
India's Energy Security And Iran-Pakistan-India Gas Pipeline

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Energy security is a holistic concept, which varies from country to country. For the exporting country it implies continuous access of markets for the selling of energy sources. For the importing country, it essentially implies "ensuring uninterrupted supplies of energy to support the economic and commercial activities necessary for the sustained growth of the economy"¹. The critical relevance of this concept for India emanates from the growing imbalance between the demand for energy and its supply from indigenous sources, implying thereby growing dependence on imported energy.

India's Energy Scenario:

India is both a major energy

producer and consumer. India currently ranks as the world's eleventh greatest energy consumer accounting for about 2.4 percent of the world's total energy production and as the world's sixth greatest energy consumer, accounting for about 3.3 percent of the world's total annual consumption². Despite its large annual energy production, India is a net energy importer due to large imbalance between production and consumption.

India's proven oil reserve is 786 million metric tonnes (MT), while the production of crude oil in 2006 was around 32.19 MT. During the same year, the demand stood at around 130.11 MT. The natural gas reserves are placed at 1101 billion cubic metres in 2005-06 (Basic Statistics on Petroleum and Natural Gas, 2005-06). The production is around 86 million metric standard

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Table I
Primary Commercial Energy Consumption in India

Source	Unit	1990-91	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06 Provisional
Petroleum products	MMT	57.75	106.97	107.71	111.78	115.99	120.17	121.05
Natural Gas	BCM	12.77	27.86	28.04	29.96	30.91	30.78	31.33
Coal	MMT	211.73	309.63	327.79	341.29	361.25	382.61	405.20
Lignite	MMT	13.77	22.95	24.81	26.02	27.96	30.34	32.53
Electricity	Bn. KWH	289.40	544.50	579.10	596.50	633.30	680.00	730.32

Source: *Basic Statistics on Petroleum and Natural Gas 2005-06*, Ministry of Petroleum and Natural Gas, Government of India, P: 24

Table I
Primary Commercial Energy Consumption in India

Year	Coal	Oil	Gas	Hydel	Nuclear
1997-98	55	35	7	2	1
2001-02	50	32	15	2	1
2006-07	50	32	15	2	1
2010-11	53	30	14	2	1
2024-25	50	25	20	2	3

Source: *Technical Note on Energy*, Planning Commission (www.planningcommission.nic.in) accessed on 5 April 2005.

cubic meters per day, whereas the demand is around 115 MMSCMD³ - that means that there is a shortfall of about 30 MMSCMD. India has huge proven coal reserves, estimated at more than 90 billion tons or about 1 percent of the world's total. India now ranks third amongst the coal producing countries in the world. It accounts

for 55 percent of the country's total energy supplies.⁴ The annual demand for coal has been steadily increasing over the past decade, and is now nearly 50 percent greater than it was a decade ago. India currently faces coal shortage of 23.96 MT. This shortage is likely to be met through imports, mainly by steel, power and cement sector.⁵

Table II
Estimated Energy Demand

Primary Fuel	Unit	Demand (in original units)		Demand (MTOE)	
		2006/07	2011/12	2006/07	2011/12
Coal	MT	460.50	620.50	190.50	254.93
Lignite	MT	57.79	81.54	15.51	22.02
Oil	MT	134.50	172.47	144.58	185.40
Natural gas	BCM	47.45	64.00	42.70	57.60
Hydro Power	BKWh	148.08	215.66	12.73	18.54
Nuclear Power	BKWh	23.15	54.74	6.04	14.16
Wind Power	BKWh	4.00	11.62	0.35	1.00
Total Commercial energy				411.91	553.68
Non-commercial energy				151.30	170.25
Total energy demand				563.21	723.93

MT- million tonnes; BCM- billion cubic metres; BKWh- billion kilowat - hours; MTOE- million tonnes oil equivalent.

Source: Planning Commission, Government of India.

Though the position regarding coal is comparatively better, mining is beset with environmental problems as it often leads to deforestation and diversion of land from agricultural to other purposes. Also, greater use of coal energy will result in increased carbon emission and other pollutants, which, in turn, is likely to worsen the environmental problems.

