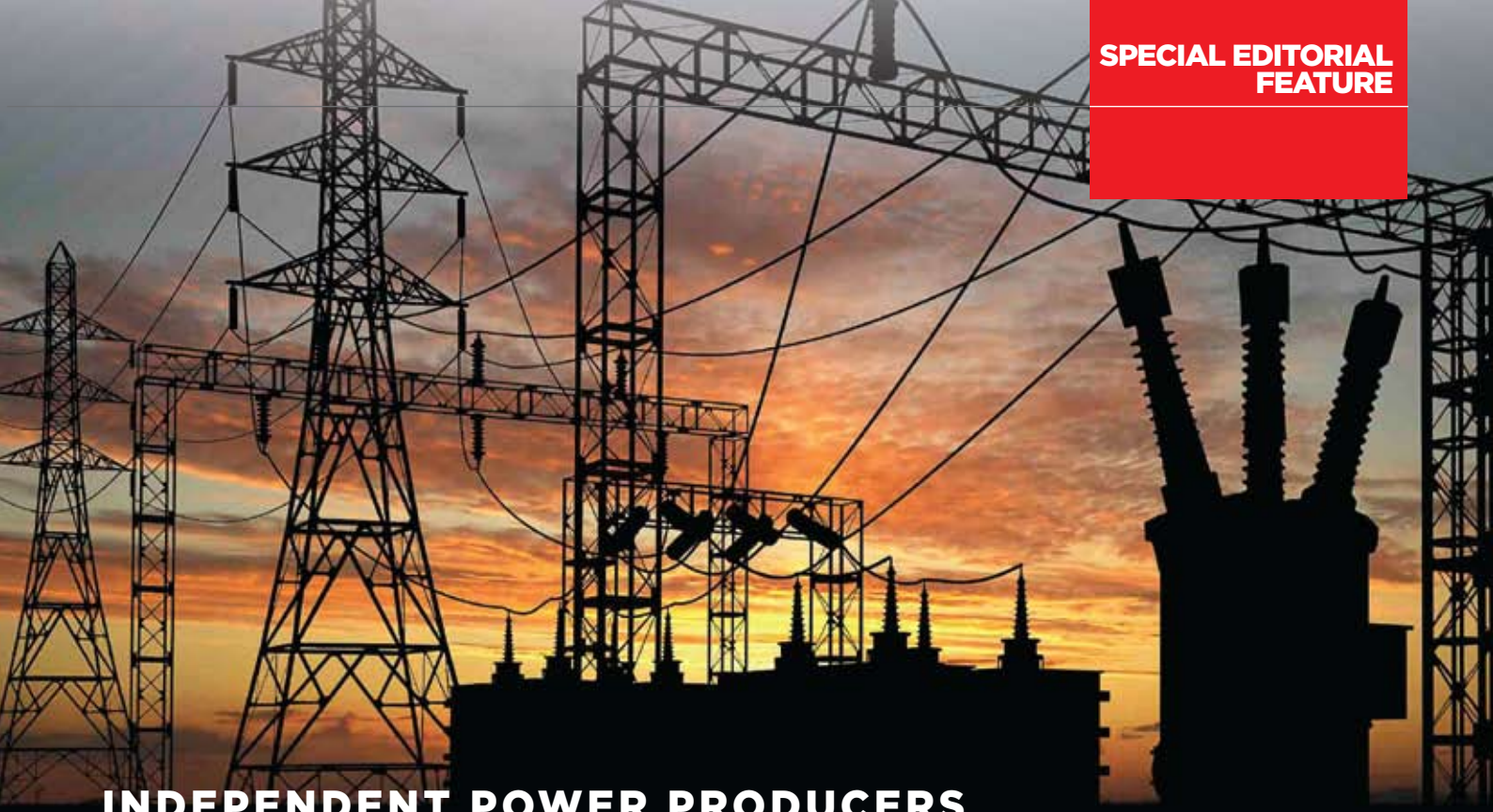

INDEPENDENT POWER PRODUCERS

Light at the end of the Tunnel!

