

Future of LNG in Pakistan

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Overview

The aim of this paper is to examine and situate the status of LNG industry and related regulatory framework in Pakistan. Midstream and downstream regulatory framework is being reformed to enable induction of LNG in a government controlled dedicated gas transmission and distribution companies' (T&Ds) networks. The paper reviews the opportunities that the gas market liberalization including unbundling, Third Party Access (TPA) and capacity allocation may bring-in for the various LNG stakeholders including T&Ds, natural gas producers, LNG suppliers and consumers. This study is meant to facilitate discussion on planned and potential regulatory reforms in the gas market essentially caused by fast growing LNG business activities in Pakistan.

After numerous years of energy shortage and load-shedding, Pakistan, after realizing that its future political stability and sustainable development depends on continuous economic growth fueled by readily available and affordable energy supplies, has recently taken practical steps towards mitigating the energy deficiency. Over the past two decades, there has been a continuous increase in the energy supply and demand gap in the country. In the absence of any promising prospects in near future for addition of in the already debilitating gas reserves and the growing demand for natural gas made the federal government to go for the import of gas from the neighbouring countries or import of gas as LNG. Gas import options like Iran-Pakistan-India (IPI) pipeline, Qatar-Pakistan pipeline or Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline seem to remain in doldrums in foreseeable future. At present, demand of natural gas is estimated at around 10 Billion Cubic Feet per day (BCFD) which is likely to further increase to about 12 BCFD by the year 2020 against a total supply of 4 BCF¹. As a tool to achieve higher GDP growth rate, which can be increased by about 2.5 to 3% by meeting natural gas demand of industrial and commercial sectors alone, Government resolved to rely on the LNG as an immediate solution, and have started importing LNG from Qatar since March 2015, even when proper regulatory and institutional framework was yet to put in place. It is estimated that LNG imports into Pakistan will be increased to 30 mtpa by the year 2022. This will make Pakistan one of the top five LNG importers in the world by 2022.²

In 2016, the Government of Pakistan imported LNG from Qatar at a delivered ex-ship (DES) price indexed to 13.4% of Brent oil price. Essentially there is a significant price difference among the cost of imported LNG and that of locally produced gas. Weighted average cost of domestic gas is about US\$4.19/MMBTU, whereas delivered price of LNG is expected to be much higher. The adversity of shortage of gas has worked as a blessing in a way that the commercial and industrial consumers happily agree to pay price of LNG on a "cost plus" formula basis, whereas all other consumers, dependent on the domestic gas supply system are paying a lesser price of gas. This has been possible only by parting way from the typical uniform gas pricing mechanism.

¹ Total Gas Demand on System, 2013. Internal Documents of Ministry of Petroleum and Natural Resources, Islamabad, Pakistan

² The Daily Dawn dated July 11, 2017, *Pakistan to become major LNG Importer by 2022*, available at <https://www.dawn.com/news/1344521>, last visited on September 15, 2017 at 9.20 pm.

Introduction of LNG

Liquefied Natural Gas (LNG) is natural gas that is cooled and converted into liquid for ease of storage and transportation. This is done at a temperature of about -160°C (-256°F) and at a certain atmospheric pressure. Liquefaction reduces the fuel volume by about 600 times and allows it to be stored and transported in specially designed vessels. It is toxic and non-corrosive, odorless and colorless.

As compared to compressed natural gas (CNG), LNG gets a higher reduction in volume in a way that the (volumetric) energy density of LNG is 2.4 times greater than that of CNG or 60 percent that of diesel fuel.³ This offers a great advantage in terms of its transportation over long distances in a cost efficient way when compared with usual means of gas transportation through pipelines, thus, making it an increasingly important worldwide commodity.

For LNG transport, specially designed cryogenic sea vessels (LNG carriers) or cryogenic road tankers are used. By this way natural gas is transported to markets, where it is regasified and distributed as pipeline natural gas. Its comparatively high cost of production and the requirement to store it in expensive specially designed tanks have initially hindered its extensive commercial use. However, with the advancement in technology LNG business is becoming increasingly affordable. The costs of liquefaction, storage and regasification have been decreased significantly.

