



The Institute of  
Chartered Accountants  
of Pakistan

CA  
PAKISTAN

Post-webinar  
paper  
June 2020

# Oil & Gas Sector – Exploration, Production & Distribution: Surviving the Crisis & Entering the New Normal

PROFESSIONAL ACCOUNTANTS IN BUSINESS (PAIB) COMMITTEE



111-000-422



[icap.org.pk/paib](http://icap.org.pk/paib)



[icap.ca](https://www.facebook.com/icap.ca)

*This paper is an extract from the ICAP Webinar ‘Oil & Gas Sector – Exploration, Production & Distribution: Surviving the Crisis & Entering the New Normal’ held on June 26, 2020, from 7:45 PM to 9:45 PM PST. Around 3250 participants viewed the webinar locally as well as internationally.*

*The panel discussion included industry leaders;*



*Uzma Adil Khan, FCA, Chairperson Oil & Gas Regulatory Authority (OGRA)*



*Moin Raza Khan, Managing Director, Pakistan Petroleum Limited (PPL)*



*Amin Rajput, FCA, Acting MD, Sui Southern Gas Company Limited (SSGC)*



*Sheikh Imranul Haque, Ex MD, Pakistan State Oil & Ex MD Engro Elengy Terminal (LNG)*



*The webinar was moderated by,  
Zahid Mir, MD & CEO, Pakistan Refinery Limited (PRL)*

# Introduction

Oil & gas sector is among the most impactful sectors of Pakistan's economy. The total energy supply during 2019 was about 86 million tons of oil equivalent. To understand the impact of gas contribution, indigenous gas is about 35% of the total energy supply. About 4 Billion Cubic Feet (BCF) per day of gas is being produced by the local Exploration & Production (E&P) industry. The total requirement of the crude oil for the refineries is about 400,000 barrels out of which about 20% is being supplied by the local E&P industry. The local E&P industry is also producing about 75% of LPG demand. This shows that the oil & gas industry is the backbone of the country in every respect including revenues and taxes as all E&P companies (national and international) operating in Pakistan are amongst the top taxpayers of the country.

Although COVID has impacted every business but the impact on the oil and gas sector is significant. The international oil prices crashed from \$60 - \$70 per barrel to \$15 per barrel in a matter of days, demand reduced drastically due to lockdown as many industries such as the aviation industry came to a standstill. Similarly, gas production was lowered to about 40% to 50%, oil fields were shut down also impacting the local production. Two years back there was no role of LNG in Pakistan but now 9% of the total energy supplies is from imported LNG and it has a significant impact on local energy landscape.

## Impact of COVID and Survival of the E&P Industry

PPL exploration efforts continued on the forefront of the decision making as the same was critical for adding to the hydrocarbon reserves, ensuring longevity and growth potential of the company. Like any other businesses, the main concern was balancing business continuity while simultaneously ensuring that the staff health was not compromised. The challenges were immense since the oil and gas fields are spread all over Pakistan and each has unique challenges. For instance, Sui gas field is a peculiar field having its own socio-political dynamics, which made the enforcement of COVID-19 related SOPs difficult. While keeping the staff safety in the forefront, it was ensured that production of oil and gas continued unabated and progress on major ongoing capex projects relating to development of gas fields and facilities was not affected.

Another major concern was to understand how to work in a virtual environment because from March onwards, most of the office-based staff had to work from home. Currently, around 80% of office-based staff is working from home and 20% are operating from office. This was possible as PPL capitalized on its information and communication technology capability, which also enabled seamless connectivity with staff working in field locations 24/7.

There was no stoppage of gas production, however due to low consumption of oil, production of both oil and gas was curtailed, as oil is being produced along with the gas resulting in a loss of revenue. The production was managed in such a way that a balance is created between oil and gas production.

Another major issue affecting the oil and gas industry as well as the energy sector is the circular debt. Due to low collection by the Gas Distribution Companies (being the customers of E&P sector) from their customers, the receivables of E&P companies from the gas transmission & distribution companies are soaring at great percentage.

Fortunately, the drop in oil & gas production was not due to COVID, but due to other factors such as import of LNG, high pressure in the pipeline and low demand of gas by GENCO.

Our major concern is the curtailment of exploration activities, because of the cash crunch situation and volatility of oil prices. Consequently, PPL expenditure budget has been reduced by 40%, which will affect future exploration in the country.

The new normal is that we have to depend on technology. Hiring of expertise from anywhere across the world is relatively easier due to global access to technical expertise virtually. Fortunately, Pakistan has an excellent information base & communication technology which has made easy access to high data intensive application software to PPL staff from the comfort of their homes.

**Moin Raza Khan**

## Impact of COVID and Challenges for SSGC

Being a public sector utility company providing one of the essential services, the pandemic has impacted SSGC on various aspects such as reduction in revenue and the use of gas. The company has to ensure uninterrupted supply of gas while maintaining SOPs. Being an essential service, SSGC was exempted from lockdown restrictions from day one.

Major industrial and commercial activities reduced to a large extent because of lockdown starting from March 21st. This resulted in 57% reduction in gas utilization of industries which significantly impacted revenue. Although this was compensated to some extent by the demand in power and fertilizer sectors, however we still had to request the gas supplier (local E&P sector) to reduce supply. Another challenge was that the staff had to face restrictions in reaching offices but it was expected to ensure uninterrupted supply of gas to all sectors, for which we had to work 24/7 to ensure continuous gas supply. At the same time since it is an essential service, we ensured that there should be no disconnection particularly in the domestic sector despite facing problems in collection.

SSGC assured that in these difficult times we help the society to the utmost potential. Due to rising unemployment, revenues got affected particularly of the lower income class therefore, in coordination with the Prime Minister Relief Package and ECC Guidelines, domestic sector bills of Rs 2000 and less for 3 months was allowed to be paid in 9 months' instalments. We facilitated 70% of the domestic customers through this Package. At the same time, despite reduction in business operations and revenues, SSGC decided not to disconnect any of the industrial, commercial or domestic customers due to non-payment. Another challenge due to COVID was that meter readings mechanism was interrupted which led to provisional billing.

Distribution business was challenging so we requested the suppliers to reduce prices by 15% in March and April. Now that the commercial and industrial activities have resumed, situation is getting back to normal.

SSGC is following SOPs related to COVID so that people are not affected; only the essential staff is allowed at office, rest of the employees are working from home assuring 24/7 uninterrupted supply for domestic, power, commercial and industrial sector. This is how we succeeded to serve the nation in these difficult times.

**Amin Rajput**

## Impact of COVID on LNG Sector

The silver lining for LNG in Pakistan has been that prices crashed by over 50%, so the LNG price as determined recently is about 50% to 60% lower than what we had in January. The impact on long term contracts was limited to the fact that the Brent prices reduced but the spot market had a significantly different story altogether.

The industry was projecting decent volumes until March and was projecting prices in the range of about \$6 per MBTU this winter. Along with that, there were different buyers in the market trying to pick up these short cargoes to reduce the average pricing. For instance, the Turkish company, the Chinese and the Indians were all trying to pick up volumes. Due to COVID things became difficult, since March the volumes crashed because the demand in Europe crashed and cargoes in US were not being picked up. These factors affected the LNG spot market. Furthermore, buyers started using flexibility in their contracts, which basically meant that they could reduce their offtakes by 10%. Pakistan also deferred two cargoes along with other countries that had the opportunity to do so. Those surplus volumes due to lower demand by China and India also came out in the market. The market significantly became oversupplied. Clearly, the projections hit the bottom as a result, today the US is not supplying LNG to the world simply because today its own Henry Hub LNG pricing is under two dollars in the US and that compared to what the JKM margin is, there is no arbitrage and they lose about 50 cents a million BTU to sell to the Asian markets. So the supply from US has stopped.

