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Power Sector – Light at The End of the Tunnel

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Panelists



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Moderator



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The word crisis has been consistently associated with the power sector in the past. According to John F. Kennedy, when written in Chinese, the word crisis is composed of two characters, one represents danger and the other represents opportunity. There is no doubt that power sector is the backbone of any developing economy. Electric power supply has a direct positive co-relation with the economic development and growth of a country. Consequently, power shortage has an adverse impact on a country's GDP and productivity.

Impact of COVID-19 on the power sector

COVID-19 has had an adverse impact on the power sector, particularly leading in reduction of demand, financial stress and disruptions to the power supply chain. In Pakistan, it is estimated that the power sector experienced a revenue hit of over PKR 3 billion in the wake of the current pandemic which is said to have affected the entire energy chain which already stood paralyzed on account of vicious cycle of circular debt. The revenue short fall is on account of drop in electricity sales due to lockdowns, freezing of power tariffs and putting off bill payments. Continuous power supply is crucial for regular operation of hospitals, industries and other essential services. Thus, power sector has to ensure uninterrupted supply and develop a roadmap to face the challenges, make necessary regulatory and policy decisions and prepare for the future.

Pakistan's power sector has been in the spotlight. We have seen challenges of the power sector that were there and unfortunately many of them are still there. Lack of affordability, low recovery ratios, circular debt situation and demand and supply gap are a few challenges to name, resulting in load shedding.

The role of the private sector in the progress of power sector

The role of the private sector is very important which is reflected from the fact that more than 50% of the power generation in Pakistan is still being done by IPPs. If we look back, IPPs started in early 90's and HUBCO was amongst the first such project made under the security package that was developed for the first time by The World Bank experts and this package subsequently became the boiler plate and was used in other countries wherever the framework of IPPs was introduced. Not too far in the past, the country's economy was virtually derailed, the GDP which used to be around 7% and at that time everyone hoped that Pakistan would go places. Afterwards an era of load shedding and also discontinuation of power to the industries evolved. The bottom line is that the power crisis that extended to 12 to 18 hours, had an impact of 2 to 3 percent on the GDP. Politically, the previous regime won the election on the slogan that load shedding would be curtailed. In the last few years, our country again suffered from shortage of power, then power production was very expensive and this was why our country's exports were not very competitive. However, in the past 3 to 4 years, there has been a paradigm shift. In these years, more than 12,000 -13,000 megawatts were added in the system. In the past power production was expensive because Pakistan was producing power with the most expensive choice of fuel i.e. almost 38% of power generation was being done from imported furnace oil, which is considered the most expensive fuel and it had an adverse impact on the balance of payments.

If Pakistan were to ever achieve energy security, it could only be achieved by shifting to indigenous fuel. Even though our country has the 7th largest reserves of coal in the world, if a comparison is done with other countries where majority of power generation was from coal whereas Pakistan had virtually no production of power from coal. It is a big positive that there is a significant increase in power generation capacity. Consumption on the other hand is a concern due to slow down of the economy. If we look at the impact it has created on overall economy – the average levelised tariff has really improved. It is predominantly because of almost 5,000 megawatts being produced on coal, which is one-fourth the fuel cost component as compared to that of furnace oil. This demonstrates that our power sector has progressed positively. Thar, a private-public partnership in the power sector has been a success story. Now Thar is up and running – two projects are on the highest merit order, two are in execution and other two projects are in the initial stage. Same model must now be used in other critical areas. This is the output of bringing power generation to Pakistan. If we look at the future, this is exactly the way to do it for induction of renewables in the energy mix.