Evolution of LNG Market

In 1964, the first LNG shipments were Atlantic Basin movements from Algeria to Europe (France & UK). However, later on when huge demand picked up in Japan, LNG industry experienced a major growth in the 1970's. In 1997 Tokyo, Osaka and Nagoya alone accounted for more than 50% of world LNG trade. Late 1990s and early 2000s saw rapid growth of LNG market in China, Korea, Taiwan, India and US. During this period, these countries accounted for almost 90% of world LNG imports. Then its rapid growth was seen in Europe. By 2002, Spain became Europe's largest LNG importer. Then in 2005/06 the UK became a major LNG target market.⁴ Over the decade from 1995 to 2005, world global LNG trade, increased at a rate of 7.4 percent per year. It is further expected to continue growing from 2005 to 2020 at 6.7 percent per year.⁵ E&Y also projects that global LNG demand could hit 400 mtpa by 2020⁶

In February 2016, US started exporting LNG and it is estimated that by 2020, the U.S. alone will be exporting between 10 Bcf/d to 14 Bcf/d.⁷

³ "Liquefied Petroleum Gas (LPG), Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG)". Envocare Ltd. 21-03-2007, http://www.envocare.co.uk/lpg_lng_cng.htm

⁴ The Outlook for Global Trade in Liquefied Natural Gas Projections to the Year 2020, Prepared For: California Energy Commission, August 2007 [Energy.ca.gov](http://www.energy.ca.gov)

⁵ Idem.

⁶ "Global LNG Will new demand and new supply mean new pricing?". Retrieved 17 April 2015, [http://www.ey.com/Publication/vwLUAssets/Global_LNG_New_pricing_ahead/\\$FILE/Global_LNG_New_pricing_ahead_DW0240.pdf](http://www.ey.com/Publication/vwLUAssets/Global_LNG_New_pricing_ahead/$FILE/Global_LNG_New_pricing_ahead_DW0240.pdf)

⁷ "U.S. shale gas revolution expands LNG export opportunities". Retrieved 17 April 2015, <http://bv.com/reports/natural-gas/lng-exports>

Global LNG exports/imports

Natural gas accounts for roughly a quarter (25%) of world energy demand of which 9.8% is supplied as LNG⁸. LNG is becoming more relevant in the supply and demand of natural gas at a global level. At the end of 2015, 34 countries imported/ purchased LNG, compared to 15 countries in 2005. The demand for LNG increased to 2.5 percent in 2015 compared to 2014.

There were 18 LNG exporting countries and 25 LNG importing countries at the end of 2011. Among them three major LNG exporters were Qatar (75.5 MT), Malaysia (25 MT) and Indonesia (21.4 MT). The three biggest LNG importers in 2011 were Japan (78.8 MT), South Korea (35 MT) and UK (18.6 MT).⁹

In 2015, total globally traded LNG volumes reached 244.8 MT, a 4.7 MT increase over 2014. This marks an all-time high for total trade in the LNG market, surpassing the previous post-Fukushima high set in 2011 by 3.3 MT. Three (3) new countries joined the ranks of re-exporters in 2015, with India, Singapore and the United Kingdom sending out their first cargoes. The Middle East's market share fell from 40% in 2014 to 38% in 2015 as domestic turbulence in Yemen forced first a brief force majeure in January, and then an extended shut-down starting in April; exports remain offline as of February 2016. However, the Middle East's five-year reign as the largest exporting region upheld in 2015, but new supplies from Australia and elsewhere in Asia-Pacific has narrowed the gap significantly. Qatar alone exported nearly one-third of global trade, and remains the world's largest exporter.