BY NIAZ MALIK

The history of IPP operations in Pakistan is saddled with controversy, including contract interpretation and enforcement, ehtesab, case law, creation of NEPRA, public hearings, and so forth. Finally, in 2002, investors came to believe that the worst was behind them. At what cost? A lost decade of power sector investment shortages, large amounts of load shedding, and the sorry saga of Nandipur. The private investors, knowing full well the risks associated with the projects and the power purchaser, wanted risk mitigation, e.g., protection against PKR devaluation. Nominal PKR profits may seem high as the return on equity, ROE, wherever applicable, has been indexed to USD. If the PKR goes down against USD,

The role of the IPPs cannot be downplayed as their long-term stake in the economy has been pivotal in realizing the country's economic potential.

ROE in PKR goes up to compensate. We must understand though that the real ROE remains unchanged.

What are IPPs? IPPs are single product companies, that is, they sell electricity under 20-30-year sale contracts to a single buyer, i.e. WAPDA. Since May 1998, an important issue facing Pakistan policymakers has been whether independent power producers (IPPs) produce expensive electricity. It is contended that IPPs' expensive power has rendered the state utility, Water and Power Development Authority (WAPDA), bankrupt. It is also alleged that IPPs indulged in corruption and colluded with WAPDA officials to get their signatures on contracts which allowed procurement of expensive power by WAPDA and which it can ill afford now. If we sift through the rhetoric surrounding IPPs, we can focus on the central issue of whether IPPs produce expensive power. If it can be established that IPPs produce cheaper power than WAPDA, then the second part of the argument that WAPDA became financially weak because of IPPs' expensive power is null and void.

Any long-term investor, in a regulated market, with a single customer, would not wish to be saddled with the soft currency of a conflict-ridden economy, facing sanctions, domestic strife, and terrorism. Investors and their bankers demand mitigation against risks and eventualities through tools such as indexation and protections e.g., against change in taxes, etc. If tomorrow the PKR moves up to 200 USD, why should the investor suffer? Nominal PKR returns would rise again to protect the real return. The Government of Pakistan should fix its fiscal house, stem losses in the power sector, sell discos, improve recoveries and stop blaming the IPPs. Investors should not suffer the cost of power theft, bad loans and predictable, fiscal profligacy of the government.

Given the current domestic scenario and the series of statements and hearings, it would not be incorrect to say that IPPs are indeed being subject to a lot of scrutiny, again, if not outright political victimization. Power shortages in Pakistan have been reduced substantially in comparison to the 1990s. The shortages now take a smaller toll on the country's productive capacity and infrastructure, and that is in large part to do with IPPs. The role of IPPs can certainly not be downplayed as their long-term stake in the economy has been pivotal in realizing the

Main Lenders in the IPP Sector

Foreign Lenders

IFC
World Bank
ADB
IDB
US Exim Bank
AIDEC
CDC (UK)
EDC (UK)
SACHE (Italy)
ANZ Banking Group (Australia)
ABN Amro Bank
(Now merged with Faysal Bank)
Jexim (Japan)
Bank of Tokyo Mitsubishi
Toronto-Dominion Bank
DEG (Germany)
FMO (Netherlands)
PROPARCO (France)
SWEDFUND (Sweden)
OPIC (US)
K-Exim
Exim Bank of China
Industrial & Commercial Bank of China
China Development Bank

Local Lenders

National Bank of Pakistan
Habib Bank Limited
United Bank Limited
Muslim Commercial Bank
Allied Bank Limited
Askari Bank Limited
Faysal Bank Limited
Meezan Bank Limited
Bank Al Habib
Habib Metropolitan Bank Limited
The Bank of Punjab
Soneri Bank Limited
NIB Bank Limited
Pak Oman Investment Company
Pak China Investment Company
Saudi Pak Industrial and Agricultural Investment Company

country's economic potential and has greatly improved its standing. If the country still suffers, it will not be on account of lack or shortage of power.

The fault, therefore, is not in the IPPs. The fault is in the sinking rupee, in losses at distribution companies (Discos), and the piling payables of the Government of Pakistan and other government-owned entities. We must focus on where the problem is and where the counterparty is keeping its end of the agreement. The IPPs have given their all for the development of Pakistan at a time when no one was willing to invest in the country. They have empowered an uncertain economy, which had not witnessed such a massive Foreign Direct Investment ever in the past. On the other hand, the government has not paid the IPPs for years, and IPPs are at the brink of default being owed an amount of approximately Rs600 billion; yet, they still continue to remain available to provide uninterrupted supply of electricity for the country.