There is also a fear that the low prices scenario will continue for some time. Some of the Financial Close that were going to take place are delayed resulting in delay in the implementation of some LNG projects which might put pressure on supplies in about five years from now. In contrast, Qatar is going full swing and expanding its capacity, not seeming to be affected by COVID and clearly looking at the long-term strategy and implementing it.

Pakistan, unfortunately, did not take advantage of the low LNG prices, but it still can. Besides reducing gas production, there were line pack issues and issues with cargoes on the channel requiring demurrages to be paid etc. which affected the operation in Pakistan's market.

Moving forward, the market is still in a glut position where there is expectation that LNG prices will not go beyond US\$ 3- 3.5 per MMBTU this winter. It all depends on how fast the industrial economy comes back on line. This is an opportunity for Pakistan. We need to understand how we can buy additional cargoes on the spot market. If the demand in the country increases, it will reduce the cost of the LNG basket from US \$5 to about US\$ 3 per MMBTU if we were able to use the capacity that is available in the second terminal. Moreover, in the process, we would save the significant amount of capacity payment being made to the terminal for not utilization of Terminal, which is about US\$ 400 million per annum. Therefore, we have to find a mechanism to use less indigenous gas, which is obviously costing higher by US\$ 3 to 4 per MMBTU.

*Sheikh Imranul Haque*

## Overall Impact of COVID on Industry and Challenges for the Regulator

Although industry may have slowed down but the Regulator has been working round the clock. There are many things that the Regulator is responsible for such as license renewals



and disposal of cases, the oil crises further enhanced the challenges. The work has been overwhelming which is why we did not get a chance for a break. Although we were not working full strength; only one third of the employees came to work but the rest worked from home round the clock because these are not normal times and the normal office hours also do not apply. In terms of operations, the turnaround time for cases and queries had to be quick. For example, if there was a case regarding renewal of the license, we had to work on it immediately because the physical file was not coming to us and the online procedure was getting highlighted to the highest level. Since the authority was involved, there was a lot of work being done quickly.

Having said that, the industry problems didn't hit us as such, except for the oil industry, which we have to monitor. Although the gas industry slowed down, but it did not have an impact on the Regulator. On the other hand, the oil crisis was challenging because we have a certain mandate in the oil business and as per the rules regarding oil it is a shared responsibility with the Ministry of Petroleum. This shared responsibility created certain problems of demand and supply due to the Oil Marketing Companies (OMCs) that stored up on their stocks and did not supply to their retail outlets leading to quite a crisis in the country. Although the problem has now been significantly controlled however, the Ministry of Petroleum and the Regulator along with other enforcement agencies worked round the clock and across the board to ensure that these stocks were shifted. With the prices changing in this volatile market, the market was manipulated to a certain extent. Having said that, we all feel that in such trying times it is the responsibility of all stakeholders to take their share of the losses or the business risks. And they all have to be cognizant of the fact that they have been making profits in the past but now, in these trying times, we should all do our part to lessen the burden.

**Uzma Adil**

## Exploration Success in Pakistan and Meeting Growing Energy Needs

The success rate of exploration in Pakistan is a misnomer. The following chart will help in understanding this:

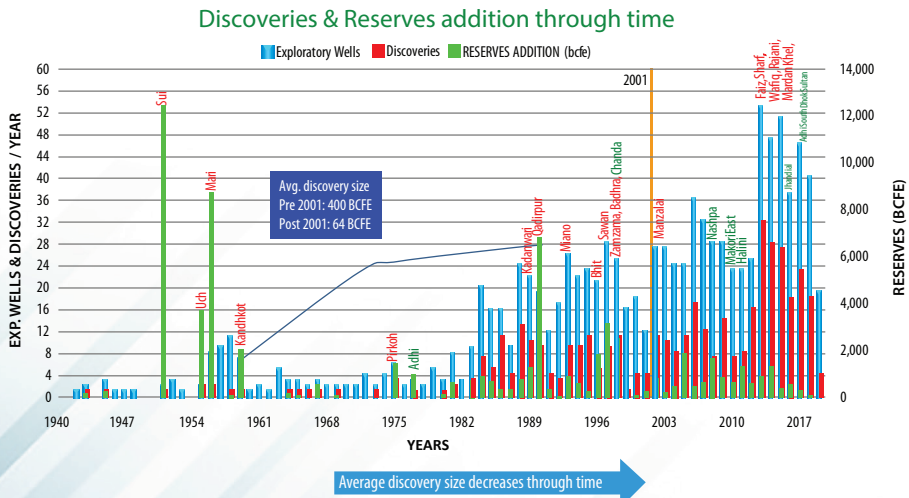


Figure 1: Discoveries and reserves timeline

The first major gas field was discovered in Sui in 1952, which to date is by far the largest gas field discovery i.e. more than 12 Trillion Cubic Feet (TCF) of Recoverable Reserves. In the beginning, although the frequency of exploration wells and discoveries was not very high, however, major discoveries were made in Sui, Much, Mari, Kandhkot etc. before 2001, with average discovery size was 400 BCF of gas per day. From 2001 onwards, there were a large number of discoveries i.e. 32 discoveries in 2015-2016 making success ratio 1.25, but in terms of volumes these discoveries were much smaller in size. Hence, the chance of success is a dynamic thing which is defined over a certain period of time. In recent times, although more wells have been explored and more discoveries have been made but the volume is much less. Until now, we have been focusing on the traditional oil and gas corridor i.e. the east and west of River Indus but this known oil and gas corridor is exhausted now and we have now creamed out the known gas and oil field reserves. This is better explained through the graph:

### Creaming Curve: Cumulative Hydrocarbon Reserves for <25% Onshore Land Area

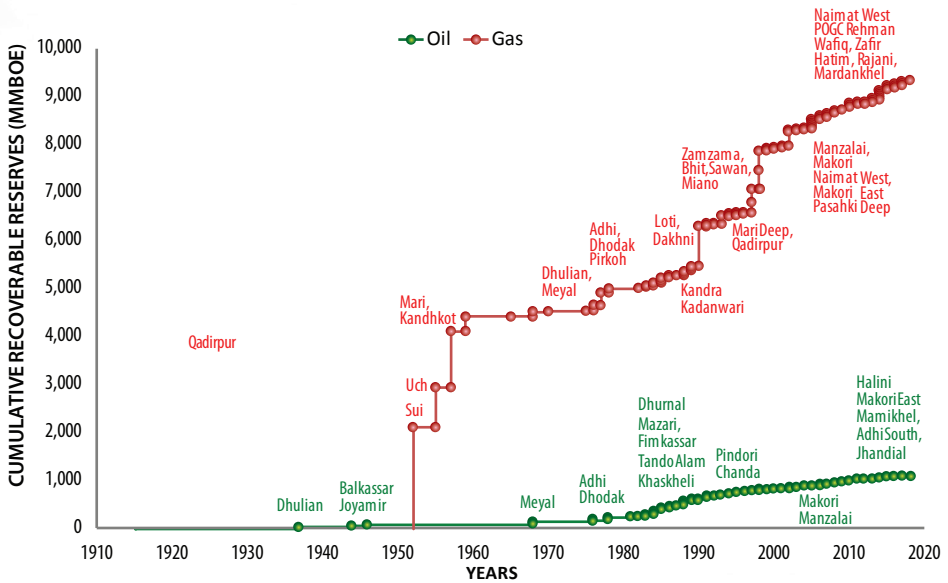


Figure 2: Creaming Curve: Cumulative Hydrocarbon Reserves for <25% Onshore Land Area

Pakistan is by and large a gas prone country with about 90% gas and about 10% oil. So far we have discovered about 1.15 billion barrels of oil and 61.4 TCF of gas and we have already produced significant quantities. This does not provide a very healthy picture in terms of reserve production ratio.