Asia-Pacific and Asian markets (Japan, South Korea, and China) continue importing more than 70% of world's total LNG imports. In 2015, Egypt and in 2016, three other markets (Pakistan, Jordan, and Poland) took in their first cargoes. In total, these new markets pulled in 6.0 MT as Egypt set a new record for the fastest import ramp-up ever. The four new markets added to the 29 existing markets in 2014 to bring the total number of importing countries to 33 (excluding Indonesia, which has only consumed domestically-produced LNG).¹⁰

LNG Business

The LNG business sees the linking together of at least three large infrastructure projects. First is an upstream oil and gas project for the exploitation and production of gas for delivery into a liquefaction plant. Second large infrastructure project is the Liquefaction plant being a facility for the receipt of natural gas and its treatment and processing so as to produce liquefied natural gas for loading onto LNG vessels/tankers. Whether or not the construction of several LNG tankers for the purposes of loading and transporting LNG could be seen as a further infrastructure project, the development of the regasification plant at which deliveries of LNG are received and then pumped into gas pipeline certainly will be. This regasification plant will be located in the receiving state and will be developed so as to receive LNG from the LNG tankers for regasification so as to make it available for delivery by pipeline to consumers of natural gas. In some cases, these consumers will be industrial, commercial and domestic consumers of an incumbent monopoly gas utility operating under exclusive rights

⁸ International Gas Union's World LNG Report 2016 available at <http://www.igu.org/news/igu-releases-2016-world-lng-report>, last visited September 16, 2017.

⁹ International Gas Union's World LNG Report, 2011, Page 8 and Page 11, available at http://www.igu.org/sites/default/files/node-page-field_file/LNG%20Report%202011.pdf

¹⁰ International Gas Union's World LNG Report 2016, available at <http://www.igu.org/download/file/fid/2123>

but it is also likely that these consumers will themselves constitute further infrastructure projects such as gas-fired power plants. One of the characteristics of the LNG business is the remote nature of the sources of production and the markets of consumption. The geographical separation of the sources of production and the markets of consumption have militated against the transport of gas by means of pipeline and thus have necessitated the use of the sophisticated and expensive technologies of the LNG business.

The arrival of LNG symbolizes the beginning of a new era of development. Almost 30% of the global LNG transactions are completed in the spot market and short term, and it's turning the product into a commodity. The falling local gas supply is being supplemented with imported LNG at unstable oil linked prices. While this creates challenges, at the same time international LNG trade is growing at a speed that has been never witnessed before. There are more and more buyers and sellers joining in to confirm the LNG as the future fuel. The industry is growing significantly and is becoming increasingly big, diverse and global. Both suppliers and customers benefit from these developments, which are providing a wide choice of sales/supply options ranging from traditional long-term contracts to short term and spot arrangements to meet evolving customers and suppliers' needs.

Pakistan has taken very bold and pragmatic step to import LNG by guaranteeing significant return on investment for the installation of LNG Terminals by private investors, and allowing discriminate pricing policy on a "cost plus basis" formula. This has enabled the Government to land Pakistan's first ever LNG vessel in March 2015 and since then there is ongoing acceleration in LNG imports. Second LNG terminal is scheduled to commission in September/October 2017 which will double the LNG imports. Third LNG terminal is planned to be made operational sometime towards end of 2018.

The growth of LNG industry in Pakistan stipulates an urgent need to set up an appropriate institutional and regulatory framework. The import of LNG should not only have direct impact on the GDP growth rate but it should also increase the standard of living of the population. While promoting competition, price transparency, non-discriminatory access and economical cost to consumers, the regulator seems to have many challenges such as (i) control on unaccounted for gas (UFG), (ii) third party access; (iii) capacity regulation, economical entry and exit into the market, and (iv) use of distribution and sales systems by different service providers.

LNG as an immediate solution for Pakistan

Natural Gas contributes about 48 percent of the total primary energy supply mix in the country and demand in Pakistan is growing at a rapid rate. 27.5% of total natural gas is consumed in the power sector, while the fertilizers, industries, transport and domestic sector also need natural gas. It is also estimated that gas accounts for 65% to 70% in the total fuel and energy component of textile sector's cost of production.

Pakistan has an extensive gas network of over 11,538 km transmission, 1,14,982 km distribution and 31,058 Services gas pipelines to cater the requirement of more than 7.9 million consumers across the country providing, around 4 BCFD natural gas. The government is pursuing its policies to enhance gas supplies to meet the increasing demand of energy in the country.