Khalid Mansoor

Creating a self-sustainable power supply chain system

Although it has taken a long time to improve our energy fuel mix but now from coal, renewables and combined cycle power plant almost 4,000 megawatts are being produced. This has helped the country save a huge amount of \$1.9 billion per annum. We normally consume 130 megawatts per hour at a levelised tariff of 1.45 cents per kilowatt hour. Ideally decision makers should have also put an equal focus and emphasis on supply chain i.e., distribution and transmission. Unfortunately, Pakistan started with almost 20% losses in transmission, distribution, and theft of power supply and even today it is maintained at 19%. When we look at the comparative data – Bangladesh started with 36% losses at the time of independence which they reduced to 11%. Bangladesh achieved this with core input from its government since, obviously, the private sector could not have done it all alone. If Bangladesh could achieve it, we should also start aiming towards it. In simplistic terms, our levelised tariff is close to 12.7-13.0 cents per kilowatt hour. Out of this, the actual cost of production is 60% the other 20% is because of transmission and distribution losses and the remaining 20% is because of the duties and taxes added by the government. The cost added by the government in terms of supporting Nelum-Jhelum and Diameer Bhasha Dam in consumer bill is a cause of concern. Unfortunately, when the comparative power tariff is discussed, Pakistani exporters are not considered to be competitive in the international export market as compared to countries dominating export market share from our continent - India, Bangladesh or Vietnam – all charge lower industrial tariff, have lower distribution losses and also lower taxes and duties.

The government having the power and passion to increase power generation capacity was able to achieve these objectives. However, virtually no focus has been given on other important changes in the broader picture. The likes of International Finances Cooperation (IFC) and the World Bank Group advocate on government's job to create a conducive environment and to privatize it. We have GENCOs, DISCOs, WAPDA, NTDC but they are still operating as government entities. As a result, our annual collection is only 88%.

Our country really needs to improve on collections. If losses are reduced to the international benchmark of 11%, our country could be saving about USD 675 million per annum which would reduce the consumer tariff by 0.52 cents per kilowatt hour. If collections are increased from 88% to 98%, we would save about a USD one billion per annum which would reduce the consumer tariff by 0.79 cents per kilowatt hour. This is a hard reality that the government has to have very effective implementation of the strategy and make significant improvements.

In the recent past, we have added many power resources as a part of CPEC, among them HUBCO is the major contributor with projects worth billions of Rupees. However, as a country we have not done a good job in government to government negotiations. The tenure of CPEC loan for Pakistani companies is 10 years, whereas China has been given a government to government loan for 20 years. This is why our tariff is front loaded. China has benefitted a lot from the CPEC corridor and Gwadar port. The financial cost for Pakistan is LIBOR + 4.5%, which is very high. The recommendation has been made to the government, and they have approached the highest level in China to negotiate these aspects. It is hoped that in the next few months, the capacity payment will be reduced and it will subsequently have an impact on the tariff.

Khalid Mansoor

Benefits of moving towards a merchant market and timeline for having a good market in place

The framework of the market is fine, until a paradigm shift is brought in the framework of the merchant market, it will not be possible. One has to put all the deliverables in place before one can even think of moving into the merchant market. Because of wrong policies, a lot of furnace oil base power energy had been added into our system having fixed contract with sovereign guarantees. It is learnt through the hard way that we need to correct our energy fuel mix but still current furnace base power projects would be a major hurdle in moving towards the merchant market.

Khalid Mansoor

The Impact of COVID-19

During COVID-19 pandemic, IPPs have done a wonderful job. As soon as the situation emerged, they were able to put in the SOPs, the routes were put in place and uninterrupted power was supplied. From the liquidity crunch stand point, the collection had definitely suffered because of the lock down due to COVID-19. Despite this, all the IPPs were committed to the dispatch orders they were getting and sustained even after the furnace oil crisis in the recent times. There was a great learning in this for the power sector companies. These companies learned to optimize their costs and whenever country moves towards the normality, it would be a new normal. Rather than moving towards conventional things, there are huge opportunities to optimize. Power companies need to explore new controls and achieve optimization.

