, Canada, Argentina, Kazakhstan, South Korea, Czech Republic, Australia, Sri Lanka, UK, Mongolia and Japan. In the year 2008, the NSG adopted a policy decision to allow civil nuclear cooperation with India. This policy resolution facilitated investments, industrial partnerships, technology sharing, and other measures which can augment the nuclear power capacity in India (Ministry of External Affairs 2016). At the same time in 2010 India passed Civil Liability for Nuclear Damage Act 2010 and whoever is the supplier of nuclear energy related equipment whether domestic or foreign company becomes responsible for any damage (Ministry of External Affairs 2015), in accordance to the 1997 Convention on Supplementary Compensation for Nuclear Damage (CSC). Further in 2009, India and US in order to help India in building its capacity in the installations of clean energy technologies, so that an inclusive, low carbon emissions to address both social and environmental needs were signed with an agreement on the Partnership to Advance Clean Energy (PACE) (Office of International Affairs, n.d.). This agreement can facilitate India to develop clean energy technologies. In the post implementation of economic and trade sanctions against Iran and Venezuela, USA has emerged as one of the top 5 oil exporters to India occupying the share of about 9 per cent of India's total imports. However it has to be noted that the cost of imports from Iran had been lesser than the cost of imports from US and Canada. India in this regard has left with no option but to turn towards to these countries.

On the other hand energy cooperation between India's relations with USSR till the end of cold war and with Russia in the post cold war had been historical. Since 1960s, USSR had been closely associated with India's nuclear energy development programmes. The 1971 Indo-Soviet Treaty of Peace, Friendship, and Cooperation further strengthened these ties, where the post 1974 and 1998 nuclear tests and the subsequent isolations, USSR and Russia supported India's efforts by agreeing to supply heavy water to India and remained crucial in the nuclear energy development programme (Sengupta and Poonangi, 2022). In 1988 and 1992 Soviet Union became part of India's Kudankulam nuclear plant and in the year 2001 Russia agreed to supply low enriched uranium fuel for Tarapur reactor in Maharastra (Gopalakrishnan, 2002). In 2018 both the countries entered into an agreement where Russia will help India to build 6 more nuclear reactors (Migliani and Clercq, 2018). This relationship continues even during the times of Russia-Ukraine war and sanctions by US and its allies on Russia. By the end of May 2022 India purchased US\$ 5 billion dollar worth of Russian oil and more than 7 million barrels per day. This deal replaced Russia as the second largest oil exporter to India after Iraq (News 18, 2022).

Conclusion

Both, the end of cold war and economic liberalisation placed India in a more comfortable position than the earlier decades and witnessed the dominance of realist approach in both foreign and external energy policies. Since 1991, India's external energy policy is characterised by i) bilateral dialogues with individual countries, organisations like OPEC, International Energy Agency (IEA), International Energy Forum (IEF), Energy diplomacy and ii) acquisitions in the overseas assets. The bilateral dialogues and joint working groups with more than 20 countries are part of securing energy related interests and energy diplomacy. As part of this diplomacy India not only signed Memorandum of Understandings with the bigger energy resource countries but also in the field of renewable energy sectors with countries like UK and with Japan for Electric Vehicles (EV), storage system including batteries, electric vehicle charging infrastructure (EVCI) and Energy Conservation in Buildings and industries, energy efficient appliances; development of solar energy including solar PV cells; wind energy and others. At multilateral level, EU-India signed an agreement, Clean Energy and Climate Partnership, 2016, for promotion of clean energy, climate friendly technologies and research related activities (European Commission 2016). In January 2018, India and ASEAN issued Delhi Declaration, where they emphasising on long term food and energy security. Further, they focused on the renewable energy technology through international platforms including the International Solar Alliance (ASEAN, 2018).

One of the major developments in the post liberalisation period of India, since 1991 has been India's efforts to invest in the overseas energy resources by acquiring shares, collaborations with the foreign companies in exploring, developing and producing the fossil fuels for both domestic consumption and international markets.

Indian public sector companies like ONGC Videsh, Oil India, Bharat Petro Resources Limited, Indian Oil, Hindustan Petroleum and Gas Authority of India could secure about 55 overseas assets in 25 countries with an investment of about US \$ 36.5 billion dollars, in which 25 are at exploration stage and 22 are oil producing, 3 gas pipelines and 6 at the developing stage (Ministry of Petroleum and Natural Gas, 2022).

References

- ASEAN, 2018, "Delhi Declaration of the ASEAN-India Commemorative Summit to Mark the 25th Anniversary of ASEAN-India Dialogue Relations", January 25, <https://asean.org/delhi-declaration-of-the-asean-india-commemorative-summit-to-mark-the-25th-anniversary-of-asean-india-dialogue-relations/>.
- Baru, Sanjaya. 1983. 'Self-Reliance to Dependence in Indian Economic Development', *Social Scientist*, vol. 11, no. 11, pp. 34-46.