Pakistan is a great example how a low-income developing country can benefit from using its gas resources¹¹. Beginning with the Sui Gas Field in the early 1950s, Pakistan while encouraging substitution of imported oil with its gas, developed a widespread transmission and distribution network throughout the country from south to north. Natural gas plays a great role in Pakistan's economy and has made the country among the most gas dependent economies of the world. Until recently Pakistan ranked third¹² in the world in respect of use of natural gas as a motor fuel, behind Brazil and Argentina. Out of adversity Pakistan is also making gas the "fuel of choice" for future electric power generation projects¹³.

The average natural gas consumption was about 3,387 million cubic feet per day (MMcfd) including 175 MMcfd volume of re-gasified liquid natural gas RLNG) during July 2015 to February 2016.

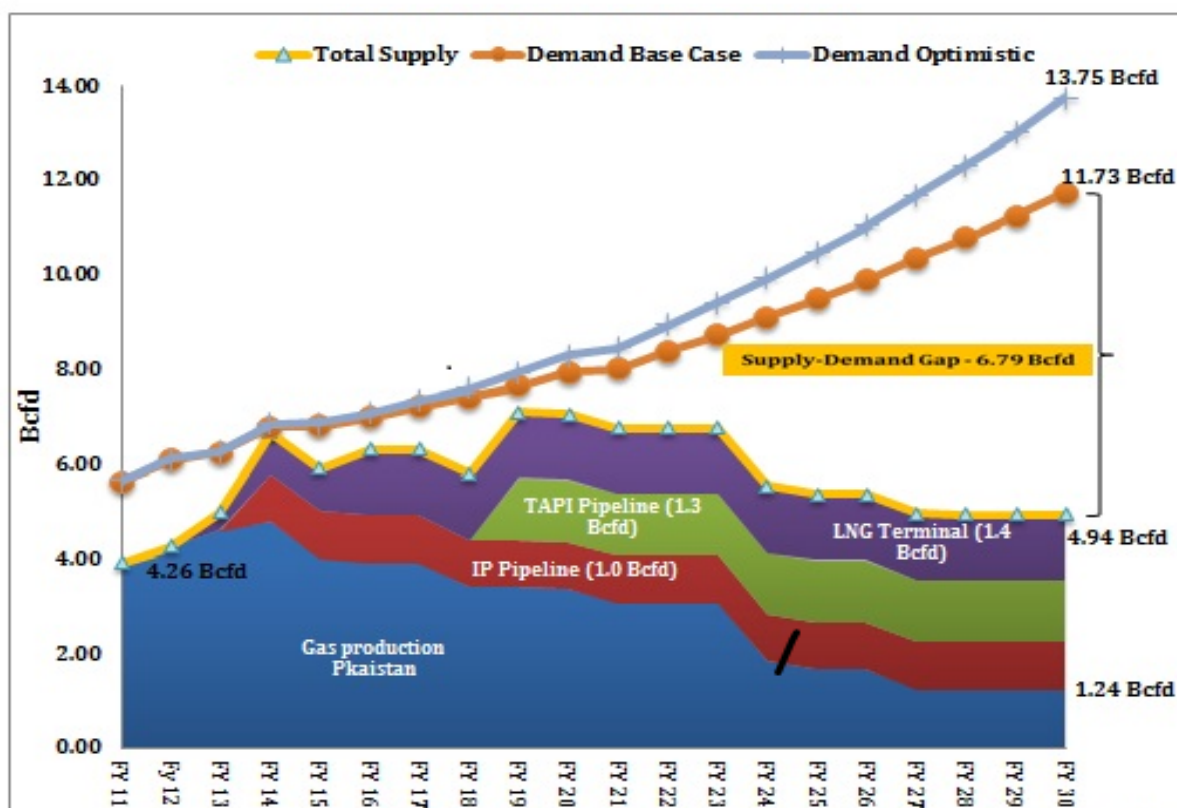
The growth in demand for natural gas has outpaced the growth in supply therefore resulting in a shortfall, that leads to curtailment of gas supplies to both power and industrial sectors, especially during the peak winter months.