From the graph it is evident that all major discoveries were made until 1980 i.e. about 5 billion barrels of oil equivalent gas. And so far, about 9.2 billion barrels’ oil equivalent gas have been discovered, which means nearly half was discovered till 1980. In subsequent period, the drilling density has increased but discoveries size has been relatively smaller, which is a cause of concern. It seems that we have already creamed out our discoveries trend in the known oil and gas corridor. In order to find more discoveries, we will have to move into frontier areas and the unexplored areas of Sindh, Baluchistan and KPK. Exploration in frontier areas carry higher risks and requires huge investments and it is technology intensive. For indicative purposes, drilling a well in less

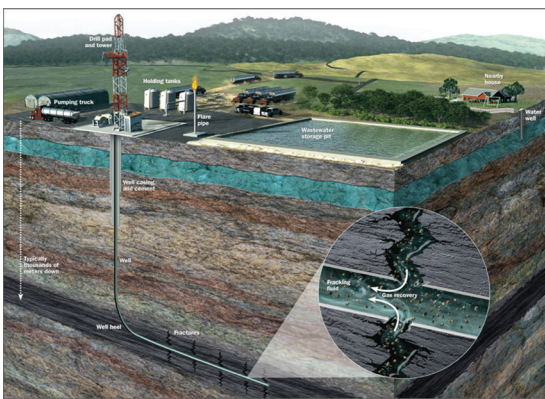
secured areas, 30% of the budget for well cost is only for security and about 15% of the budget is for the wells in terms of constructing the road to access drilling locations. Clearly, it is a heavy expenditure which is why the multinational companies are not willing to invest in the frontier area. So the brunt is falling on the public sector companies such as OGDCL & PPL and we are doing our bit, but we have our limitations. Given the current position of security and circular debt issue, we have to cut down our costs on exploration.

It is critical to incentivize exploration in frontier where the chances of success are low and the costs involved are huge. In order to attract investments from multinational companies a new policy be made which should include incentives for investing in less explored areas.

Now moving to the unconventional part of the question, which is explained, with the aid of the following picture.

## Shale Gas – Kick Start Now or Never

### Strategic Benefits



- **Guarantee energy security**
- Government would recover **royalties at 12.5% of Shale Gas Price**
- Substantial revenue generation for the **Government through taxes, at 40% of corporate profits**
- **Shale Gas Pilot Projects would generate economic activity**
- Foreign direct investment will come to Pakistan (**Promotion Required**)
- **Potential game changer for E&P sector**
- Drilling and services costs will come down significantly
- Marginal projects (Conventional/ Tight Gas) would become economical
- **Reduce burden on foreign exchange**
- Human resource development
- Technology transfer
- Cleaner fossil fuel – environmental friendly

7/14/2020

Unexplored E&P potential, challenges and way forward – PIP 2019

3

Figure 3: Shale Gas – Kick Start Now or Never

The unconventional is divided into two categories;

1. Tight gas and tight oil
2. Shale gas and shale oil

Tight gas is the precursor for shale gas. If one unit of volume is discovered in a conventional well, the same unit of volume from four wells is discovered in the tight gas formations and the same amount of volume by 10 wells in shape of the shale gas. It is a high cost intensive procedure. For venturing into shale and tight gas, we need to develop the oil and gas service industry to cater for the technology needed. It is worth mentioning that based on current technology available in Pakistan, the cost of discovering and producing shale/tight gas is around USD 10-15 per MBTU. Therefore, Government should have a very well defined shale gas policy providing incentives such as tax breaks and better pricing structure, to attract investment in exploration for tight/shale gas. Since tight gas and shale gas work on the assembly line concept with continuous drilling, it also requires a great deal of capital and a well-developed service sector.

**Moin Raza Khan**



## Structural Reforms and Foreign Investment in E&P Sector

Unfortunately, OGRA does not deal with the upstream activity i.e. E&P companies; it only deals with midstream and downstream activities. E&P companies come under the upstream regulator, which is not formalized currently, so it is essential to have a dedicated upstream regulator for E&P companies. Presently, a small wing of the Ministry of Petroleum - the Director General of Petroleum Concessions (DGPC) Office works for E&P companies and they are responsible for auction of the blocks and make agreements according to the E&P policies. The government is overburdened and the DGPCs office is already over occupied and overwhelmed with daily operations which is why there are no expeditious actions. It will be more efficient if a dedicated regulator is assigned the task of looking after upstream business.

*Uzma Adil*

There is no E&P regulatory authority per se but DGPCs office has been acting as a regulator for the last 35 to 40 years. It is also involved in the policy making. There is a need to have a separate body for policy making that operates independently from the main regulator as both functions; regulation and policy making, should be separate. Currently DGPCs office is drained on resources so in my view it is more important to build the capacity of the regulator rather than having a new regulator.

*Moin Raza Khan*

## Gas Tariff Regime and Circular Debt Management

The gas sector is highly regulated so the gas allocated to SSGC comes after approval by Economic Coordination Committee (ECC) after which pipeline is laid to get the gas. Therefore, we are not aware of the total reserves available or total reserves being supplied to the country. The gas is being sold at the price set by OGRA based on the revenue requirements. Similarly, gas availability, gas wellhead price and gas selling price are being regulated by OGRA and the federal government.

OGRA played a crucial role in tariff regime by facilitating a study by an international consultant. After the study, there were many positive developments in the tariff regime such as solving the long-standing issue of the benchmark. There was a declaration of the operating and non-operating incomes, third party actions, networking rules etc. So the current tariff regime is providing a lot of incentives to the Sui companies. At the same time, running a public sector utility is difficult business because of the socio economic agenda particularly in Baluchistan and KPK. Since there is no industrial activity in Baluchistan, 95% of gas goes to the domestic sector with supply increasing 4 times higher during winters. But because the majority of the people live below the poverty line and the tariff being same across the country, they don't have the ability to pay the bills. Average household income in Baluchistan is Rs. 20,000 or less, but due to extreme weather in winters, the gas consumption is significantly increased due to which gas bills are of around Rs. 50,000. Therefore, it is extremely important to have a different tariff for areas like Baluchistan.

Both Sui companies carry a socio economic agenda, however all the business is financed by the Sui companies itself on the strength of its balance sheet without

sovereign guarantees, financing or budgets. So managing socio economic agenda is a big challenge for us.

Looking at the future projection of the gas supplies, the numbers are not very attractive. We have to mix domestic gas with RLNG. Since 2015, RLNG started coming to the country and one-third of the total gas available to the consumer is RLNG. However, currently the regulator and the federal government is struggling to make the price of RLNG affordable to the customers. For instance, the price of LNG for Sindh and for Punjab is different. There are two LNG terminals with the capacity of 1.2 BCFD but they are operating not more than 600 to 700 MCFD or so on an average. Hence, there is ample capacity in the pipeline and in the terminals but they are not being utilized because of the high RLNG price as of today which are locked, based on long-term contract for LNG supplies with commitment of 5 to 15 years. This is something that has to be managed despite COVID and all other factors, the price of RLNG have been reduced significantly. At least 40% of the total committed RLNG is coming through a long-term contract.

Secondly, the circular debt in the case of gas is different from power or oil sector. The major problem is with the delay as the consumer gas prices have not been revised annually in a timely manner. There was no increase in the consumer prices from 2015 to 2018 so the circular debt kept on increasing on account of the differential in the consumer prices and the determined revenue requirements. Every six months, SSG goes to OGRA for revenue requirement which they provide, but the same cannot be converted into cash unless the price is increased by the Federal Government. There was a price increase in July 2018 and then in October 2019, when the current government took charge. It was perceived that both companies have more than 200 billion losses but in reality, there were cash flow issues because the prices were not increased on time. This has resulted in in tedious receivable, which are ultimately to be collected from the customers.

