



Geopolitics of Energy Security: India's Perspective

Authored by

Pooran Chandra Pandey



India-EU Meet in Europe on Energy Security

During Indian prime minister, Modi's recently concluded visit to Europe, he chaired 6th round of Indo-German Inter-governmental consultation in Berlin with German chancellor as a co-chair to discuss bilateral, regional and global issues arising in wake of Russia's war on Ukraine besides holding meetings with Nordic forum in Copenhagen. While on his way back home, he also visited Paris to meet with French President to exchange perspectives on bilateral, regional and international cooperation issues while laying out India's position, including energy security, free trade agreements, democratic values and future vision on international issues to build together 'a principles-based robust coalition of willing democracies' to repel aggressive behaviour of autocratic and authoritarian regimes.

India is set to play a pivotal role in global affairs as it assumes presidency of G-20 next year and the ground for decisive dialogue and diplomacy is being laid with Indian Prime Minister's visit to major European capitals. Modi also lately met with US president, Australian and Japanese counterparts in Japan to during QUAD Summit to lay out technology, climate change, maritime and security priorities with effective ways to address the elements of the China challenge in the region, forging coordinate response mechanism toward democratic development.

India is also expected to attend upcoming G-7 Summit in late June in Bavaria, Germany.

Russia's War on Ukraine

Amid Russia's ongoing war in Ukraine, flurry of dialogues and diplomatic activities have been doing the rounds with state visits undertaken by head of states back and forth to amplify, articulate and enunciate their positions on bilateral relations with Russia, position on Ukraine and wider collaborations and partnerships with Europe and EU as a block over values and visions for emerging world order. At the heart of it all lie the energy security, food crisis, inflationary pressures and reset in global energy security including emergent security architecture, potentially pivoted around energy flow from Russia and efforts of Europe to wean off its long standing dependence on Russian energy and Moscow's efforts to diversify its energy supplies more towards south Asia and south east Asia.

As a result of ongoing Russia's war on Ukraine, India's long standing bilateral relations with Moscow has been under pressure from all quarters including Germany and France in particular and EU in general. US as India's relatively new partner and Japan as country's long standing partner (also being QUAD partners) have also been ramping their efforts to impress upon New Delhi to move away from its dependence from Moscow in view of its unprovoked war against a sovereign and independent Ukraine, a value that democracies hold dear.

India has however made its position clear at multiple forums that it calls for immediate cessation of Russia's war on Ukraine and dialogue and diplomacy should prevail in finding a solution to the crisis. New Delhi has though abstained away from security council resolutions against openly criticising Moscow for its act of war and stated that security council resolutions are strong indication of the will of the international



community which as not being binding and vetoed by Russia as a P5 member would have little ice to cut in being effective to the point of stopping the war.

India has also been suffering due to oil and gas supplies and prices hitting the sky due to a sharp price hike in the international market continuing to benefit from highly discounted oil and gas prices supplied to it by Moscow without being in violation of sanctions imposed by Europe led by the USA. It is also worth mentioning that rising oil and gas prices have likely potential to upset domestic politics of countries potentially serving as a template for anti incumbency factor for those political parties that are in power. Therefore, Russia's war on Ukraine will likely play out on a number of areas and issues and pivoted by energy dependence of Europe on Russian oil and gas including in South Asia and South East Asia, an emerging world order is widely believed to be reshaping up and would likely redraw geopolitical boundaries much beyond regions with immediate impact of Russia's war on Ukraine.

Consider this:

Oil and gas industry in India dates back to 1889 when the first oil deposits in the country were discovered near the town of Digboi in the state of Assam. The natural gas industry in India began in the 1960s with the discovery of gas fields in Assam and Maharashtra (Bombay high). As on 31 March 2018, India had estimated crude oil reserves of 594.49 million tonnes (MT) and natural gas reserves of 1339.57 billion cubic meters (BCM).

