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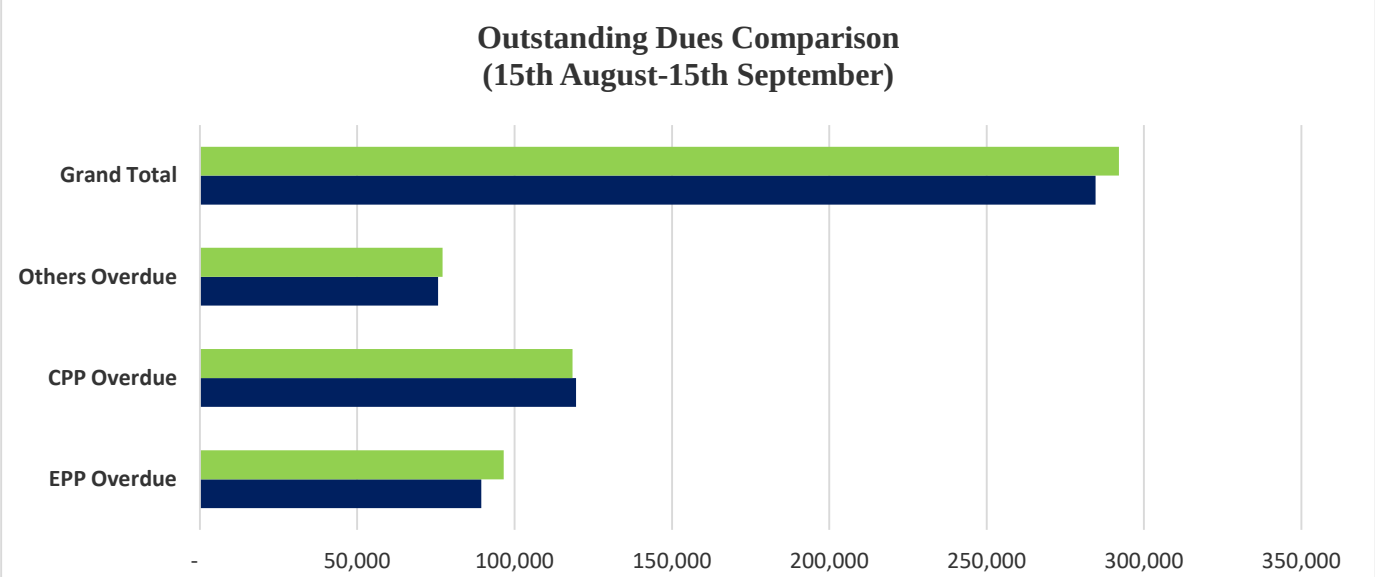
INDEPENDENT POWER PRODUCERS ASSOCIATION

MONTHLY NEWSLETTER

Welcome to the thirty first edition of Independent Power Producers Association (IPPA) Newsletter. The newsletter is published on a monthly basis to ensure regular dissemination of information to Member IPPs and other stakeholders, and also to provide a platform to discuss issues pertinent to the energy sector of Pakistan. We would like you to send us your feedback and comments on how to improve the monthly newsletter.