Regarding improvement in the Unaccounted for Gas (UFG) which is a combination of three factors; leakage issue because of the infrastructure, measurement issue and theft related issues. So if we divide UFG in these factors then each issue will be responsible for one third. The credit goes to OGRA that they have set a benchmark where the fixed component of allowable UFG has been increased from 4.5% to 5%. This increase is based on international consultant's advice and is comparable to international benchmarks. At the same time, considering our own local limitations, local conditions and working issues, OGRA also gave a 2.6% variable benchmark in addition to 5%, which makes the benchmark reasonable. I would not say that this is a good benchmark but we are different from a purely commercial organization i.e. a private company can do much better but being a public sector company we have peculiar challenges which have to be factored in. There is a dire need for improvement in the workings of a public sector entity as almost all public sector oil and gas companies are working not more to 50% to 60% of their potential.

**Amin Rajput**

## The Need for LNG Long Term Procurement Contract and the Viability of LNG Pipeline Projects

The issue is that there are limited buyers of LNG in the country. In case of gas there are Sui companies and in the power sector, there is National Transmission & Despatch Company (NTDC). It is not possible to achieve financial close unless there is some sort of a guaranteed offtake based on long term contracts such as with the Independent Power Producers (IPP)s, Thar, Turkmenistan Afghanistan Pakistan India (TAPI) etc.

Pakistan can survive without long term contracts, there is no question on that but the risk is the availability of gas when required. The fuel management system in Pakistan is very poor as proved in the recent happenings of fuel shortages in the country and in Karachi. If there were enough projections by the utility companies and the OMCs, these issues would not arise. So, we can go out and do spot buying but for that there should be a very strong mechanism to make sure that the product is available when required.

Another important thing to keep in mind is that the spot is not always going to be more expensive in the longer run. When we started the LNG project, LNG cargoes were bought on prices up to 17% of Brent prices. So what is better? The last three to five years have shown that long-term contracts have saved this country money; we can debate that what the saving is and how that saving came in. Moving forward, even the OGRA industry report of 2017- 18 talks of 6 BCF of shortage and the integrated energy report published a few months ago mentions the need to double the generation capacity in 10 years and to five times by the year 2047. This requires investment of US \$70 billion in generation capacity. The investors will not be able to get a financial close, if Government cannot provide guarantee to investors on some sort of a return and the investors are not sure of getting revenues out of the government projects, what are you going to do? Investor will not get the financial close so the Projects will have to be on the books of Sui Southern and the government of Pakistan. On the other hand, TAPI is also on a take or pay contract and their rates are pretty much similar to what the LNG contract is. So the solution is not arguing on the long term contracts, the solution is to find a basket which is cheaper.

There are two contracts coming up for renewal in the next two years. But there is also capacity to try and put the package together and see if the cost can be reduced. On top of that is the Public Procurement Regulatory Authority (PPRA) Rules, how in the world you can go to hedge when commodity prices will change every day. And if you are in the hedging business, can you survive with all the question and answer that you are going to do for the long term contracts? Pakistan has no option but to have long term contracts.

*Sheikh Imranul Haque*

## Cash Flow Constraint and Required Regulatory Improvement for E&P Sector

The most important thing that the E&P sector is facing right now is the recovery of gas sale invoices, while it has to continue to pay the government dues such royalty and taxes on the invoiced amount rather than the realized amount.

*Moin Raza Khan*

## Gas Pricing Mechanism and Weighted Average Cost

I personally support the weighted average cost because if you're getting gas from any field, whether from an expensive source or from a cheap source such as the Sui field, charging on the basis of weighted average cost is a more equitable mechanism. Moreover, the socioeconomic agenda of the government, whichever government is in place, should be met through direct subsidies so that the companies are sustainable: The E&P companies are sustainable, the gas companies are sustainable, and the midstream and downstream companies are sustainable. The socio economic agenda is definitely important but that is the government's prerogative and should be met through direct subsidies. If I am using something and I do not have the ability to pay for then I should not be using it. Frankly speaking, today the gas that the people are getting is not priced at the price of alternate fuels, which 70% or 75% of the users are using. Some are using either LPG or are dedicatedly using LNG but price is nowhere near the indigenous gas. This is not fair as the cost should be equal for everyone. And if the government wants to subsidize a certain class, they should do it by direct subsidies. That is the only way to keep your company sustainable, financially viable and the prices should be across the board.

*Uzma Adil*

## Role and Future of LNG in Pakistan

From the gas consumption perspective in Pakistan and looking at the domestic gas projections, RLNG was the reality. In 2015, it was a real success but the question is, at what price? There are two terminals that are producing 1.2 BCF, which constitutes one-third supply of the country but we are still not able to utilize the whole LNG available for these sectors. Therefore, we have one weighted average cost for all available gas; both indigenous and imported. At this point, one terminal is being utilized at hardly 600-700 capacity MMCFD and the one being utilized at 250 MMCFD.

Gas is a very precious commodity so industry and power sector should be a priority. We are cross-subsidizing our customers; domestic as well as fertilizer is highly subsidized at the cost of power industry. We cannot do politics on this precious commodity. It is important to let it be utilized for power and industrial sector and then mixing with the RLNG so that the economy will benefit rather than utilizing it just for domestic purposes.

*Amin Rajput*

## Transformation for LNG Usage in Pakistan

Transformation is already happening, there is no other choice. In the near future, 25% will be indigenous gas and 75% will be imported gas. However, the subsidy part has to come through some other mechanism such as the Ehsaas program. It is important that the utility companies receive the cost of gas they desire and they should not be required to subsidize, instead the government should be the one doing that. We can talk of energy conservation, UFG and the line losses that need to be catered but what is really required is that there is a significant need for energy. The renewable energy is not a solution because it requires backup power, which is not available. In today's circumstances, renewable energy dependency without the backup system would have been a problem.



There will be multiple issues at any time and the real question is who will resolve these issues? The government, utility companies or the regulator? In an ideal situation, it would be a combination of all three however; it is not possible in this environment. To conclude, unless there is confidence in the decision makers and unless they are given the right environment to operate, we will not be able to take any bold steps. Certainly, hedging is an option available but why the Government has not been able to do it, it is because of the accountability issues associated with it. We can talk about all sorts of resolutions, solutions and options but unfortunately it is not going to happen unless there is a conducive environment and protection is extended for decisions made in good faith and in the best interest of the country at that given time.

*Sheikh Imranul Haque*

# Audience Questions Answered

Why foreign E&P companies such as British Petroleum etc. are leaving? What is the future of E&P in Pakistan and how divestment of foreign players can be stopped and get more FDI in E&P sector?

Companies are exiting on the basis of their respective strategies. Many companies have exited Pakistan, for instance, ENI and OMV etc. and their decisions were driven by the business in other countries. There is a competition of business between Pakistan and the other business units. BP exited because they had a bad incident in the Gulf of Mexico and they sold a lot of their assets otherwise, they would not have left. OMV also left because they purchased a large number of assets that did not deliver and they also had cash flow issues. Moreover, ENI is now exiting; they started operating back in 1989, they have not conducted large-scale exploration lately as such. ENI was basically counting on the success of KEKRA otherwise they would have exited three years ago.

**Moin Raza Khan**

As per a discussion with OMV team, the reasons they mentioned for leaving Pakistan were:

- Lack of a good policy with regulator
- Federal Board of Revenue issues
- Lack of prospects

**Zahid Mir**

With spot LNG prices crashed, why can't we look into reducing injection of expensive local gas, which can be used later and take advantage of current situation?

It is a common perception that local gas can be used later on. But commercially, the day you don't produce that gas, it is gone. You can only produce it at the tail-end of the field. Effectively, the Net Present Value is finished so it is an entirely commercial decision and it is a policy decision that you need to take. It is ideal to have a policy to be able to do both; work on probably the underground storage so that you can store in and take it out. But for the local gas, I am quite against stopping local gas production.

**Zahid Mir**

The PPRA rules do not allow to take advantage of these low prices as only Public companies can buy LNG and they will have to follow the PPRA rules which will not be expeditious and opportunity will be lost. To take advantage of low prices it is important to redefine PPRA rules

**Amin Rajput**

Does offshore drilling in Pakistan have any potential after Kekra well failure?