Khalid Mansoor

Role of the regulator and how has it progressed over the years

The power sector has several issues related to its governance including lack of foresight and inadequate decision making. One of the good things that happened is the development of Thar Coal Project. It is a relatively low cost and indigenous resource. However, it was done at a time when the world is moving away from coal, not only because of the environmental hazard but also because renewables are becoming very cheap. In 2015, Pakistan had its first renewable project which had a cost of 14 to 15 cents per kilowatt hour. It was at the higher end. If we go 10 years back, the cost was 22-30 cents per kilowatt hour in the European countries. In the last year, in UAE the cost of renewable went down to 2.4 cents per kilowatt hour and in Chile it was 2.15 cents per kilowatt hour. Due to the constant advancements in the technology, the cost in solar and wind projects has dropped significantly. If there is breakthrough in battery technology, it might totally change the energy perspective. In Pakistan, the worrying part is the circular debt which could rise up to PKR 4 trillion in next 5 years due to shrinkage of the demand and capacity payments. To handle the situation, out of the box thinking and speedy privatization is required.

WAPDA was unbundled in 1997 and the power market was to be established but that did not happen as DISCOS were not privatized. Regulators were only left with regulating IPPs and KE. It has been proposed to the government several times to have one Ministry of Energy as a single decision making entity. Since there are a lot of linkages, the power and petroleum sector regulator should be merged under one professional team. NEPRA and OGRA should be combined; with their research capacities they can engage in best practices to come up with the best. According to NEPRA Act, amended in 2018, steps were discussed to improve NEPRA which included the development of a policy by the government of Pakistan to improve the future of the power industry. Unfortunately, this has not been done in these two years.

This is the main concern that we have a lot of feasibility reports but we lack in execution. In the power sector, there is a solution for concerns, unfortunately implementation is not there. A major problem with the state-owned entities is that the people are not boarded on merit due to which eligible professionals do not come on board and as a result such entities and sector does not develop as is desired.

Compared to Bangladesh, the main problem of Pakistan is the expenditure to GDP ratio. Bangladesh's ratio is 12% where as our ratio is 22%. Our governments have become employment agencies and our political parties do not select the professionals on merit. This is why it is really difficult to regulate the public sector.

Asad Ali Shah

Views on Thar Coal Projects and Indigenous Resources

Only two plants of 330 megawatts are operational in Thar with two more in the process of development which would create cheaper power generation through coal projects. Pakistan has two main indigenous resources: hydel and coal. The problem with the hydel power is that it is not baseload and is not available in winters. Thus, all expansion should have been focused towards coal as huge reserves of coal were identified. If the joint venture of Government of Sindh and ENGRO, which is in operation, is successful, then there will be a huge reduction of cost to provide the baseload to start with. As production of electricity is increased through our indigenous resources, our country would become more independent of a variety of hydrocarbons which are being currently imported.

Asad Ali Shah

The Milestones Achieved by KE and Was Privatization Beneficial?

KE is not the only one responsible for the power shut down or load shedding in the city of Karachi. They shut down their feeders whenever there are problems and they do not turn on the feeder until a professional visit is done to confirm there are no hazards in turning that feeder on. KE was privatized in 2005 and for first three years, the contract was given to Siemens, which didn't work. Then Abraaj took over KE in 2009 and, between 2009 and 2016, there was a visible turn around. Segmented load shedding introduced in 2009-2010, where areas with high losses were shut only. Later on, it became a part of the power policy of the government of Pakistan. State Bank of Pakistan, in its report, mentioned that this was the solution to circular debt that the KE had started. When this approach was adopted, 23% of Karachi was under the no load shedding area and today it has reached to approximately 73% which is a real milestone achieved by KE. The transmission and distribution loss which was earlier 38% has been reduced to 18% and the target is to bring it down to 16.5% by June 2021. When KE started its journey in 2009, the aggregate technical and commercial loss of KE was 42% which reduced to 26% in 2019 and the target is to reduce it more by 3.5% to 4% and bring it to 22%. This is another achievement of KE. The biggest achievement of KE is the right sizing of the organization. It has around 11,000 people out of which 5,500 are management and 5,500 are non-management people. It has the best professionals from all over Pakistan.