Monthly Infographics

Outstanding Dues as of 15th September, 2019 in PKR Millions

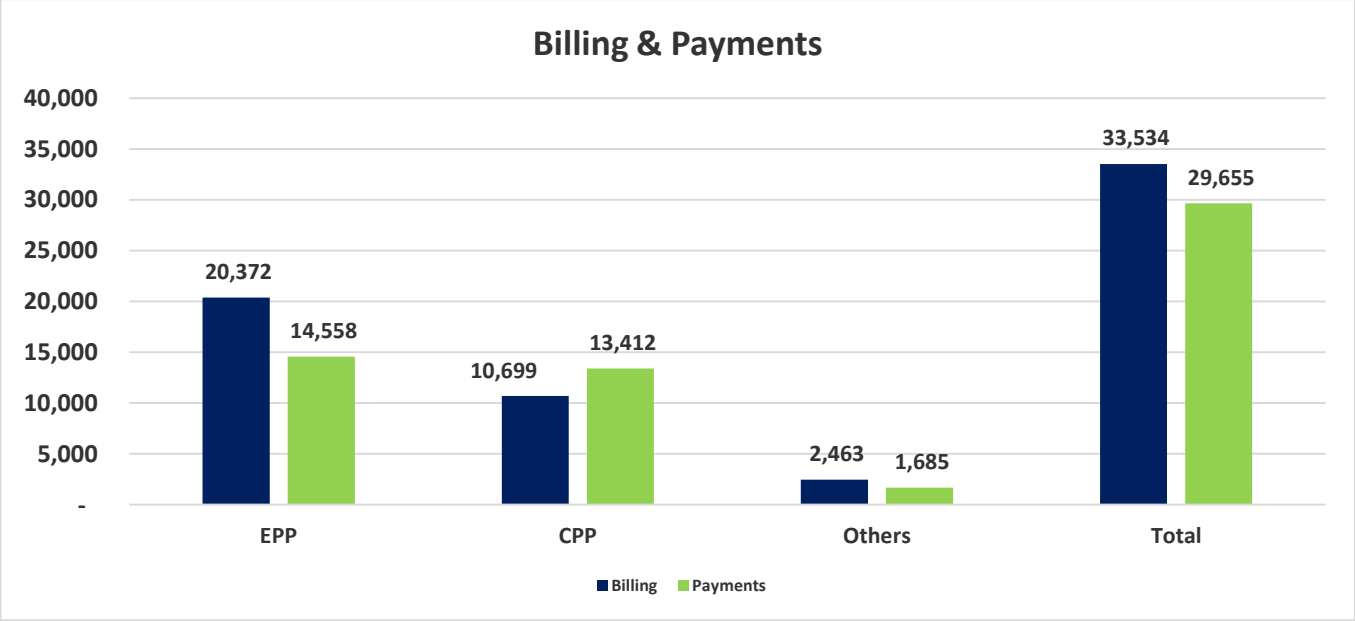


	EPP Overdue	CPP Overdue	Others Overdue	Grand Total
September	96,537	118,378	77,088	292,004
August	89,431	119,499	75,658	284,588