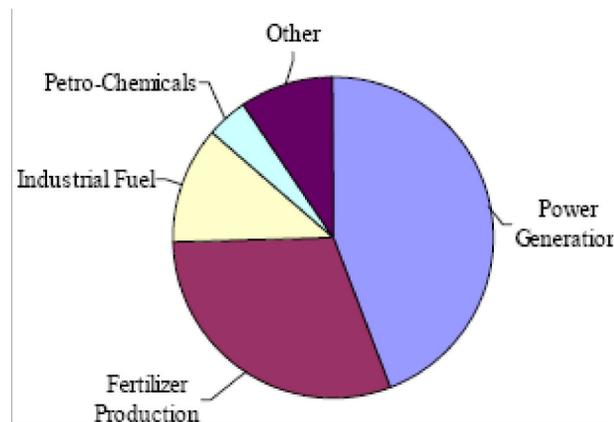
As far as the hydro potential is concerned, India's total hydro potential is 84,000 MW, of which only 26,261 MW is operational, constituting only 25 percent of the current power mix.⁶ Long gestation period, rehabilitation and other environmental problems are hindrances in the trapping of total hydro potential. India has uranium resources, which are sufficient to

meet the life time requirement of the first stage of the country's nuclear development programs of 10,000 MW. Over and above this, about 290,000 tonnes of thorium oxide deposits are known to exist, which, when used through breeder reactors, may produce 900,000 billion kilo watt per hour of electricity. But currently, only 2.6 percent of India's power consumption is met by nuclear energy.

Different uses of natural gas in India

Natural Gas

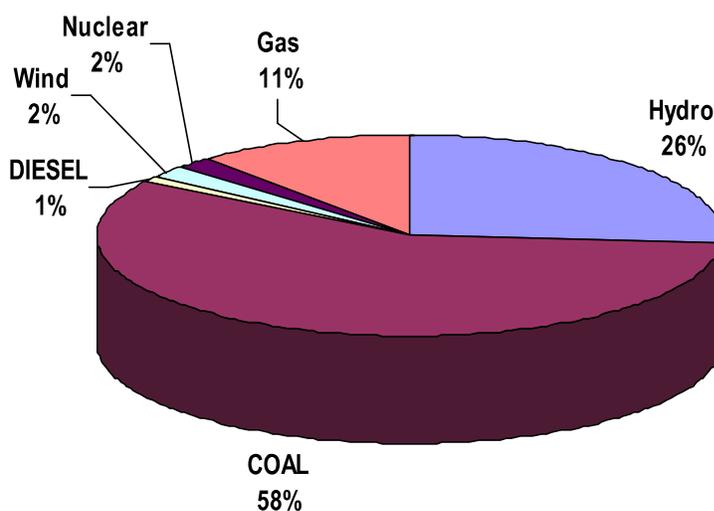
Natural gas consists mainly of methane, the simplest hydrocarbon, along with ethane, propane and butane. It is the cleanest burning



fossil fuel, producing just water vapour and low carbon dioxide. LPG, which is mainly propane, is a common substitute for natural gas. The history of natural gas spans thousands of years, but as a fuel, gas did not become important to our way of life until the 1930s; but now due to growing environmental consciousness, natural gas has become the most demanding energy source. Natural gas has experienced the fastest rate of increase of demand in any fuel in India. As far as India's natural gas reserves are concerned, it was placed at 923 billion cubic meters in 2004-05 but increased to 1101 billion cubic metres in 2005-06. It is about 0.5 percent of the world's total. The

demand is growing about 4.8 per cent a year and the forecast is that it would rise by 1.6 percent every year till 2015. In line with India's predicted speedy economic growth, the country will need to add over 150,000 MW of additional installed power generation capacity by 2025. Gas is predicted to account for about 20 percent of generation capacity in that year, up from its current share of 11 percent⁷.

The reality is that the natural gas market is growing faster as India has relying upon domestic production to meet less than 10 percent of its needs. Though the Reliance industry limited has discovered gas resources in Krishna, Godavari Basin, which



has a capacity of 7 trillion cubic feet, it would take at least four –five yeas to reach consumers. But, by that time the demand of natural gas would climb to more than 151 MMSCMD. The current demand for

natural gas is only 8 percent, which is expected to increase to 20 percent by 2025. Thus, India has to depend on the import for natural gas.

India can import gas from Iran,

India's Power Generation from Various Sources

Country	Reserves(Trillion Cubic Feet)	Percent of World Total
World	6,112	100.0
Top 20 Countires.....	5,510	90.2
Russia	1,680	27.5
Iran	971	15.9
Qatar	911	14.9
Saudi Arabia....	241	3.9
United Arab Emirates...	214	3.5
United States	193	3.1
Nigeria	185	3.0
Algeria	161	2.6
Venezuela.....	151	2.5
Iraq....	112	1.8
Indonesia	98	1.6
Norway	84	1.4
Malaysia.....	75	1.2
Turkmenistan	71	1.2
Uzbekistan.....	66	1.1
Kazakhstan	65	1.1
Netherlands.....	62	1.0
Egypt.....	59	1.0
Canada.....	57	0.9
Kuwait	56	0.9
Rest of World.....	602	9.8

Source: *Worldwide Look at Reserves and Production, Oil & Gas Journal, Vol. 103, No. 47 (December 19, 2005), pp. 24-25.*