It is important to remember that in times of economic crisis, such as in a post-COVID-19 world, such maligning attempts can cause immense damage to the investment climate and economic prospects of the country. The IPPs claim to be available to engage in a meaningful dialogue with the government to discuss and find an amicable solution to the most pressing needs of the country. The government should accept this offer and engage IPPAC and the IPPs in talks, as well as using them to provide uninterrupted power supply.

Over the last two decades, electricity shortfall and instances of load shedding in the country bear witness to the fact that we need these IPPs. Without getting into the discussion about corruption within the IPPs, one solution would be for the government to acquire them under the relevant clauses of the Implementation Agreement, after giving fair compensation and making money for itself. If that is not an option, then the government must give the IPPs their due, and ensure that they play a positive role in our economy. S

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PRIVATE INVESTMENT IN THE POWER SECTOR

A DIFFERENT ROUTE

BY DR. SHAHID RAHIM

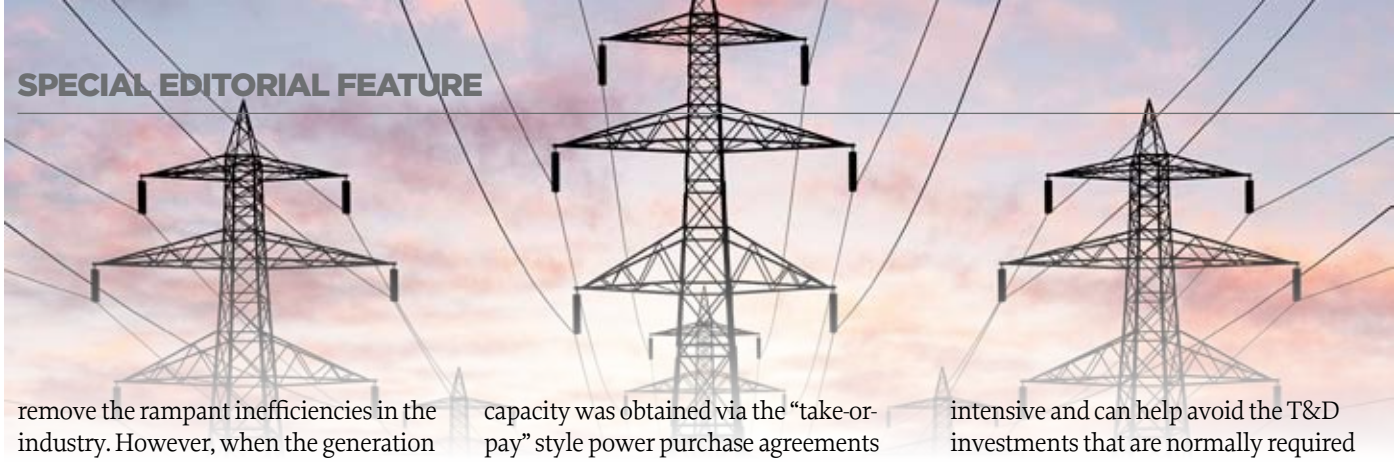
The IPP issue has taken center-stage in Pakistan yet again, with the government accusing them of fleecing the nation by minting billions by way of profits while the IPPs vehemently deny this. Experts on both sides of the fence must be left to wrangle out the extent to which these allegations are true, if at all, and who has actually been responsible for this alleged abuse — the IPPs, the sector managers, or both? Our focus is only on why the IPPs end up in such controversies every few years and how such conundrums can be avoided in the future. But, first a few words about the electric supply industry itself.

Most people expect electricity to be available to them on the flip of a switch. Few, however, realize that to provide this control and flexibility to its customers — day in and day out, under scorching heat and bitter cold, during heavy rains or choking dust storms — the electricity suppliers have to make tremendous investments in generation, transmission, distribution and allied facilities. Power systems are among the most complex and expensive of infrastructure facilities for any country, but are a lifeline for their economy and society. Electricity is also a unique product. It must be produced and delivered, the moment it is demanded, as its large-scale storage is very expensive, if not impossible.

Three features of the electric supply industry stand out: (i) it must maintain sufficient power generation "capacity" in the system to meet any reasonable demand on the system, regardless of its location, timing and duration; (ii) it must keep at hand adequate resource supplies (fuels, water, nuclear, solar radiation, wind, etc.) to serve the consumer's' "energy" demands (the electricity consumed by their machines and appliances); and (iii) it must design and deploy each component in the system carefully to deliver electricity to consumers "reliably" and within a tight band of "quality".