As per Pakistan Gas Supply-Demand Study conducted in 2012 by ILF Beratende Ingenieure GmbH, by the year 2030 restricted gas demand is projected to stand at 11.73 Bcfd. This gas demand projection is based on 'business as usual' scenario assuming that TAPI and IP pipelines projects shall be implemented as planned, a supply-demand gap of about 8 BCFD by the year 2030, has been estimated. Diagram below gives a bird eye view in this regard. Given the emerging paradigm shift in global geopolitical environment especially after Donald Trump's assumption of office of USA presidency, there is a remote possibility of Pakistan being able to implement TAPI and IP pipelines projects. In such case, this is bound to further widen the gas supply-demand gap to about 10 BCFD even if 'business as usual' scenario is considered. On the basis of unrestricted gas demand projections, cumulative supply-demand gap is estimated to be over 12.5 BCFD. With no new significant additions in the debilitating gas reserves, there seems to be no other possible source of gas supply except LNG, to meet this supply-demand gap. In such an event Pakistan is likely to emerge as a significant LNG importer in global market.

¹¹ A. Davison, C. Hurst & R. Mabro, *Natural Gas: Government and Oil Companies in the third World*, Oxford: Oxford University Press 1988

¹² M. Arif, S. Qadar, *Pakistan Energy Law*, in K. Deketelaere (edi.) *International Encyclopaedia of Laws: Energy Law*, The Hague, The Netherlands: Kluwer Law International 2006.

¹³ Ministry of Petroleum & Natural Resources 2004



Source: ILF Report on Gas Supply/ Demand Analysis and Base Gas Demand 2012

In an effort to bridge the widening natural gas demand supply gap in the country, the government has started importing LNG and in this regard a license for construction of LNG terminal was granted to M/s Engro Elengy Terminal Limited (EETL), on 18th June 2014 with a construction validity period of two years. The said construction license was granted keeping in view the provisions of LNG Policy 2011, Oil and Gas Regulatory Authority (OGRA), Ordinance 2002 and OGRA (LNG) Rules 2007.

On 18th March 2016, OGRA granted Operation Licence to M/s EETL and hence Pakistan's first ever LNG Cargo was unloaded at LNG Terminal built, owned and operated by M/s EETL. This terminal has a total capacity of around 600 MMSCFD unloading, storage and regasification capacity. Another terminal of M/s Pakistan GasPort Consortium Limited (PGPCL) having a capacity of around 600 MMSCFD is scheduled to be commissioned in October 2017.

Government also inked shorter-term LNG contracts with Gunvor and Shell and is in active discussions with Russia.¹⁴ These developments confirm that Pakistan is emerging as one of the world's top market for LNG import and consumption.

In order to be able to consume imported LNG, gas transmission and distribution systems are being revamped and augmented. Government of Pakistan has already approved Gwadar-Nawabshah LNG terminal and pipeline project at a cost of PKR 203.314 Billion including foreign exchange Chinese loan of PKR135.128 Billion. The project was previously approved by the Economic Coordination Committee (ECC) of the Cabinet in 2014 for completion in

¹⁴ "Putin expected to visit Islamabad soon to seal \$2b LNG Deal", Express tribune, February 16, 2016, <http://tribune.com.pk/story/1047869/Putin-expected-to-visit-islamabad-to-seal-2bn-lng-deal>.

November 2015. But it has now been delayed until 2018 due to some internal issues of the petroleum ministry and the agencies concerned.

The project is expected to be completed by the end of 2018. The project aims to overcome the shortage of natural gas supply by importing LNG at Gwadar and then transmitting it to Nawabshah through 42 inches, 700-kilomtere pipeline.¹⁵

Enabling Regulatory Regime

Oil and Gas Regulatory Authority (OGRA) is mandated with all the regulatory functions relating to LNG such as awarding of LNG licences including renewal, suspension, and extension thereof. OGRA regulates construction or operation of LNG production and processing facilities and construction or operation of LNG installations including testing or storage facilities as well as transportation, filling, marketing and distribution of LNG.

OGRA also has the power to make rules and regulations with the approval of Federal Government in respect of tariff determination and its revisions, setting up standards for service provisions, dispute resolution, monitoring and enforcement of rules compliance, prescription of fines, and the provision of advice to the government.

The most important role of the OGRA is regulation of a non-discriminate Third-Party Access regime to enable entry of LNG into the gas transmission and distribution systems which is subject to fulfillment of certain conditions.