Turkmenistan, Myanmar and Bangladesh through pipelines. But Iran-Pakistan-India gas pipeline is more preferred option because other available options are more problematic. First, alternative gas pipeline option is US\$3.2 billion, 1700 KM- long TAPI pipeline from Turkmenistan via Afghanistan and Pakistan to India. The pipeline would be designed to carry up to 30 bcm/y of which maximum 10 bcm/y only could be taken off by India. In the East, India is formulating a plan to import 11 bcm/y of gas from Myanmar via Bangladesh through US\$1.5 billion and 900 Km pipeline. However, none of these options has made any substantial progress as no agreement on gas pricing has been done. Besides, to obtain gas from Turkmenistan is risky as it crosses insurgent areas. As far as Myanmar is concerned, it is understood that it expects India to pay at least the same price as Thailand pays. The Thai of US\$3.8/mmbtu would result into a delivered price of gas at the Indian border of more than US\$ 5/mmbtc after accounting for transport cost, transit fees to be paid to Bangladesh. Also, Bangladesh is not willing to sell its gas as it considers India as a hegemon who wants to control economy of Bangladesh. Thus only suitable option remaining is Iran-Pakistan-India gas pipeline.

Iran-Pakistan-India gas pipeline:

Indo-Iran relations have grown significantly across various sectors, but India's greatest interest lies in the secure and economically viable import of hydrocarbon from Iran. It was in 1989 that Dr. Ali Shams Ardekani, later Deputy Foreign Minister of Iran, and Dr. R. K. Pachauri jointly developed a proposal to import natural gas from Iran to India through a pipeline stretching overland across Pakistan. However, it was in February 2005 that a memorandum of understanding was signed for a \$7 bn Iran-India 2775 km gas pipeline passing through Pakistan, 760 km of which would be in the Pakistan territory. The pipeline would be buried to a depth varying between 0.9 meter and 1.5 meter and would use fibre optic cable serving system with a back up satellite link for monitoring maintenance unit being located every 150 km. There will be adequate material ready to be installed if there is a disruption to the 2775 km pipeline⁸. From this pipeline India will get the supply of 56.6 million cubic meters gas per day, while Pakistan will get 28.3 million cubic meters per day⁹. The petroleum ministry has designated GAIL as the nodal agency from the

Indian side for the proposed indo-Iran gas pipeline project. GAIL will provide the guarantees for off take of gas on the Indian border.

There is a debate on natural gas via pipeline versus LNG. The fact is that natural gas via pipeline is cheaper than LNG, which requires, as of now, a liquefaction plant, LNG tankers and one or more storage and re-gasification facilities on India's western coast. The differential cost between piped gas delivered at the Pakistan- India border and re-gasified LNG from a terminal in Gujarat would be about \$1 per MMBTU, in favour of the pipeline for long term contracts. Therefore, the pipeline proposal is not only attractive but cheaper too- half the price of imported liquefied natural gas¹⁰. Thus Iran-Pak-Indian gas pipeline is relevant and advantageous for India.

Pakistan, too, will get plenty of economic benefits; first, Pakistan will get about 20-40 percent of the total gas supply to meet its growing demand for natural gas. Second, the transit fee that India will pay for the piped gas passing through Pakistan would be around \$600 million annually. India, on the other hand, views this step as a confidence building reason for the security.

The gas import contract being negotiated with Iran is for a 25 year term, beginning from 2010. The delivery point of gas to India will be at the India-Pakistan border. Supply of gas will be from the gigantic South Pars gas field of Iran.

Constraints:

There are many hurdles in the way of the Indo-Iran gas pipeline project. These relate to pricing, transit challenge and US factor. On pricing of pipeline gas, the Iranians are linking it with the price of re-gasified LNG (R-LNG). As against this, India has suggested working out the gas price on actual well-head price, coupled with cost of transportation, transit fee and other related costs¹¹.

There is also a disagreement between Iran and Pakistan on pricing. Iran had come up with a new formula, linking the price of its gas with South East Asia and Qatar market, under which the delivery price offered to Pakistan was very high. To offset this, Pakistan put up a counter proposal setting the price at 30 percent of the price of oil it imported from the UAE and asked Iran to respond. The two formulae have a difference of more than \$3 per MMBTU. Iran reportedly quoted a gas sale price in the range of \$6-8.

But Pakistan wanted it to be between \$3.5 and 4 per MMBTU.¹²

Officials from Iran, India and Pakistan have met in Tehran to agree on a pricing formula for the export of Iranian gas. According to officials, Iran wants to sell natural gas to India and Pakistan at \$ 4.93 per million British thermal unit (at \$ 60 per barrel crude oil price). On top of this, Pakistan wants a transit fee of \$ 0.49 per mBtu (10 per cent of the gas price) and a transportation tariff of \$ 1.57 per mBtu, making the delivered price of gas at India-Pak border \$7 per mBtu. New Delhi, which is anxious to exploit new sources of energy to fuel its booming economy, deemed this to be too high and was unwilling to pay not more than \$4.25 per unit¹³. Pakistani officials said Islamabad had sought 10 per cent of the gas price as transit fee to deliver the gas at Pakistan-India border to provide right of way, security and safety to the pipeline. The transit fee will also include taxes and other expenses.