Source: Member and Subsidiary IPPs

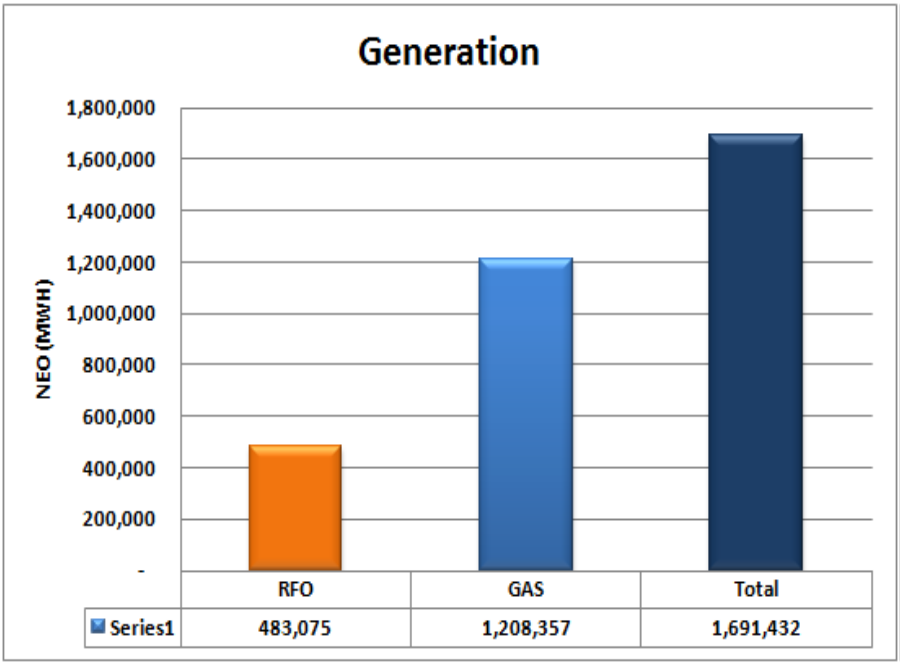
Monthly Infographics

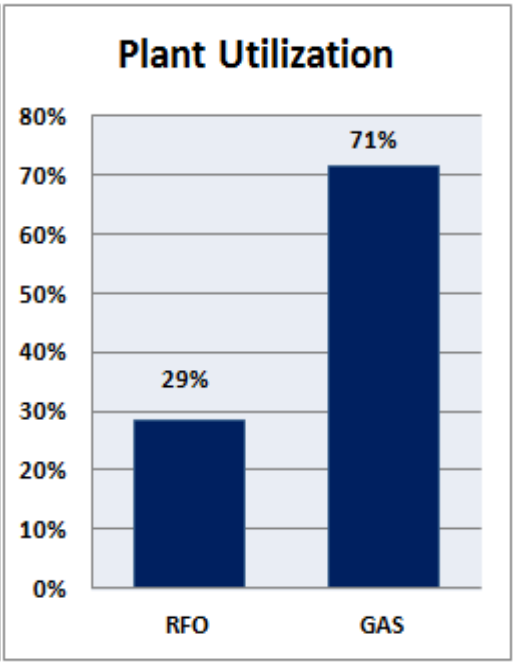
Billing and Payments in September 2019 in PKR Millions



Source: Member and Subsidiary IPPs

Net Generation and Plant Utilization in September, 2019





Source: Member and Subsidiary IPPs

Local News

PTI led government approves "Renewable Energy" policy draft

The Alternative Energy Development Board (AEDB), in its 46th meeting held under the Chairmanship of Federal Minister for Power Omar Ayub, ratified the draft of Alternative Renewable Energy (ARE) Policy 2019 with a mutual accord of all members. The Federal Government has emphasized on devolving the decision making power in this regard to all the provinces to decide on major renewable energy projects.

The new renewable energy policy draft, approved by the AEDB, permits the steering committee, comprising of all provinces, and designated members, to decide on major schemes of renewable energy projects. The policy was meticulously prepared by the AEDB in consultation with public and private sector stakeholders, as well as inculcating suggestions from the provincial government agencies. The Energy Minister Omer Ayub stated that the policy targeted to generate a promising environment sustained by a robust framework for sustainable growth of renewable energy sector of Pakistan.

Furthermore, the working body reiterated the vision of the incumbent government regarding fulfilling the market need of enhanced power supply with major focus on achieving strategic objectives of energy security, cheaper generation mix and most imperatively environmental safeguard. Likewise, Power Division Federal Secretary Irfan Ali apprised the meeting that for the very first time, a very ambitious yet pragmatic policy has been shaped to tap the indigenous resources of the country imperative for sustainability.

Source: The Express Tribune

OGRA hikes RLNG prices by up to 6.6%

The Oil and Gas Regulatory Authority (OGRA) on Wednesday, October 9, notified a surge in prices of imported gas by up to 6.6% for October 2019. The regulator augmented the prices of Re-Gasified Liquefied Natural Gas (RLNG) by 6.43% for Sui Northern Gas Pipelines Limited (SNGPL) and 6.62% for Sui Southern Gas Company (SSGC) compared to the previous month.

Moreover, OGRA fixed the latest prices at $10.723 per million British thermal units (mmbtu) for SNGPL consumers and $10.7105 per mmbtu for SSGC purchasers. In the previous month, the RLNG price for SNGPL was $10.0751 per mmbtu and for SSGC; it was $10.0457 per mmbtu. Thus, in absolute terms, RLNG prices have been boosted by $0.6479 per mmbtu for SNGPL and $0.6648 per mmbtu for SSGC.