Offshore drilling is divided into many zones. Kekra well was drilled in ultra-deep water with water depth of about 1800 meters. Exploration works on geological

aspects so Kekra well was an entirely different geological play and it does not reflect on the offshore prospects per se. In Pakistan, we discovered only 18 exploration wells in offshore, both Makran and Indus. And Pakistan has a very large sedimentary of offshore; about a million square kilometer. Offshore potential has not been tapped in the exclusive economic zone and it is important to do things in a systematic way. For now, we should continue with exploration and see how it goes.

**Moin Raza Khan**

**Is there any gas storing losses and technical losses due to not producing optimum gas? Is there any alternate usage of gas which was held back due to high demand from existing consumers' before Covid-19 which can be used now?**

There is no gas storage facility in Pakistan. A number of studies have been done. The first study was done in Sui but it seemed like we'll have to pump in about 300 to 400 BCF before we start producing. In Pakistan the depleted fields are not big enough. Unfortunately, the gas storage is not really working but the oil storage might work.

**Moin Raza Khan**

**How do we see the oil price trend in the next 12 months?**

It depends upon the demand and supply scenario and the return of the commercial and industrial activity in full. The aviation industry is not very likely to get back in full operation in the next 12 months. So will the demand in the world reach to the same peak? There are different views on this; some people would say 2022, the more optimistic people would say 2021. In my view, the oil price will remain under pressure in the next 12 months.

**Zahid Mir**

There are multiple projections and they all come with a disclaimer. Analyzing the situation on the basis of history, there have been ups and downs and this is the third crash. It seems like the era of oil and gas will be over soon in probably 10 to 15 years as people are moving towards renewable sources. Consequently, the oil price will be depressed for a long time, currently it is at \$40 and the prediction is that the price will stay below \$50.

**Moin Raza Khan**

**Petroleum companies should have a minimum 21 days' stock? Presently they probably have less day's stock? Considering geo-political particularly on the border, will this be sufficient?**

The petroleum companies need to have 20 days of average sale of stocks, which depends on the financial capability of that company. It is not OGRA's responsibility because the demand and supply of petroleum products is not the mandate of OGRA. However, it is the mandate of OGRA to ensure that the petroleum company has storage infrastructure of 20 days, according to their 20 days' supply stock. So the infrastructure i.e. the storage has to be built and until they do it, OGRA will not grant them a marketing license. Second is filling that storage, because that involves

imports and allocation from local refineries that OGRA does not do because imports involve foreign exchange, the State Bank of Pakistan and the Maritime Affairs Ministry. OGRA cannot tell the Maritime Affairs Ministry that we need to berth the ship in an emergency; the Government of Pakistan has the sovereign power to do that.

However, OGRA, as a regulator, can enforce that storage for 20 days is built. Filling it is the Company's responsibility through either imports or purchase from local refineries. These purchases are based on allocation made by the Ministry of Petroleum.

**Uzma Adil**

**What is the Government's strategy to improve consumption of oil although now enjoying temporarily favorable balance of payment due to low priced oil import and low quantity?**

There is a lot of storage in the country now; the infrastructure caters to 600,000 metric tons of petrol. Along with the need to build strategic reserves, there is also a need to get them filled taking the advantage of low prices in the international market. The usual sales are not above this volume and since the local production is only 30% of the sales and 70% of requirement is managed through imports, so the Ministry should allow maximum imports at this stage. The prices are low so we should take advantage of it and they should fill up their storages to full capacity.

**Uzma Adil**

**SSGC and SNGPL get a return on investment. Instead of giving gas companies a return on investment why they cannot manage their own P&L? This will incentivize them to reduce line losses.**

Historically, there are always profits but now the circumstances are changing. The platform for working has been changed because of the public sector. Regarding the return on investment, there is a legacy and a history behind this. These actually arose in the past from the providence of the Asian Development Bank and World Bank when as they wanted a guaranteed return almost 20 years back when they made lending to both companies for their infrastructure development. Since this guaranteed return has a negative impact on the efficiency of these companies, it needs to be looked at. But this is just one aspect, we have to look at other factors as well such as tariff; about one third of UFG is in Baluchistan, which is a very high value where 60% of the gas is lost.

There have been efforts through different forums to make Baluchistan a different tariff regime such as fixed tariff. In Bangladesh, there is no UFG because there is a fixed tariff for everybody so there are no line losses. There are a lot of things that need to be fixed. We cannot pick and choose and fix a few items, we have to pick the whole tariff regime and address the issues only then it will work.

**Amin Rajput**



These companies should operate commercially but there should be a guarantee of no political interference by any government in power and that these companies should not be used for political purposes. These companies should conduct business commercially. The socio-economic agenda of any government should be fulfilled by the government's direct subsidies.

**Uzma Adil**

**Circular debt has increased over the past two years; what were the limitations for OGDCL and PPL to increase drilling density in the country before 2018. Has circular debt impacted your spending?**

Only for PPL, the circular debt is about Rs 300 billion rupees. A mid-sized oil company can be bought in the North America with that amount of money and we can double our production.

This is a national issue which has been building over a period of time. Unfortunately, it has crippled us and adversely impacted our financial muscle and has also impacted the exploration activities in the frontier areas that are very cost intensive. The multinational companies do not want to come because there is high risk in frontier areas and they don't want to take that risk. OGDCL has a better oil and gas mix in terms of operability yet i.e. 90-10 ratio in terms of gas oil mix.

**Moin Raza Khan**

**Have we made any hedging strategy when the oil prices were going down? Have we made any assessment based on estimated scenarios so that we can cash the opportunity of low prices as a result of the crisis?**

Hedging proposal was developed by the government about one month back when the oil price was US \$20 dollars. The government is not able to take this difficult decision as there were concerns that if the cost of hedging goes down, 10 million dollars will go down the drain so no one is ready to make that decision.

**Zahid Mir**

Pakistan Commodity Exchange should be used for hedging proposition and for people to learn and move on. It is time to start building that institution.

**Sheikh Imranul Haque**

**Is shale gas a good alternative for Pakistan's E&P sector?**

Shale boom started from North America and it seems like it is going to stay there only in places such as USA, Canada and partly in Argentina. Currently, USA is producing about 50 BCF of gas per day from shale only while Pakistan's total production is from conventional which amounts to 4 BCF per day. So, the current breakeven prices range from US \$10 to \$15, depending on the economic model to be used, which does not make the shale gas viable. In USA, shale gas producers have suffered greatly because of a massive drop in oil prices but we have to start somewhere. A small shale gas production of about 50 MMCFD on trial basis, could be easily affordable. However, for this a shale gas policy is needed.

**Moin Raza Khan**

Despite low consumption there is load shedding of natural gas for domestic consumers during summer as well as in winters. Please explain the cause.

Indigenous gas resources are depleting. The indigenous production is approximately 4 BCF per day. However, present demand is about 6 BCF per day. In winters, there is a manifold increase in consumption due to additional use of water geysers and heaters, therefore, load shedding is inevitable. Citizens should restrict usage by using good quality appliances only when required. This will reduce their gas bills and also help in reducing load shedding.

In summers, although use of water geysers and heaters is minimized, the gas network has expanded to such a length that consumers at tail ends face insufficient supply of gas due to pressure drop. It has also been noted that illegal and risky use of compressors are being used by certain consumers to increase the gas pressure at their premises, thus depriving other consumers from sufficient gas supply.

**Uzma Adil**

In June 2019 we had requirement of 619 tons oil which surged to 800 tons in June 2020, but fuel was in short supply, what proactive plans we have other than reactive penalized action which is just taken now.

The challenges of June 2019 and June 2020 are not comparable since consumption gradually increased over a period of time. However, in June 2020, the lockdown on account of Covid-19 was relaxed and people also resorted to panic buying of petrol hence the increase in usage was not really expected and demand was not adequately planned as in the preceding months consumption was at a very low ebb. The reactive penalized was taken due to the fact that certain OMCs had stocks of petrol in their storages but were not supplying to their retail outlets due to fall in sales prices and they were holding on to stocks to sell eventually as prices were also rising in the international market and were bound to increase locally also.