The electric supply company is a capital-intensive enterprise, often involving billions in investment upfront and also during operation. Roughly, 60% goes to generation facilities, 15% to transmission systems, and 25% to distribution networks and services. A 1,000 MW power plant alone can easily involve over a billion dollars of investment upfront. The generation and other facilities in the plant are not independent of each other but are tightly interlinked. Any disruption in fuel supplies upstream or demand downstream can cause billions invested in the system to become stranded, leading to bankruptcy of the utility.

When power sectors of many countries around the world were opened to competition in the late 1980s, there were two key motives behind the move: (i) share the financial burden of the sector's capital-intensive schemes with the private sector; and (ii) subject it to the discipline of private markets, to



remove the rampant inefficiencies in the industry. However, when the generation part of the electric supply was opened for private investment, complex policy packages based on attractive return on investment, long-term commitments, guarantees (including the infamous "take-or-pay" contracts), and risk sharing had to be introduced, as without these, no commercial creditor would lend capital to sponsors of such projects.

Even in developed economies, efforts to invite private investment into power generation projects being set up on the concept of merchant plants ("take-and-pay") did not meet any significant success and some long-term commitments and guaranteed off-take by power purchasers had to be assured to lure private capital into such high-risk projects.

Though, private investment in power generation projects via long-term contracts met with success in most developed countries, developing countries, including Pakistan, could not replicate this success. The reasons were mostly the lack of business-friendly environment, uncertainty of government and regulatory policies, and absence of a favourable institutional setup. A supportive environment was either already there or was created in developed countries, in sharp contrast to developing countries where such an environment did not exist and could not be created for a variety of reasons. This lack of security, uncertainty, and high-risk contributed to investors either shying away from investing or demanding hefty returns and shorter debt tenures for their investments.

Pakistan also joined the IPP bandwagon in the early 1990s with the introduction of a formal private policy package in 1994 that offered multiple incentives and guarantees to private investors. Since then, almost 19,500 MW of private power generation capacity has been added to the grid; this constitutes roughly 50% of the total capacity today. Most of this IPP capacity was obtained via the "take-or-pay" style power purchase agreements (PPAs) in addition to other security instruments.

According to the latest draft Indicative Generation Capacity Expansion Plan ("IGCEP") of the NTDC (April 2020), over 50,000 MW of new capacity will be required by 2030 to serve the forecast demand of 44,000 MW and replace 6,500 MW of to-be-retired existing capacity. In this requirement, 14% is already committed to CPEC projects, 20% to public sector projects, and 13% to private projects. Roughly 53% (or 27,000 MW) of new capacity requirement is still not committed and is thus open for private investment.

Unfortunately, since introduction of the first private power policy in 1994, the legal, regulatory and institutional environment considered essential for healthy private investment in the power sector has not improved and in fact has deteriorated. One, therefore, doubts that the country will be able to attract future private investment on a "take-and-pay" type contracts. Willingness of some investors to accept "energy-only" contracts for solar and wind projects cannot be replicated for the conventional IPPs, because solar and wind plants, due to their intermittent and variable nature, hardly contribute to a firm capacity which is essential for maintaining grid reliability. This limitation only shifts their capacity costs to the hosting grid.

Fortunately, the world's energy market has taken a favourable turn recently that we can use to gradually phase out our dependence on large-sized and capital-intensive generation facilities and reorganize our electricity supplies on a more decentralized and distributed grid. Small plants, both conventional and renewable, have emerged that beat the cost and performance features of large plants. Such plants can be installed nearer to the end-users of electricity, are not capital-intensive and can help avoid the T&D investments that are normally required with central-station conventional power plants.

These developments open a big window of opportunity for private investors, also because the smaller sizes of such projects make them less capital-intensive and thus less risky. The only issue is their small-scale, distribution nature and novelty that may deter private investors who normally prefer to invest in projects that are concentrated in one place and for which time and market-tested financial mechanisms and instruments are already available.

The Pakistan government can do a lot to encourage private investment in these projects by providing a business and investment-friendly legal and regulatory framework, some special funds and a supportive institutional setup. The payoff to the nation will be huge and sustainable as these investments will set into motion a virtuous cycle of local industrial development, employment generation, reduction in pollution, and lessening of dependence on imported fuels.