LNG Policy 2006

On 6 April 2006, the first LNG policy was introduced for the sustainable development of the energy sector. The objectives were, to optimize the primary energy supply mix; maximization of the utilization of energy resources; enhancement of private sector participation; development of energy infrastructure and human resources.

LNG Rules 2007

OGRA in exercise of its powers conferred by section 41 of the OGRA Ordinance, 2002 promulgated the LNG Rules, 2007. These rules are to regulate the activities like construction, production and operation of LNG facilities; LNG processing facilities, LNG testing facilities, LNG storage facilities, construction and operation of LNG terminals, transportation of LNG, filling of LNG, marketing of LNG and distribution of LNG and so forth. These rules sat a procedure to obtain a licence for the above stated activities outlying the format of application and required information about the licensee and the project. In an identical procedure, as is adopted by courts in filing, hearing and disposition of petitions, the application for grant of licence is filed before registrar OGRA and a decision is given after detailed evaluation and listening to views of all the stakeholders in respect of grant of license.

¹⁵ “Rs203bn Gwadar-Nawabshah LNG pipeline project approved”, October 01, 2016, <https://www.dawn.com/news/1287172>

LNG Policy 2011

As opposed to the old 2006 LNG policy, LNG Policy 2011 is aimed at accelerating the pace of implementation to ensure delivery of LNG on fast track basis backed by guarantees. In this policy, a condition was also created to cancel third party access right in case of licensee's failure to deliver LNG by stipulated date.

Similar to LNG policy 2006, at the construction stage, the OGRA will ensure to include the industry technical and HSE standards in the licence. During the operating period OGRA regulates the access rights, terminal tariff/returns and reporting requirements by the LNG Developers. Regulated Third Party Access ("RTPA") system is based on published/negotiated tolling tariffs with an objective to create competitive environment without discrimination. However tolling tariff for public sector entities shall always be subject to OGRA's approval. Exceptions from such regulation will be given to those LNG terminals and associated facilities that are developed for own or dedicated use. Access to such terminals will be based on negotiated third party access ("NTPA"). 2011 policy also contains a provision to allow the LNG investor to develop a gas storage facility at a tariff determined by OGRA. Following fiscal incentives have been granted to the LNG investors;

- Zero percent customs duty and withholding tax on imported LNG;
- Exemption from custom duty in excess of 5% with total exemption from sales tax on foreign machinery imported by the LNG investor;
- Initial Allowance is admissible at the rate of 50% of the cost of depreciable assets under Income Tax Ordinance, 2001;
- Exemption from withholding tax on interest payments to foreign lenders; Sales tax and Federal excise duty are charged on import and supply of LNG at applicable rates (Under the LNG policy of 2006 Sales tax @ 15% and Federal excise duty @ Rs. 17.18 per hundred cubic meters of LNG is applicable). FED has taken the shape of GST in Federal Area to be accounted for Federal Government and GST in provinces to go to provincial revenue authorities.

OGRA Natural Gas (Regulated Third Part Access) Rules, 2012

The principle of TPA was first introduced under the 2001 Petroleum Policy though with no implementation. OGRA Natural Gas (Regulated Third Part Access) Rules, 2012 were published on April 24, 2012. These are applicable to an entity operating natural gas pipelines transmission and distribution networks. Rule 3 provides that the Shipper shall have access to the gas pipeline transportation system for each singular natural gas consumer or RLNG end buyer. Rule 4 deals with the facilities on gas pipeline transportation system. Rule 5 provides the pipeline capacity. Rule 7 stipulates that transporter shall operate and maintain gas pipeline transportation system at its own cost and risk. Rule 9 provides that transporter and connected system operator shall enter into a framework agreement for access arrangement and send it to the Authority for approval within two weeks after capacity allocation by the Authority. According to Rule 11 capacity on firm basis shall be made available for a minimum of one year. Rule 12 provides that the party to whom the capacity is to be allocated shall pay to the Authority the prescribed fee along with the request for capacity allocation. Rule 13 provides the procedure for connections at existing and new entry and exit points. Rule 15 deals with transportation tariff. Rule 19 requires the shipper on a periodic basis of at least sixty calendar days to provide nomination of quantities that it desires to transport through the gas pipeline