- Belyi, A. V., & Goldthau, A. 2010. *The Politics of Energy Crises*. London: Oxford University Press.
- Brown, Lester, 1977. "Redefining National Security", *World watch Paper* 1, pp 1-43, World Watch Institute, Washington DC.
- Chatterjee, Neeladri. 2012. 'A Time Series Forecast of Geopolitical Market Concentration (GMC) Risk: An Analysis of the Crude Oil Diversification Portfolio of India', *Strategic Analysis*, vol. 36, no.1, pp. 145-165.
- Colgan, Jeff, D. 2013. *Petro-Aggression: When Oil Causes War*. Cambridge: Cambridge University Press,
- Department of Commerce, Trade Statistics, Ministry of Commerce and Industry, Government of India, <https://tradedstat.commerce.gov.in/eidb/default.asp>.
- European Commission, "EU and India agree on clean energy and climate partnership", 31 March 2016, https://ec.europa.eu/clima/news-your-voice/news/eu-and-india-agree-clean-energy-and-climate-partnership-2016-03-31_en.
- Fattouh, B. and A. Sen. 2016. 'The Past, Present, and Future Role of OPEC', in Van de Graaf; T. Sovacool; B. Ghosh; A. Kern and F. Klare. eds., *The Palgrave Handbook of the International Political Economy of Energy*, London: Palgrave Handbooks in IPE, pp 73-94.
- Ganguly, Sumit and Manjeet S. 2009. 'Explaining Sixty Years of India's Foreign Policy', *India Review*, vol. 8, no. 1, pp. 4-19.
- Ghosh, A. 2017. *Energy: Management, Supply and Conservation*.
- Gilpin, Robert. 2017. *Global Political Economy: Understanding the International Economic Order*. Princeton: Princeton University Press, 2001.
- Gopalakrishnan, A. 2002. 'Evolution of the Indian Nuclear Power Programme', *Annual Review of Energy and Environment*, vol. 27, pp. 369-395.
- Hafner-Burton, Emilie Marie and Victor, David G. and Lupu, Yonatan. Political Science Research on International Law: The State of the Field (August 23, 2011). *The American Journal of International Law*, Vol. 106, No. 1 (January 2012), pp. 47- 97.
- Hossain, Emran, 2022. 'Bangladesh's power import from India nears fourfold despite overcapacity', *New Age Bangladesh*, March 12.
- IAEA, "Agreement between the Government of India and the International Atomic Energy Agency for the Application of Safeguards to Civilian Nuclear Facilities", *Information Circular*, 29 May 2009, <https://dae.gov.in/node/writereaddata/ncpw/infcirc754.pdf>.

- International Energy Agency. *World Energy Outlook*. Paris: International Energy Agency.
- Issa, Mohammad Saleh Bani. 2021. 'Great Powers' Cold War and its Impact on Regional Security: West Asia as an Analytical Model Study', *Journal of Legal, Ethical and Regulatory Issues*, vol. 24, no. 4, pp. 1-15.
- Jean-Marie, Martin-Amouroux, 2022. 'Energy in India: from Jawaharlal Nehru to Indira Gandhi', *World Energy History*, May 5, 2022, <https://www.encyclopedie-energie.org/en/energy-in-india-from-jawaharlal-nehru-to-indira-gandhi/>.
- Klare, Michael T. 2001. *Resource Wars: The New Landscape of Global Conflict*. New York: Metropolitan Books.
- Logan, W .A. 2022. 'Constructing Tarapur, 1964–1969', in *A Technological History of Cold-War India, 1947–1969*, Palgrave Studies in the History of Science and Technology, Palgrave Macmillan, https://doi.org/10.1007/978-3-030-78767-7_9.
- Mahajan, Anilesh S. 2018, "Why India needs to rethink its relationship with OPEC", October 21, 2018, <https://www.businesstoday.in/opinion/columns/story/why-india-needs-to-rethink-its-relationship-with-opec-151015-2018-10-21>.
- Makari, Andrew, (ed.) 2014. *Energy Security: An Interdisciplinary Approach*. New Jersey: Wiley Publishing.
- Malik, J. Mohan. 1991. 'India's Response to the Gulf Crisis: Implications for Indian Foreign Policy', *Asian Survey*, vol. 31, no. 9, pp. 847-861.
- Miglani, Sanjeev Miglani and Geert De Clercq. 2018. "Russia signs pact for six nuclear reactors on new site in India", *Reuters*, October 5, 2018, <https://www.reuters.com/article/us-india-russia-nuclear-idUSKCN1MF217>.
- Ministry of External Affairs, 2015. "Frequently Asked Questions and Answers on Civil Liability for Nuclear Damage Act 2010 and related issues", *Media Centre*, February 08, 2015, https://www.mea.gov.in/press-releases.htm?dtl/24766/Frequently_Asked_Questions_and_Answers_on_Civil_Liability_for_Nuclear_Damage_Act_2010_and_related_issues.
- Ministry of External Affairs, Question No. 2812, 2016. "Foreign Countries having Nuclear Pact with India", *Media Centre*, August 11, 2016, https://www.mea.gov.in/rajya-sabha.htm?dtl/27300/question_no2812_foreign_countries_having_nuclear_pact_with_india.
- Ministry of New and Renewable Energy, 2018, "PM inaugurates first assembly of the International Solar Alliance", 2018, <https://pib.gov.in/PressReleasePage.aspx?PRID=1548295>.
- Ministry of Petroleum & Natural Gas, "Oil Gas Assets", 2022, <https://mopng.gov.in/en/international-cooperation/oil-gas-assets>.