Investment is such schemes will also further enhance competition in the electricity supply situation that currently tops the list of power sector reform agenda that the government is pursuing with assistance from multi-lateral development banks. As aptly noted by Alfred Kahn (author of the monumental treatise, The Economics of Regulation), "Whenever competition is feasible, it is, for all its imperfections, superior to regulation as a means of serving the public interest." S

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Ensuring a Sustainable Future for the Power Sector

BY FARHAT ALI

The power sector in Pakistan continues to face turbulent times with no meaningful and sustainable relief in sight. While the government is still embroiled in figuring out how to manage the IPPs, the outcome of its recent enquiry report revealing mind-boggling profits of the IPPs and load-shedding in Karachi and other parts of the country, has once again surfaced as a heat wave sweeps across the country.

The public and private sector, since the 90s, is systematically investing in the power sector and has put in place a number of rather randomly and aimlessly chosen power plants based on fuel oil, HSD, wind and, lately, on LNG, coal and solar.

The end result of decades of investment is that the country is producing some of the most expensive electricity in the world and long hours of power black-outs still haunt the public. The tariffs are crippling the industry and the resulting circular debt is severely denting the country's fragile economy.

All of this is not sustainable. The country has to ensure a sustainable future for the power sector. The areas which need to be addressed are the conduct of the IPPs, the crumbling power generation and distribution in the public sector and the incompetence of the country's power regulators.

The current, behind-the-scenes negotiations between the government and IPPS, based simply on their profit margins, is not sustainable on legal grounds and the power purchase agreement signed between the two. The IPPs can be reprimanded if there are financial or operational irregularities in their conduct of business.

To judge that, a comprehensive, fair and transparent financial, technical and administrative audit, by independent and credible auditors, of the complete supply chain of the power sector, needs to be conducted. This should include the fuel supply chain, the conduct of IPPs, the conduct of regulators (NEPRA, OGRA, etc), the delivery of the power generation and distribution companies in the public sector and the consumers. They are all seamlessly linked to each other.

The public power sector is the weakest link in the power supply chain - riddled with incompetence, multiple losses and mis-governance - leading to a severe dent to the country's economy. This is one sector which needs radical reforms.

HIGHLIGHTS OF 1994 POWER POLICY

- Pakistan was facing load shedding of 5 to 10 hours a day from 1986 to 1998.
- 1994 Power Policy was introduced by the Benazir Government in 1994 to attract investment in the Power Sector.
- Bulk tariff of 5.91 cents per kilowatt was provided to the investors. The response was unprecedented. PPIB received applications to the tune of 50,000 MW. Projects of 2,850 MW were agreed to by Government.
- The policy provided a US$ based IRR of 18%.
- There were a total of 14 projects in the 1994 Power Policy.
- From 1998 to 1999, the Government disowned the projects and coercive measures were adopted to renegotiate tariffs. Besides AES having American investors, all tariffs was renegotiated.
- Due to this exercise, two projects went bankrupt and investor confidence was lost.

The other weak link is the conduct of the regulators, namely, OGRA and NEPRA. The previous government placed them under the oil and power ministries, respectively, forfeiting whatever little independence was left with them. Competence needs to be built up in these entities and their independence restored.

The sustainable way forward is the privatization and deregulation of electricity generation and distribution. Now, nearly all over the world - Europe, USA and in the emerging markets in Asia - the power sector is privatized and deregulated. This has invariably resulted in the reduction of tariffs and improvement in service - both in the interest of the consumer.

Pakistan experienced fantastic results by deregulating its telecommunication sector - being at that time one of the first few countries in the world to do so. Once, the availability of telephones in Pakistan used to be the privilege of the elite. It came with expensive tariffs and poor service and the consumer was at the mercy of the lineman. Today a telephone is available in almost every home and is affordable by all.

In the power sector too, Pakistan was among the first few countries which inducted the private sector in power generation. Thereafter, we lost track. What should have followed was the induction of the private sector in power transmission and distribution and then the deregulation of the sector to provide quality and affordable power to consumers.

The way forward for ensuring a sustainable future for the power sector in the country is to catch up where we lost track and move on with the privatization and deregulation of the power sector to deliver reliable and affordable power to consumers. S

The writer is a former President of the Overseas Investors Chamber of Commerce and Industry.