A proactive planning of demand should be made especially after ensuring that mandatory stocks of 20 days are maintained by all OMC's over and above their planned sales.

**Uzma Adil**

What is the storage capacity of oil in Pakistan? What is the quantum of storage carrying losses of oil due to technical reasons like evaporation etc.?

The storage capacity for petrol in the country currently is 600,000 M.T. which is about 30 days of consumption and for diesel it is 800,000 M.T. which translates into about 45 days of consumption.

The quantum of storage losses is negligible in terms of operation losses as the stocks are constantly supplied to retail outlets and replenished. However, evaporation loss is a usual feature in the business.

**Uzma Adil**

**When can we expect reforms in energy pricing (specially gas). What is the impact of imported LNG prices on the consumers?**

Reforms in energy pricing especially gas is written on the wall. Due to constant depletion of indigenous sources we have to rely on imported and expensive supply of gas / RLNG. Eventually, the pricing will be based on the weighted average cost of gas. The impact of imported LNG prices on the consumers will always depend on international market conditions and terms of contracts. Recently, it was observed that imported LNG in spot markets was cheaper than cost of production of indigenous gas. However, in order to secure our energy needs, some long term contracts will always be required.

**Uzma Adil**

**Why there was a shortage of oil supply while demand was low and prices of oil had gone drastically down in COVID-19? Because the price of petroleum products is being increased at midnight today, can we hope that the companies will ensure an interrupted supply?**

There was a shortage of supply in only those days when lock down conditions during Covid-19 were totally relaxed. Public started moving freely and also resorted to panic buying. However, the situation has vastly improved. Cargoes of petrol are being brought in consistently and supplied. The price being charged is in accordance with international prices in addition to Government levies.

**Uzma Adil**

**How would you as a regulator justify extremely high UFG in SSGC and SNGPL.**

The Regulator can never justify extremely high UFG losses in SSGC and SNGPL and neither allows them their actual UFG losses which ranges from 10% to 14% in both Sui companies.

The Regulator since FY 2017-18 has put in place a UFG benchmark for both companies which is a base of 5% plus a variable component of 2.6%. The variable component is linked to 30 Key Monitoring Indicators (KMI's). Each KMI is given a weightage and if the Companies achieve a percentage of that KMI the same is allowed to the Company. Thus any UFG beyond the benchmark is not passed on to the consumers and is borne by the shareholders of the respective Companies. The Benchmark has been set for a period of 5 years. The variable component of 2.6% is linked to KMIs which will eventually bring improvement in the visibility of the gas system and hence be made stringent henceforth.

The benchmark was evolved with professional help of a consultant of international repute, thoroughly discussed with all stakeholders in each province and also the Federal area before being put into place in a most judicious and transparent manner after taking into account all ground realities in a Country like ours.

**Uzma Adil**

Despite low consumption there is load shedding of natural gas for domestic consumers in during summer as well as winters. Please explain the cause.

During winters, there are genuine pressure issues due to increased load in Baluchistan. From Mid-November till February, it is extreme winter in Baluchistan where temperature falls below freezing level. Baluchistan demand increases from 80 mmcf to 200+ mmcf. This causes low pressure in some areas of Karachi.

In summer, the only issue is when there is load shedding from K-Electric, all gas based generators become operative and it causes pressure issues.

**Amin Rajput**

What is the level of UFG in SSGC & SNGP system? What are the causes of high UFG and what steps are being taken to reduce/ control UFG?

Unaccounted for Gas (UFG) are the commercial losses due to Infrastructure leakages, Measurement Errors and Theft. UFG Range between both companies is from 13 to 17 percent but there are certain claims & credit which are pending with OGRA.

Various steps are being taken to secure loss of this precious commodity.

**Amin Rajput**

Is LNG being used in SSGC system? Does SSGC system has the capacity to transmit LNG within its system and for LNG demand in the North.

SSGC constructed 370 KM 42" Dia Pipeline from Port Qasim till Sawan (Near Border of Sind & Punjab) to transmit 1200 MMCFD of RLNG to North.

In SSGC Franchise Area, we are supplying RLNG to KE & some industries but volume is very small.

**Amin Rajput**

How is the cost plus pricing affecting efficiency in the Company? What are the alternative pricing methodology?

There is no doubt that Fixed Return Formula invite lot of inefficiency but with prevailing circumstances where these Public Sector Utilities are working with stringent OGRA Benchmark of UFG, it seems a workable solution.

**Amin Rajput**

Why are the oil prices in Pakistan not constant?

Like all commodities, demand and market cause fluctuations e.g. inventory in the USA or China, political upheaval in an oil producing country or in the shipping routes, travel during summers. Followed locally by taxes imposed (PDL, GST) and exchange rate.

**Sheikh Imranul Haque**

Why can't we have a uniform (energy value) tariff base of all the form of energy to avoid waste and preference of any particular fuel?

Regulator should seriously consider and define the mechanism. It will highlight the costs of the different fuels using one basis, inefficient conversion and will be especially useful as competitive marketplace for fuels is developed. This is one of



the structural changes required. Additionally, regulator needs to have the mandate to work beyond the realm of guidelines given to it my MoE.

**Sheikh Imranul Haque**

**Why are the LNG terminals not being fully utilized and what are the future prospects of LNG in the country?**

It is unfortunate as we can save significant amount in cost of LNG. The benefit of buying at a fixed price or spot to reduce the LNG price as part of the gas basket is being missed. Additionally, it is disappointing to note that generation is being preferred on fuel oil and diesel instead of LNG. Refineries cannot be protected indefinitely and need to change their recipe sooner than later. We should seriously also be preserving local resources and increase imports which are cheaper than local gas price at the moment. It thus highlights that fuel planning is essential and needs to be improved with confidence building to those who estimate the requirements.

The declining local production with demand increase will further increase dependency on imported fuel despite hydel and wind due to their seasonal and intermittent production. Pakistan has replaced fuel oil with LNG and coal and the next paradigm is how to create the mix between LNG/Coal and RE.

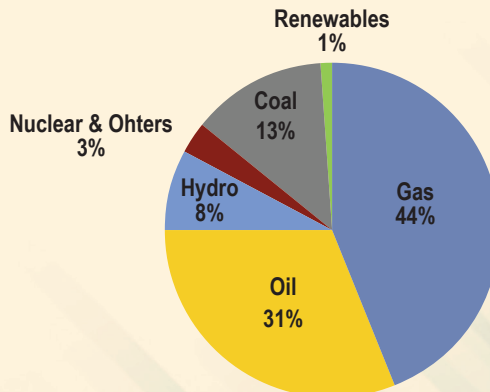
**Sheikh Imranul Haque**

**How important is the exploration of hydrocarbons in Pakistan when the world is already moving towards unconventional resources like solar or electric?**

Unconventional resource is the term used for tight gas & oil and Shale gas & oil. Electric resource is an output product of both renewable and nonrenewable fossil fuel energy resources, what is probably being asked here is renewable energy resource (Solar, Wind, Tidal, Biomass etc.) vs fossil fuel based energy resource. Whatever mantra is repeatedly mentioned about the ever increasing use of solar and wind etc., the fossil fuel (Oil, Gas, LNG, Coal) is going to remain a major source of energy globally in general and Pakistan in specific.