transportation system. According to Rule 21 the gas accounting at the entry point shall be in the energy terms on daily basis both by the shipper and the transporter. Rule 23 gives right of refusal to the transporter in case the gas does not meet the quality as specified in Schedule-III. Rule 25 deals with information and confidentiality and Rule 26 provides the details about fees which the shipper or transporter will be required to pay to the OGRA? Rule 27 provides that in case of a conflict between an access management and any other agreement under the provisions of these rules, the provisions of these rules shall prevail and the dispute shall be referred to OGRA?

It may be pertinent to point out that operative Rules 5, 9, 10, 12, 13, 15 and 16 had been suspended by the federal government to pave the way for immediate import of LNG by public sector without going into lengthy consultative process for third party access.

Gas Sector of Pakistan with ongoing reforms

In Pakistan, two state owned transmission and distribution companies Sui Southern Gas Company GC) and Sui Northern Gas Pipeline Ltd (SNGPL) are integrated utilities which operate as merchant pipelines and as an interconnected grid, linking Karachi in the South to Peshawar in the North. They buy gas from the producers at the wellhead, the treatment plant, or injection points, transport the gas to city gates and subsequently in the medium/low pressure network, and ultimately sell the gas to the individual customers.¹⁶

OGRA has mandate to grant fully integrated license to any private party including import of LNG, construction, installation and operation of LNG Terminals, Gas transport pipelines, distribution and sale of LNG direct to the ultimate consumers.

An RLNG supply company (Pakistan LNG Ltd) has been formed with the mandate to import LNG on behalf of the Government of Pakistan. Another company named Pakistan LNG Terminals Ltd is also formed with an exclusive mandate of development and utilization of LNG terminals on behalf of the Government.

Under 18th constitutional amendment the provinces had become the main stakeholders in oil/gas and other natural resources. Directorate General of Petroleum Concession (DGPC) being the regulator of upstream oil & gas sector has been restructured to give required representation to federating units. In restructuring of DGPC, provincial representation is provided in DGPC. Unbundling of SNGPL and SSGCL is also in process. SNGPL may be divided into eight regions while SSGCL into five, adding that government after the findings of the study may also consider establishment of regional gas distribution companies.

The unbundling of the gas companies is aimed at reducing massive Unaccounted For Gas (UFG) that have nearly brought the two entities on the verge of collapse¹⁷, due to various reasons such as; (i) operating inefficiencies, (ii) gas theft, (iii) pipelines blasts, and (iv) operating losses, etc.

¹⁶ World Bank, Pakistan: Oil and Gas Sector review, Report No 26072-PK, July 10, 2003

¹⁷ The amount of un-metered or unpaid for gas at the current rate could lead to the virtual collapse of the two companies in three years, according to independent consultants KPMG report March, 2017.

SNGPL has transmission pipelines network of 7,676 km. The company has UFG of 11.5 percent which translates to Rs 21 billion per annum. SSGC has 3,220-km long transmission pipelines network and its UFG is hovering around 12 percent which means billions of rupee losses every year. Both companies claim that UFG has increased due to lawlessness in Khyber Pakhtunkhwa (KP), Sindh and Balochistan. To tackle this issue, both Sui companies are being unbundled by creating only one National Gas T&D Company as merging/segregating the gas network into one Transmission Company and multiple distribution companies may help. These companies will be further internally segregated into independent profit and cost centers on provincial basis. A new mechanism will be developed for determining separate transmission and distribution tariffs. This will allow sale of natural gas to various sectors and will also help in managing the higher cost of imported gas to be supplied into the system.¹⁸ At present cost-plus pricing formula for imported gas is used which has been widely accepted by the industrial and commercial consumers who previously had restricted or no access to domestic gas supply.

Unbundling of two Sui companies, creation of two new LNG companies, regulatory reforms to introduce third party access has proven to be an effective tool in creating a competitive market environment which otherwise is a natural monopoly. All this is being done on the tenet of separating pipe from commodity and easy market entry.