Induction of private sector in power generation

Power shortage had been one of the chronic problems hampering Pakistan's socio-economic growth since the late 1980s. The problem assumed such acute dimensions that power supply fell short of demand by almost 2000 MW during peak load hours. On a routine basis, this resulted in forced interruptions in the supply of electricity to consumers during peak hours resulting in load shedding. The unreliable power supply shattered industrial progress. There was a gap between demand and supply due to the rapid increase in electricity demand (estimated to be growing at a rate of 7-8 % per annum at that time). This situation called for immediate intervention by the government through adoption of policy measures aimed at massive resource mobilization for investment in the power/energy sector.

The enormous quantum of required investment compared with the constrained funding potential of the national exchequer, was not conducive to allocation of scarce government funds for power/energy. Therefore, the government took a bold initiative in late 80s to induct private sector investment in the power sector. Developing power generation capacity is very capital intensive. For example the capital requirements for a deficit of 5000 MW is around US$ 6 billion. Such an amount cannot be carved out from the annual budget of the federal government. As such, in the late eighties the Government of Pakistan made a decision to seek private sector investment in power generation. Attracting investment of such magnitude required a team of highly qualified professionals who were trained in project, financial and contract management/analysis beside being courteous and imbued in corporate culture.

Long and tedious experimentations by various governmental agencies on part-time basis, with HUBCO (the first private sector power generation project) and other prospective Independent Power Producers (IPPs) in late 1980s convinced the government to create a dedicated organization having roots in government but having a corporate look that could provide a suitable interface to private sector entrepreneurs, their consultants, lawyers, and lenders feel easy to approach, The Private Power and Infrastructure Board (PPIB) was created as a dedicated one-window facilitator for attracting private investments in the power sector. The success of PPIB was so impressive that the model was followed by many other countries. Given the current shortfall and magnitude of investment required, the justification of PPIB as a dedicated institution for providing one-window facilitation and attracting private investment in power sector has magnified manifold.

Source: Private Power & Infrastructure Board, Ministry of Energy (Power Division), Government of Pakistan

THE CHALLENGES AND WAY FORWARD FOR THE POWER SECTOR

BY PEERZADA FAIZAN

Pakistan's power sector has been marred by decades old challenges, the most critical ones being circular debt which is touching the Rs 2 trillion mark, the highest technical and commercial losses in the region, non-availability of electricity to a quarter of the country's population, an inefficient energy mix, and lack of a competitive market.

The inability of successive governments to overcome these challenges is at the one end causing huge losses to the national kitty and, on the other, the public is facing the brunt of all these inefficiencies in the form of higher electricity tariffs. The average electricity tariff had already gone up by over 40% from roughly Rs 12 per unit in 2017 to over Rs 17 per unit by the end of last year and there are talks underway to further increase it to cover system losses and capacity charges.

Part of the challenges that the power sector is going through can be linked with poor governance and weak institutional quality of the National Electric Power Regulatory Authority (NEPRA), which results in an overall institutional inability to carry out the desired functions effectively. The regulatory body lacks professional expertise to oversee and manage the power sector and uphold an equitable pricing regime.

Replicating the US model where the President brings in his own teams of technical advisors from all fields to deliver on government targets, the PTI government has strengthened technical competence in ministries by inducting qualified professionals from relevant fields. Accordingly, the Establishment Division has identified 15 ministries and divisions for creation of posts of technical advisors, including the power division. It will be a good idea if the PTI government also strengthens the technical competence of regulatory bodies, including NEPRA, in the same manner.

The latest Global Competitiveness Report ranks Pakistan at 115th among 137 economies in the reliability of electricity supply, whereas Bangladesh is at 101st position and India at 80th. According to a World Bank Group report published in 2018 titled 'In the Dark', power distortions cost Pakistan's economy much more than previously estimated: $18 billion in fiscal year 2015 — that is 6.5 percent of the country's economy.

A recent report claims that the independent power producers (IPPs) have caused losses of over Rs4 trillion to the national exchequer. The part highlighting required reforms remained largely ignored which suggested that government intervention in the power sector must be curtailed, the energy ministry must be revamped and focus should be shifted towards transmission and distribution.

The onus is now on the PTI government to implement the reforms before it completes its term and set aside the argument that they have inherited the power crisis. Another way the cash-starved government may find useful is to collaborate with private sector organizations in the region to upgrade public power plants, improve the aging power supply network and make smaller and smarter transmission and distribution networks which are easier to manage. This will also foster competition and end the monopoly enjoyed by the state-owned companies in the power sector value chain and the privatized K-Electric, which is struggling to meet the growing power demand of the country's largest city. This is hampering the economy of the country, besides generating negative public sentiments on the issue.