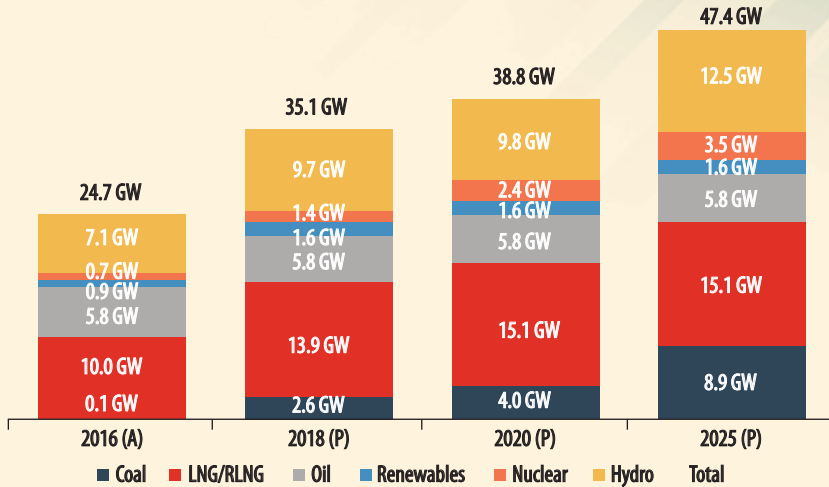
Please see the Pakistan current energy mix (as per world bank) is as under:

### **Pakistan's Energy Mix**



Obviously, it is highly dependent on fossil fuel, i.e. Oil and Gas combined 75% remaining is coal at 13%, Hydro at 8%, Nuclear at 3% whereas renewables amount to only 1%

Fuel mix projections up to 2025, as per NEPRA State of the industry year book 2017 are as under:



From 2020 to 2025, Coal is projected to grow from 4 GW to 8.9 GW (an increase of 122.5%) whereas share of Oil / LNG / RLNG is forecasted to remain constant from now on. It is interesting that renewables are not projected to grow in these 5 years, which points to the fact that amongst current state of retarded growth due to COVID 19 and its aftermath / circular debt, government is not in a healthy position to incentivize renewables unless there is pressure from world community on carbon foot print and emission controls.

Having said this, current Government’s resolve is to increase the share of renewables to 20% by 2030, hugely challenging task though.

Way forward for energy companies is to explore the renewables market as due to advent of technology and ongoing research, the cost, especially for Solar has reduced substantially and there are definite commercial gains along with sustainable growth branding as a side benefit on the offering for all the companies.

In the end, the notion of renewables taking over conventional HC as primary fuel mix is still a far cry globally and more so for Pakistan.

**Moin Raza Khan**

Present government has an edge to attract foreign investment in exploration and production of oil and gas provided a) the taxes and royalties are reduced to 40% onshore and 30% offshore in 5th Schedule of Income Tax Ordinance 2001 b) provide security c) reduce regulatory restrictions and d) create business friendly working environment and policies. Please comment.

Government has to carefully design a 'balancing act' in committing the aforementioned concessions to attract foreign investment. It has to ensure that it promises what can be delivered in the time span promised. Over commitment, if unfulfilled will result in damaging investor confidence and under commitment will retard willingness of foreign investors. On the other hand, the paybacks promised to also be reviewed for ultimate economic macro targets that the GoP wants to achieve by attracting the investments in the first place. Nobody would want to burden the economy further by promising so much that it constraints the economic benefits that is ultimately required from these transactions.

As far as creating a business friendly environment and comfort on security, it is a no brainer, GoP needs to work on these regardless of any promises by any foreign investors as this would assist existing market players to invest, which will in turn attract foreign investments in future.

Having said the above, this is a fact that Pakistan's stereotype image in the western countries is not very good in terms of country's security challenges, unfriendly business environment, and bureaucratic hurdles. Foreign investment requires one window handling at government levels, so that they don't have a run from pillars to post to get various approvals, NOCs and many other things. Exploration & Production (E&P) business is highly cost, technology and risk intensive business with long gestation period of 5 to 10 years, especially for gas, which in Pakistan is mostly prospective, being regarded as a gas prone country. These factors multiply for the E&P activities in the frontier areas (hilly and mountainous regions, with access and security issues associated with lack of infrastructure) – and it is widely believed by the explorers that the potential for making large discoveries is only in these areas (PPL recently made a fairly big size gas discovery at MorGandh on Kalat Plateau in the deeper part of Baluchistan hills, where discovery well and the surrounding areas were all covered by snow), and it's the large hydrocarbon reserves potential that attract the foreign E&P companies. In Pakistan, cost of security management is on the E&P companies, which in frontier areas is exponentially higher than that in the plain and settled areas. Other than frontier areas, this kind of potential also exists in the Offshore, where the access and security are not the issues, but other factors are almost the same, actually costs are much higher. In this context bringing in foreign investment is a very challenging task.

Therefore, the incentives mentioned in the questions will not work alone, it's got to be a multipronged strategy that also includes improving and building better soft image of the country using Pakistan's foreign missions. GoP will also have to do something to incentivize the E&P companies by way of providing the requisite security cover in the field at its own cost.

**Moin Raza Khan**

## What are the prospects of offshore exploration in Pakistan? All 18 wells drilled so far did not produce hydrocarbons?

Before answering the question explicitly, it is important to know a few facts about Pakistan's offshore. Pakistan has a very large offshore sedimentary area of about 290,000 Sq. Km extending about 370 Km from the coastline, also called Exclusive Economic Zone (EEZ) within which the country has right to explore for natural resources. This is about one third of the Pakistan's territorial area. Similarly, Pakistan has a large coastline of about 1000 km long, bifurcated in two parts, Sindh Coast (330 km) and Makran Coast (670 km).

Geologically Offshore Pakistan is divided into two Basins, Offshore Indus and Offshore Makran. During the offshore exploration history of about 60 years, only 18 exploration wells have been drilled, and on this count, given a large offshore area, the Offshore Pakistan is classified as "greatly under explored" for hydrocarbons; the well count is not even worth mentioning. Many of these wells didn't reach the target, as some were prematurely abandoned due to operational failures, while some were drilled off structure missing the potential hydrocarbon trap. In the Offshore Indus Basin, out of 14 wells only 3 wells reached the target, and one well Pak Can-1 (a Joint Venture of OGDCL and Petro Canada) flowed 3.7 Mmcf/d gas, though noncommercial, yet confirming the working petroleum system in the basin. This means that there are mature source rocks (Shale rock) in the system, which have enough organic matter that has been cooked to be mature enough at depth to have generated the hydrocarbons so much so that these are expelled and migrated through conduits into the reservoirs. Reservoirs are those rocks (usually sandstone or limestone) which have pores that are connected so as to store hydrocarbons and connectivity make them flow. All four wells in Offshore Makran failed either due to missing the reservoir or mechanical failures.

Offshore Pakistan has many different play types. Shallow water Indus is termed as Indus delta system, which is a very close analogue of some of the world's major producing deltas such as Niger Delta of Nigeria (93 Billion barrels of oil equivalent), Mahakam Delta of Indonesia (12.5 Billion barrels of oil equivalent), Nile Delta of Egypt (11.2 Billion Barrels of oil equivalent), Mississippi Delta of USA, Gulf of Mexico, McKenzie Delta of Canada, Irrawaddy Delta of Myanmar, Gipsland Basin of Australia etc. In Indus delta, hydrocarbon traps (traps are the hydrocarbon containers with no escaping route) would possibly be both structural and stratigraphic (structural traps are the ones in which trap is formed by mere folding of the rocks, while in stratigraphic traps the reservoirs are laterally discontinuous and are usually bound by sealing rocks).

Offshore Makran/Baluchistan is geologically a different ball game altogether. Contrary to Indus Basin, which is at the trailing edge of Indian Plate, Offshore Makran is located at the collision zone of Arabian and Eurasian Plates, therefore play types are also entirely different. With active mud volcanoes both onshore and offshore, where they at times grow out of the sea to form an island, and methane gas associated with it make this region attractive in its own rights. From hydrocarbon prospectivity point of view, it is very much analogous to south



Caspian region of Azerbaijan, where several trillion cubic feet of gas has been found in trap associated with these mud volcanoes. With four failed wells, in twice the size of Offshore Indus, Offshore Makran/Baluchistan is classified as totally unexplored region.