Unfortunately, today the demand of electricity is high, therefore, due to lack of supply there is load shedding. These issues would be resolved in time. KE is the only private entity which is regulated by NEPRA. When the tariff expired in June 2016, KE was billing people at the previous tariff but it didn't know what is going to be the tariff on the basis of which they needed to record its sale. The ultimate tariff was announced in July 2018 on the basis of which KE started preparing its financial statements and the entire process was finalized. When KE proposed the production of power through imported coal, it was asked to convert it into a local coal project by the government. When KE started working on the local coal project they were asked to get power from the national grid. It was not possible to get electricity from the National Grid because power projects including HUBCO and Port Qasim Power Plant were not designed to provide power to KE as KE was never considered a load center so there were no interconnections between KE and other power plants.

When the decisions were made in 2015-2016, it was said that KE would not be provided with even 6,500 megawatt electricity. In June 2020, it was approved that electricity would be provided to KE and then it started working on those interconnections.

Fifteen years have passed since the privatization of KE. At that time only privatization took place and no other change or decisions were made. Things got better with time and with right policy making KE is adding one more power plant for power generation in order to get 600 megawatts more electricity by next year. When problems of power generation and supply are discussed, it must not be forgotten that it is 105 years old system having 28,500 PMTs and 1800 feeders. The problem may arise with the damage of not only feeders but also PMTs and linking cables. The expectation should not be to revamp the whole system in two to three years. KE does not have that kind of strength but of course improvements could be made. KE has a state-of-the-art customer service center from where data that can be extracted anytime.

It is important to realize that if out of 1,800 feeders, 60 to 70 feeders are not working then the remaining 1,700 feeders are still operational and providing electricity to people. It is incorrect to believe that without privatization things would have been better. It is not due to privatization due to which the people of Karachi are facing electricity issues; it is due to the problems in this old system which will improve gradually. There are people who really appreciate the system and realize its efforts.

Syed Moonis Alvi

Audience Questions

Is there any chance of getting out of the circular debt problem?

The IPP in circular debt is over PKR 600 billion and if we look at the penal charge then almost PKR 70 billion per annum is the additional liability which is being created so the government has to work on various instruments to deal with this issue. There are few legitimate and detailed options which have been worked very closely with the Ministry of Finance. Government has to work on improving T&D losses and collection. There are very serious solutions which will soon be implemented.

-Khalid Mansoor

Government offered very attractive IRR to attract foreign investment in power sector and this got us HUBCO. Unfortunately, it seems that the HUBCO deal has served the blueprint for all the power companies. Was this deliberate or an accident? If an accident can it be ever undone?

NAB was after the HUBCO project and the tariffs were negotiated and majority of the foreign investors left. Then there was a gap in supply and demand. The power policy of 2002 was introduced but there was no investor. The government had to decide what was needed to be done in this situation. The investor has to look into many things, the country risk, the regulatory risk, issues of circular debt etc. The government was forced to modify the policy. The investor looks into all the risks and rewards first and then invests in any sector and particularly power sector. The IPPs were asked to install power plants in shortest possible time so furnace oil plants were installed at that time. It is a long debate which will go on, the only thing which we can object to is that in the past there was no integrated planning due to which the crisis was addressed at severity.