The unforgivable and biggest blunders in the power sector have been the non-seriousness and damage caused by not paying due attention to Thar coal and the bigger dams. These two are technically the biggest gifts of the Almighty to Pakistan but intra-provincial politics and negative internationally-vested interests have wasted forty years of deliberations on Thar coal and the dams. Even politics and international consultants were mobilized that Thar coal and the bigger dams were not viable but this was proved wrong recently when two plants started making electricity from Thar coal and showed positive results.

Governments in quest of immediate results did not invest in the dams which could have significantly reduced the power tariff, and also would have saved the country from floods, providing water for irrigation to produce more agri-based food for the growing population of Pakistan. The Thar coal project has recently started to produce power but again some negative sentiments are being built by internationally-vested interests that are actually the enemies of Pakistan as well as some local politics involving negative comments.

Pakistan, through a conspiracy, has been drained for its energy, water and agriculture needs by not utilizing Thar coal and dams and has wasted 40 precious years and billions of dollars in its economy in useless debate. It is high time that sanity prevailed and high speed progress were made on Thar coal as well as hydropower. The Government should also make better policies for renewable energy like wind and solar.

Additionally, it is high time that policy-makers focused on revamping and building a new infrastructure for transmission and distribution lines. Unrealistic tariffs and policies are not encouraging Discos to invest the desired effort required for distribution networks. More importantly, the business houses have been more prone to investing in IPPs, some of which were shamelessly given a tariff of 17% US dollar-based IRR.

The infrastructure in big cities like Karachi, Lahore, Peshawar, Quetta, Hyderabad, Faisalabad, Gujranwala, Sialkot etc. is being exhausted, particularly in Karachi and is in a very bad shape. Depleted drainage, illegal encroachments and other related issues have now become life-threatening matters.

Power and water are the two biggest inputs in the economy. Industry runs on power, and food for the people come from agriculture (where water is used both for hydel needs and irrigation). These are technically national security issues that must be considered with sanity. Importing costly oil or coal for power for such a debt-heavy economy will become irreversible. Positive and fast-paced progress is needed for Thar coal, such as tightening the losses made by the IPPs, making of dams, favourable policies for renewables and fast-track investments and policies for transmission and distribution network across the country. S

25 IPPs project to add 12,464MW to national grid by 2028

As many as 25 projects of Independent Power Producers (IPPs) are in various stages of development which on completion will provide 12,464MW electricity to the national grid system.

These projects were facilitated by Private Power Infrastructure Board (PPIB) and would start coming into operation from 2020 to 2028. The 1263MW RLNG project being set up near Trimmu Barrage, Jhang would be ready by 2020. Similarly, five projects having accumulative capacity of 2047MW would come on line by 2021. The projects include two 330MW units each, Thar coal power plants, 660MW Thar coal power plant, 7.08MW Riali-II hydropower and 720 Karot Hydropower.

Moreover, four projects with total 2160MW capacity would be ready by 2022 based on 330MW Thar coal, 1320MW Thar coal, 870MW Suki Kinari hydropower and 300MW imported coal power plant. Similarly, 1980MW are to be added to the system through IPPs in 2023, 2,124MW in 2024, 1,172MW in 2026 and 1,710MW in 2028.

The projects include 700MW Azad Pattan hydropower, 1,124MW Kohala hydropower, 300MW Ashkot hydropower, 640MW Mahl hydropower, 450MW Athmuqam hydropower, 82MW Turtonas-Uzghor hydropower, 163MW Grange Power Limited, etc.

The Private Power and Infrastructure Board (PPIB) was created in 1994 as a "One-Window Facilitator" on behalf of the Government of Pakistan to promote private investments in power sector. In 2012, PPIB was made a statutory organization through Private Power and Infrastructure Board Act 2012. The role of PPIB has been further expanded by allowing it to facilitate public sector power and related infrastructure projects in IPP mode, for which PPIB's Act was amended in November 2015. PPIB approves IPPs, issues LOIs and LOSs (including Tripartite LOSs), approves Feasibility Studies, executes Implementation Agreements (IAs) and provides GoP guarantees.

Source: IEA Clean Coal Centre, UK