The second most important hurdle is a transit challenge due to terrorist activities. There is some security concern because there is a danger of disruption of the pipeline by terrorist, local rivals and insurgents, especially as the 2775 km pipeline

will pass through remote areas of Pakistan. There have been two occasions in 2003 when Pakistan's own pipeline in Baluchistan was attacked by rockets, leading to widespread disruption in supplies to Punjab and the NWFP. India wants that responsibility for the security must be owned by Iran till the Indian border but Pakistani stand is that if it is done it will be an encroachment in the sovereignty of Pakistan. So, Iran has suggested that the pipeline be owned and operated by an international consortium of bankers and oil companies, which will buy it from Iran and sell it to India. The argument is that such a deal will be directly with India and remove Pakistan's motivations to disrupt supplies. Second, it suggested that spigots (or taps) on the pipeline be based only in Iran and India, so that Pakistan could not turn off the supply without actually blowing up a section, thereby hurting its own supplies.¹⁴

The third important hurdle is US unwillingness to allow Iran to sell its gas to India via pipeline. The pipeline faces oppositions from the United States, which accuses Iran of seeking nuclear arms, favouring anti-Israeli militias and stirring militant attacks against US forces in

Iraq¹⁵. The US considers Iran a hostile state and enforces unilateral economic sanctions against it. The US companies cannot enter the Iranian gas market under the executive order 129659, which was signed by President Bill Clinton in 1995 and renewed by President Bush in March 2004¹⁶. Notwithstanding already existing comprehensive unilateral sanctions against Iran (and Libya 1986), the Iran and Libya sanctions Act (ILSA) was enacted by the US Congress in 1996. ILSA has many of the same objectives as the unilateral sanctions, but is different in jurisdictional scope. Unlike the embargoes, against Iran and Libya, which are primarily sanctions, ILSA imposes a secondary boycott. The legislation was designed essentially to force Companies into not choosing to do business with Iran and Libya or the United States. ILSA mandates the US president to impose sanctions on any US or foreign person, company or country, who after 5 August 1997, invests \$20 million or more in an Iranian project if that investment directly and significantly contributes to the enhancement of Iran's ability to explore, extract, refine, or transport by pipeline its oil and natural gas resources.¹⁷

In March 2005, the US secretary

of state, Condoleezza Rice visited India and Pakistan. Speaking in New Delhi, she said that the US had conveyed its "concerns" to India on the gas pipeline¹⁸. The very fact is that the US does not want to make Iran economically strong because, for Iran, with its huge natural gas resources, South Asia, especially India, is a growing market and it would get substantial revenues from the sale of natural gas¹⁹. Thus the US is not in favour of this project. The US does not want to see Iran as an economically strong country because it would help its alleged nuclearisation, though Iran says that its nuclear programme aims at its future energy needs²⁰.

Keeping the US factor in mind once India was reluctant to go ahead with this project. This led to the initiation of the direct talks between Iran-pakistan. Recently the 11th Pakistan-Iran Joint Working Group (JWG) meeting on Iran-Pakistan-India (IPI) gas pipeline was held. The two sides held an in-depth discussion on technical, financial, commercial and, legal aspects of the contract, which is at the advanced stage of finalization. The Iranian delegation was led by Hojjatollah Ghanimifard, special representative of Iran's Petroleum Ministry, The Iranian side stated that the window

for Indian participation to join the project may not remain open for an indefinite period on the existing terms and conditions of the project.

However, India hoped that work would start on Iran-Pakistan-India gas pipeline project by March 2008. Indian Secretary Petroleum and Natural Gas, M S Srinivasan has said that India was also hopeful to finalize a transit fee agreement with Pakistan before starting this project. He said talks with Pakistan on transit fee and other related issues were stopped due to political developments in Pakistan. Negotiations with Islamabad would resume soon, he said. India has already discussed the issue of gas price and transportation charges with Islamabad and only the transit fee issue remains to be solved. He expressed the confidence that transit

fee issue would be solved and the project would begin by March 2008²¹.

Conclusion:

It is not uncommon to see all great strategic projects facing different challenges in some form or the other before being put into shape. Same is the case with the Iran-Pakistan-India gas line. However, its implementation will not only decrease tension among all the three countries that belong to single civilization zone but will also be the greatest step taken towards building confidence. The fact is that if the pipeline is implemented, regional geopolitics will move towards the East, and the way will be paved for connecting Iran's gas resources not only to India but also to China, making it a "Peace Pipeline". ■

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