- Ministry of Petroleum & Natural Gas, 2002, “Shri Ram Naik calls on Saddam Hussein”, 2002, <https://archive.pib.gov.in/archive/releases98/lyr2002/rjul2002/06072002/r060720021.html>.
- Ministry of Petroleum and Natural Gas, “Organisation of the Petroleum Exporting Countries”, <https://mopng.gov.in/en/international-cooperation/opec>.
- News 18, July 06, 2022 “India Spends \$5.1 Billion To Import Oil, Gas, Coal From Russia in 3 months”, July 06, 2022, <https://www.news18.com/news/business/india-spends-5-1billion-to-import-oil-gas-coal-from-russia-in-3-months-report-5502295.html>.
- Noorani, A. G. 1981. ‘Indo-U.S. Nuclear Relations’, *Asian Survey*, vol. 21, no. 4, pp. 399-416.
- Office of International Affairs, “US-India Energy Cooperation”, <https://www.energy.gov/ia/initiatives/us-india-energy-cooperation>.
- OPEC, “Data Tables”, 2021, https://asb.opec.org/data/ASB_Data.php.
- OPEC, “OPEC's role and the challenges we face in the petroleum industry”, 2003, https://www.opec.org/opec_web/en/913.htm
- OPEC, 2017, “The Growing OPEC-India Relationship”, https://www.opec.org/opec_web/en/4567.htm.
- Pradhan, Bansidhar. 2004. ‘Changing Dynamics of India's West Asia Policy’, *International Studies*, vol. 41, no. 1, pp. 1-88.
- SAARC Energy Centre, “About SEC”, <https://www.saarcenergy.org/>.
- Sengupta, Shayak and Rama T. Ponangi. 2022. ‘Russia’s Outsized Role in India’s Nuclear Power Program’, *The Diplomat*, May 28, 2022.
- Siddiqui, Huma. 2020. ‘Celebrating India-Bhutan ties: The Mangdechhu Hydroelectric Power Project receives prestigious award’, *Financial Express*, October 21, 2020.
- *The Hindu*. 2022. ‘Nepal starts exporting 364 MW electricity to India’, June 11, 2022.
- Thomas, R. G. C. 1998. ‘Should India Sign the NPT/CTBT?’. in R.G.C. Thomas. ed., *The Nuclear Non-Proliferation Regime*, London: Palgrave Macmillan, pp. 284-309.
- United Nations, (n.d.), “Comprehensive Nuclear-Test-Ban Treaty (CTBT)”, Office of the Disarmament, <https://www.un.org/disarmament/wmd/nuclear/ctbt/>.
- Victor, Robert W. R., Amy M. Jaffe, and Mark H. Hayes. 2006. *Natural Gas and Geopolitics: From 1970 to 2040*. Cambridge: Cambridge University Press.
- Wadhwa, A. 2021. ‘India, Europe/the European Union and West Asia’, in R.K. Jain. ed., *India, Europe and Asia*, Singapore: Palgrave Macmillan, pp. 187-209.

- World Bank live, 'Regional Power Trade: Toward a Green, Clean and Energy-Secure South Asia', 2022, <https://live.worldbank.org/regional-power-trade-towards-green-clean-and-energy-secure-south-asia>.
- Yergin, Daniel. 1991. *The Prize: The Epic Quest for Oil, Money, and Power*. New York: Free Press.

Bio Profile of the Author:

Associate Professor
Centre for South Asian Studies
School of International Studies, JNU,
New Delhi-110067
Email: opgadde2@gmail.com