-Khalid Mansoor

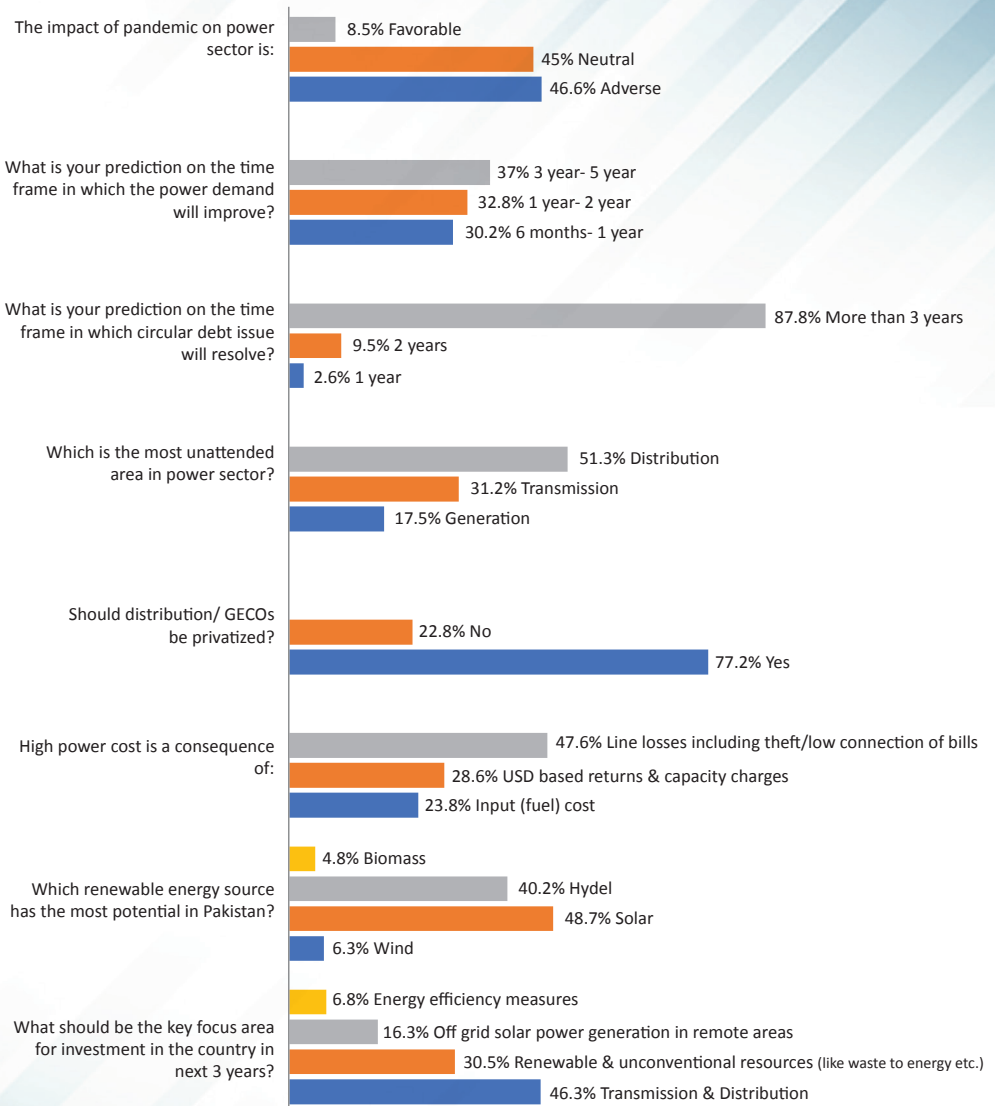
What good news is there for the people of Karachi in the coming years?

In terms of power generation 900 MW first turbine will be operative by the summer next year and we will have 500 – 600 MW more than what we have now so it will solve electricity issues.

By 2022 the second turbine will be available and another interconnection will also be available so power supply's incremental would be approximately 800 MW. By 2023 approximately 2100 MW will be added to our current power supply. Load shedding is based on some commercial reasons and we are investing in that sector. Last year we have improved six areas from very high loss to low loss and our target is to improve other six areas by next year.

-Moonis Alvi

Audience Polls



This paper is an extract from the ICAP Webinar on 'Power Sector – Light at The End of the Tunnel'. Around 3,000 participants viewed the webinar locally as well as internationally. The paper is reviewed by Mr. Fawad Aftab, Chief Financial Officer, Asia Petroleum Limited and member of Professional Accountants in Business Committee, ICAP and Mr. Asad Feroze, FCA, Partner, Grant Thornton Anjum Rahman Chartered Accountants, Former Chairman and current Member of Northern Regional Committee, ICAP.

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