India imports 82% of its oil needs and aims to bring that down to 67% by 2022 by replacing it with local exploration, renewable energy and indigenous ethanol fuel. India was the second top net crude oil (including crude oil products) importer of 205.3 Mt in 2019.

Natural Gas Landscape in India

By March 2021, India's domestic crude oil production output fell by 5.2% and natural gas production by 8.1% in the FY2021 as producers extracted 30,491.7 Thousand Metric Tonnes (TMT) of crude oil and 28670.6 Million Metric Standard Cubic Metres (MMSCM) of natural gas in the fiscal. In August 2021, crude oil production decreased by 2.3%, but there was a 20.23% increase in home-grown natural gas production.

India held 43 trillion cubic feet (Tcf) of proven gas reserves as of 2017, ranking 22nd in the world, accounting for over 1 % of world's total natural gas reserves of 6,903 (Tcf). The country thus has proven reserves equivalent to 22.1 times its annual consumption, meaning that India has about 22 years of gas left at current consumption levels, excluding unproven reserves.

In summary, the following are the highlights:

- India consumed **1,957,546 million cubic feet** (MMcf) of natural gas per year as of the year 2017-18.
- India now ranks 14th in the world for natural gas consumption, accounting for about **1.5%** of the world's total consumption of 132,290,211 MMcf.



- India consumed **1,462 cubic feet of natural gas per capita** every year (based on the 2017-18 population of 1,338,676,785 people), or **4 cubic feet per capita per day**.

Summary table:

Variability	Million Cubic Ft (MMcf)
Gas Reserves	50,398,000
Gas Production	1,113,364
Gas Consumption	1,753,143
Yearly Deficit	-619,778
Yearly Imports	659,331
Yearly Exports	9,535
Net Imports	649,796

(Data shown in the summary table above is 2016-17, the latest year with complete data in all categories)

Context of natural gas in India's industrial development

The commercial sector contributing to India's growth, development and industrialization uses in a variety of sectors and industrial activities ranging from heating buildings and water, to operating refrigeration and cooling equipment, to cooking, to drying clothes, and to providing outdoor lighting. Some consumers in the commercial sector also use natural gas as a fuel in combined heat and power systems. Natural gas thus from usage point of view in India can be categorised as the most important source of energy source in sectors such as fertilizer, power, refinery, petrochemicals, residential, energy and transport sectors, accounting for more than 80 % of the total consumption, contributing approximately 30 % in country's gross national product employing around 20 % of total workforce in the country.

A summary table below demonstrates the distribution of natural gas consumption in 2021 by sectors:



Sectors	Distribution of natural gas consumption (In percentage)
---------	---

Fertilizer Industry	29
Power	18
Local Natural Gas Distribution Network Including Road Transport	15
Refinery	13
Miscl.	08
Petrochemical	05
Internal Consumption for Pipeline System	01
LPG Shrinkage	01
Industrial and Manufacturing	01
Sponge Iron	01

Source: Statista, 2021 (<https://www.statista.com/statistics/1126695/india-natural-gas-consumption-share-by-sector/>)

Natural gas and Carbon Emissions

Rise in temperature is a cause of major concern across the globe. Some studies have attempted to project the corresponding carbon dioxide emissions and temperature variation in India using Auto Regressive Integrated Moving Average Model on past 44 years' data for predicting the future demand of petroleum oil, coal and natural gas in India, anticipating the total demand for petroleum products to double by the year 2020 growing at a rate of 3.5 percent per year. The consumption of coal has witnessed an annual growth rate of 2.6 percent and the growth of natural gas is likely to be highest among all at 5.1 percent. In total, the fossil fuel consumption seems to grow at the rate of 4 percent per annum. This may have caused the CO₂ level to rise to one and half times by the year 2020 in comparison to that of 2008 level thus causing an



increase in the surface temperature by 0.0008 percent per annum. However, the level of carbon dioxide emission and the increase in temperature can be controlled by replacing the petroleum oil and coal consumption with natural gas as a transition fuel in bid for the country to be able to cut its emissions by 50 % by 2030 before going net zero by 2070 as per country's renewed climate pledge made at the COP 26 in Glasgow.