Since offshore drilling is an expensive affair, especially deep water offshore, every unsuccessful offshore wells there has been a gap of 3 to 9 years increasing successively between another daring attempt. Therefore, it is very important to step back a little and look at the bigger picture and zero into the target as mentioned below.

Notwithstanding the 18 failures, over an exponentially long period of 56 years, we have learnt quite a few lessons.

During last 20 years, all of the giant discoveries have been made in the offshore, and use of the best available technology in a systematic way is the name of the game. If this has been achieved all over the globe, then why offshore Pakistan is starved of these efforts – which has proven to have all the ingredients (source, reservoir, seal and Trap) present that has made ‘string of pearls’ or ‘series of giants’ type success stories in numerous offshore basins during last two to three decades.

**Moin Raza Khan**

**What steps are being taken to increase exploration in frontier areas including Baluchistan.**

At present hardly any, in terms of incentivization. Steps are only being taken by public sector/local companies, PPL, OGDCL and MPCL, in terms of exploration activities in the frontier areas. As It’s only the Petroleum Policy 2012’s Zone 1 incentives that apply in Potwar area, are also applied in the frontier areas, while there is a world of difference between the two regions in terms of cost and risk (technical, commercial & Security). It’s only so much financial muscles Pakistani companies have and these cannot continue doing it for too long. It’s the foreign E&P companies, which will have to share the burden. It requires only first few large discoveries, and the Frontier areas including Baluchistan will start attracting the foreign E&P companies. But this cannot happen unless drastic measures are taken to incentivize the public sector and other local companies.

This is fact that potential for making large discoveries lies in Frontier areas (hilly and mountainous regions, with access and security issues associated with lack of infrastructure). I would like to reproduce what is mentioned in this context in my response to Question 2 above:

“Exploration & Production (E&P) business is highly cost, technology and risk intensive business with long gestation period of 5 to 10 years, especially for gas, which in Pakistan is mostly prospective for as being regarded as a gas prone country. These factor multiply for the E&P activities in the frontier areas (hilly and mountainous regions, with access and security issues associated with lack of

infrastructure). PPL recently made a fairly big size gas discovery at MorGandh on Kalat Plateau in the deeper part of Baluchistan, where discovery well and the surrounding areas were all covered by snow. In Pakistan, cost of security management is on the E&P companies, which in frontier areas is exponentially higher than that in the plain and settled areas.

GoP will also have to do something incentivize the E&P companies by way of providing the requisite security cover in the field at its own cost.”

In order to kick start and accelerate Exploration activities, government will have to consider giving much more incentives, such as i) larger tax rebate on exploration, ii) tax holidays of 5 to 10 years on a sliding rule scale for development of discoveries, iii) higher gas price, iv) reduction in Royalties, v) tax incentives for service companies working together with E&P companies in these areas, vi) State provided security cover, and vii) government’s facilitation in dealing with the local communities, etc.

We need to partner with existing market players to (1) mitigate the risk (2) reduce exposure due to low chance of success and the foremost, (3) increase the scope of activities as ultimately more activity will bear fruits and this will improve confidence for more players to enter Frontier areas including Baluchistan.

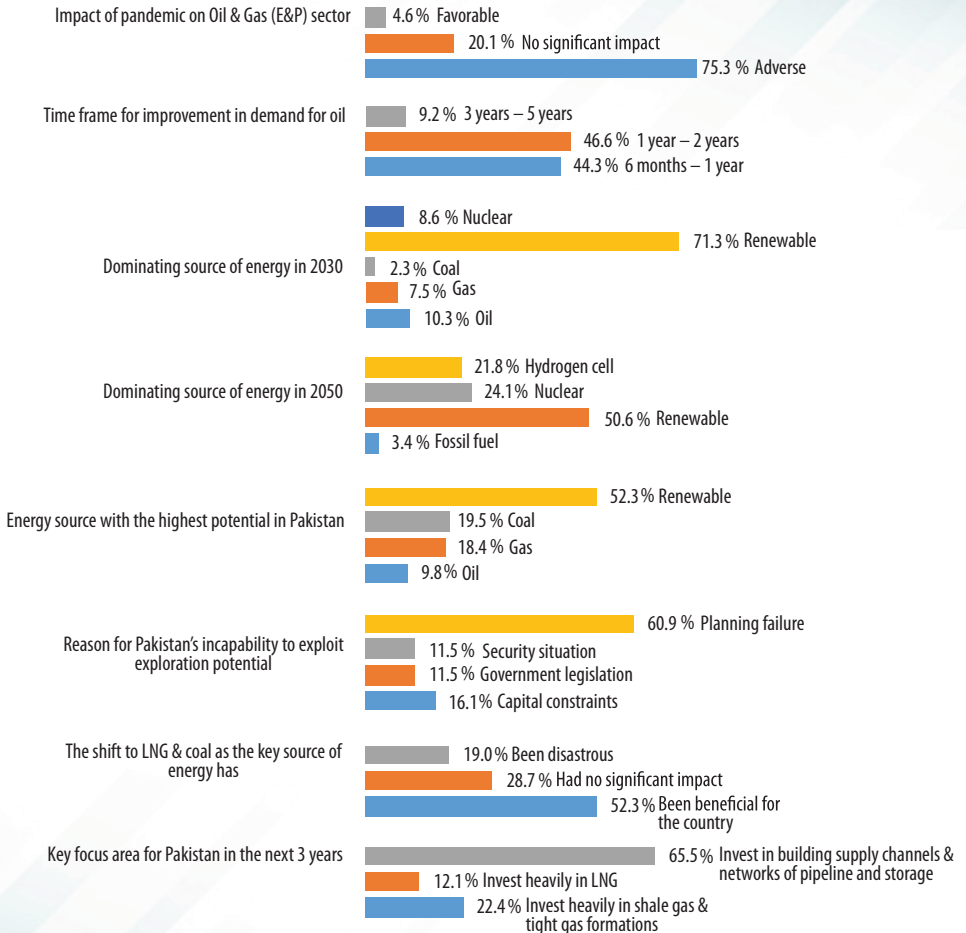
We also need to lobby with federal government and Government of Baluchistan to improve business conditions including but limited to reduce security expense, reduce royalty, curtailment of unreasonable demands for CSR activities during exploration phase (as this is risk incentive phase and in case of failures, all the investment is sunk) and better coordination by local administration in resolution of local issues, as mentioned above. This myth is to be broken that E&P companies are cash rich and they should be fleeced when they need NOCs and other approvals etc. even in risk intensive exploration phase.

**Moin Raza Khan**

## Conclusions Drawn from the Webinar

- The exploration success rate is marvelous 1:3, which is the best in the world however it is a misnomer. Small discoveries of 30 to 40 BCF is not satisfactory.
- Although we have made hundreds of small discoveries but there have been fewer big discoveries in the last 10 years.
- Reserve replacement is low however, there is a need to focus on the policies and regulatory regime.
- There is a need for a separate regulator to differentiate between the policy making and regulation function.
- Shale is a good opportunity but there is a need for a shale gas policy and it requires incentives as it is expensive.
- There is a need to go into the frontier areas where the risks are more and the cost is very high but the probability of new exploration successes is higher.
- On the gas pricing, there is a clear support on the weighted average cost which is how the companies will become sustainable.
- On the UFGs, leakages and measurements errors, autonomy should be given to the utility companies without any political interference that will help them improve and succeed.
- As far as LNG is concerned, the current 9% will increase, indigenous gas will be 25% and 75% will be LNG so it is important to make changes in pricing arrangement.
- The long term supply contract for LNG's is essential. It is extremely important to ensure usage of gas; there has to be guarantees and no project will fly without guarantee from the buyer.

# Polls conducted during the webinar



The Paper is reviewed by Members of the ICAP Professional Accountants in Business Committee.