Provincial Controversy after 18th Amendment

On April 8, 2010, National Assembly of Pakistan passed 18th amendment of the Constitution of Pakistan, which gave the provinces greater autonomy with which the provinces started complicating and obstructing the decision making process almost at every stage as far as mineral rights are concerned. During approval processes of RLNG based Quaid-e-Azam thermal power plant in Punjab province, Sindh province demanded role in RLNG in addition to gas, arguing that Constitution does not differentiate between RLNG and gas. Kyber Pakhtunkhwa province also showed similar concerns. This controversy transpires to evaluate the 18th amendment as to the change brought by it in oil and gas sector.

The vital change that was enacted in the Constitution through the 18th Amendment was insertion of new Article 172(3).

“(3) Subject to the existing commitments and obligations, mineral oil and natural gas within the Province or the territorial waters adjacent thereto shall vest jointly and equally in that Province and the Federal Government.”

The effect of this change is that now all mineral oil and natural gas lying *in-situ* within a Province and the territorial waters adjacent thereto is jointly and equally owned by the Federal Government and the relevant Province and all mineral oil and natural gas situated beyond the territorial waters of Pakistan is owned by the Federal Government. Relevant to the topic the most pertinent point to note is that once oil and gas is produced from on-shore areas of Pakistan, after paying royalty at the wellhead, the ownership rests with the licensee(s) and not with the Federal or Provincial Government(s) as the license granted to the lease holder is that of Concession Type, under which ownership of the oil and gas being produced rests with the lease holders immediately after paying royalty.

¹⁸ "Government mulling restructuring DGPC, unbundling gas Discos", Jul 22nd, 2016, <http://fp.brecorder.com/2016/07/2016072267824/>

Mineral oil and natural gas are also specifically listed as legislative subjects in Entry No. 2 of Part II of the Federal Legislative List in the Fourth Schedule to the Constitution. It is pertinent to mention that this has been the case since the coming into force of the Constitution in 1973 and remains unchanged following the 18th Amendment. Entry No. 2 read in conjunction with Entries No. 6 and No. 18 of Part II of the Federal Legislative List make it clear that the Federal Legislature does and the Provincial Assemblies do not have exclusive jurisdiction and competence to enact legislation with respect to these two minerals. The Entries relevant to mineral oil and natural gas found in Part I and II of the Federal Legislative List are reproduced below:

Articles 97 and 137 of the Constitution link the executive authority of the Federal Government and the Provincial Governments to their respective legislative authority. Since mineral oil and natural gas fall within the legislative authority of Parliament, it is the Federal Government that will exercise executive authority over these two minerals. Since mineral oil and natural gas are listed in Part II of the Federal Legislative List and the Regulation of Mines and Oil-fields and Mineral Development (Government Control) Act, 1948 remains in full force and effect, the Federal Government continues to hold executive authority in these matters subject to the supervisory control of the Council of Common Interests.

In a nutshell, legislative and executive Authority continues to remain with the Parliament and the Federal government respectively as was the case prior to the 18th Amendment and hence provinces should understand that their demand to give preference to the portal provinces' even in the case of imported LNG is extra constitutional.

Conclusion

Although strategic location of Pakistan carries tremendous opportunities for ensuring its security of energy supplies through three different strategic gas pipelines but due to geo-political reasons none of the gas pipeline seems to be a reality in foreseeable future. Domestic production and known remaining reserves of oil and gas are also very limited and fast declining. This places entire energy dependency on imported LNG. The future of LNG thus is not only very bright but is the only apparent source to mitigate currently prevailing energy crisis in Pakistan. Once connected, no matter what price it will carry, LNG shall always find its way in Pakistan. With the ever increasing population and rapid infrastructure development brought in by China-Pakistan Economic Corridor projects and thus causing acceleration in the growth of energy demand, Pakistan is poised to become the significant LNG importer & consumer in the world LNG scenario.

At present, Government of Pakistan is not only providing “political will” but is also steering the entire LNG value chain to import and deliver LNG to the consumers up to maximum capacity of the available infrastructure and systems, which in parallel, are being augmented at full pace for understandable political reasons as the next general elections are around the corner.