India's Hydrocarbon Vision, 2025

India retained its spot as the third-largest consumer of oil in the world as of 2021. The Government has adopted several policies to fulfil the increasing demand. It has allowed 100% Foreign Direct Investment (FDI) in many segments of the sector, including natural gas, petroleum products and refineries, among others. Natural gas in India is emerging as the preferred fuel of the future in view of it being an environmental friendly economically attractive fuel and also a desirable feedstock. Increased focus needs to be given to this potential sector. (India's Hydrocarbon Vision 2025, Ministry of Petroleum, Government of India), also available at <http://petroleum.nic.in/sites/default/files/vision.pdf>.

New Delhi's Global Climate Pledges: Stark Choices

As India continues to grow economically with a major thrust on country's accelerated industrial activities, it finds natural gas a long term solution while as it pushes for cutting down on coal usage from supply chains and going all out for renewables. Country has progressive policies on use and deployment of natural gas in a bid to cut both on emissions and also fulfil its renewed climate pledge announced at the COP 26 in Glasgow. India has realised that the country will have to find its own foothold in its push for clean energy and cutting emissions and going net neutral as the developed nations have failed poorly in honouring their binding commitment to support developing economies such as India and those in the global South both with USD 100 billion financial support and transfer of clean technologies promised as a part of Paris Climate Agreement, 2015.

Natural gas in India is poised to act as a substitute to coal in short to medium term and likely be leveraged as a transition fuel in the long term before fully aligning with clean energy elements through renewable sources and innovative energy mixing, going forward.

What's in the making?

It is in this context that New Delhi is currently reviewing its energy security issues, figuring out a new pathway on a pragmatic need to balance its collaborations with liberal democracies with its long standing bilateral relations with Moscow, a tight rope



walk that India will have to tread arising out of Russia's ongoing war on Ukraine. India's dependence though on Russian energy is miniscule in comparison to its EU partners, however, given that Europe in medium term has committed to wean off its dependence on Russian energy sources - on gas in particular, Moscow has in turn made it clear that it would diversify its energy supplies out of Europe into south Asia and south-east Asia at enormously subsidised rates. India, upon being offered alternative energy sources by the Western partners, has made it clear that other energy alternatives are too expensive. It would indeed be worth a wait to watch out on how energy prices would likely influence shifting geopolitics and geo-economics within and beyond regions.

One thing though, going forward, that seems certain is that energy issues would likely pivot the changing world order and reset the security architecture largely triggered by cheap energy supplies to new emergent markets, potentially in lead up to new power realignments between the East and the West in the aftermath of Russia's war on Ukraine.



About Author

Pooran Chandra Pandey



Pooran Chandra Pandey specializes in geopolitics, international affairs, economic diplomacy, private sector and development cooperation. Contributor to international encyclopedia by Springer Nature, Europe, he holds academic, advisory and writing assignments at the UTS, Sydney, Climate Scorecard, US, Nkafu Policy Institute, Cameroon, Middle East Institute, Asia Program, Washington and New Zealand Center for Global Studies, New Zealand. He also sits on boards on UN, business corporations and non-profits, nationally and internationally.

Previously, he served as a Founding CEO of a Berlin based global think tank- DOC Research Institute (2016-2018) and helmed United Nations (2011-2016) and Times of India (2007-2011). Author of 5 books and many research papers in refereed journals, internationally, Pooran holds an M. Phil degree in International Studies from Jawaharlal Nehru University, New Delhi, and trained in Russia, China, Sweden, Germany, US, UK and Japan.

He is also a Chevening Scholar at the London School of Economics and Political Science, London.