Source: Business Recorder

Pakistan's Finance Division refuses guarantee to LNG importer

The Finance Division has spun down a request of State-Run Pakistan LNG Limited (PLL) for further guarantees worth $150 million in the wake of fiscal constraints and to circumvent violation of loan terms settled with the International Monetary Fund (IMF) under the Extended Fund Facility (EFF) signed in the end of the fiscal year 2019. PLL, which imports liquefied natural gas (LNG) – is fronting a default-like situation due to the stacking up of the enigmatic "Circular Debt". The company is confronting cash constraints due to revenue shortage, as Sui Northern Gas Pipelines Limited (SNGPL) has to pay dues amounting to over Rs 55 billion by recovering from Power Producers and Rs 11 billion from Sui Southern Gas

Company. The issue came up for discussion among economic managers in a recent meeting of the Economic Coordination Committee (ECC) of the cabinet.

Source: The Express Tribune

Pakistan draws up plan to add 74,448MW to national grid by 2040

The National Transmission and Dispatch Company (NTDC) in a study titled "Indicative Generation Capacity Expansion Plan 2018-40" profoundly analyzed the Power Market dynamics of the country and emphasized on the notion of accelerating efforts towards power generation, terming it has a key determinant of sustainable economic growth. The study further stated that it would be extremely challenging for Pakistan to pace up its economic growth without ensuring a robust power production and supply system in place. Therefore, it has chalked out a comprehensive plan to develop 120 new Power Projects in a bid to add 74,448 Megawatts of production capacity to the system till 2040, mainly from hydel, domestic coal and renewable sources including wind and solar.

In the year 2040, the nominal production capacity in the system will stand at 98,091MW against projected peak load (demand) of 80,425MW, thus down turning the ongoing Demand-Supply Gap in the Power Sector. In 2018, the nominal capacity and demand matched quite closely as the nominal capacity from all generation sources hovered around 27,715MW whereas the demand was close to 26,700MW. In 2019, the gap between nominal capacity and demand is steadily widening and has started surpassing the peak load in the system. It can be observed that a significant surplus of around 17,600MW remains between the projected demand and installed capacity, according to the study.

Source: Dawn News

NEPRA hikes electricity tariff amid Fuel Price Adjustment

The Power Sector Regulator on Wednesday, October 23, reviewed and assessed an upsurge of Rs.1.6615/kWh in the applicable tariff for XWDISCOs on account of deviations in the fuel charges for the month of August 2019. NEPRA in an official press release defined the existing Actual Fuel Charges Component for August 2019 as Rs.4.8660/kWh, while the Corresponding Reference Fuel Charges Component Rs.3.2045/kWh and Fuel Price Variation for the month of August 2019, increase Rs.1.6615/kWh. The authority further emphasized key implications of the tariff hike and clarified that the surge in price shall be applicable to all the consumer categories except lifeline consumers (Below 300 Units). Moreover, it shall be shown separately in the consumers' bills on the basis of units billed to the consumers in the month of August 2019. Similarly, the regulator further clarified that the XWDISCOs shall reflect the fuel charges adjustment in respect of August 2019 in the billing month of November 2019.

Source: The Express Tribune

International News

Reaping Wind at Sea could become $1 trillion Industry claims IEA

Offshore wind could develop a cornerstone of the world's power supply as steep cost diminutions and enhanced technology unleash the potential of the green energy source, said the International Energy Agency (IEA). The agency further said that the concept of renewables replacing fossil fuel is essential to meet a internationally agreed goal of regulating temperature upsurge to below 2 degrees Celsius this century and the extension of offshore wind could elude 5-7 billion tones of CO2 emissions from the power sector globally.

Power generated from wind turbines at sea merely accounts for 0.3% of global electricity generation today, but the potential is gigantic, IEA executive director Fatih Birol told Reuters in the capital of Denmark, the country where the first offshore turbines were instated in 1991 and which last year generated 15% of its electricity from offshore wind. The agency appeared to be immensely motivated and stated that the based on current and suggested procedures, capacity is set to upturn 15-fold over the next two decades, turning it into a $1-trillion business.

According to IEA, offshore wind will soon beat New Natural Gas-fired competence on cost and be on a par with solar photovoltaic (PV) and onshore wind while in China, it is set to become competitive with new coal-fired capacity around 2030. UK today has the largest capacity but by around 2025, China is likely to have the greatest offshore wind convoy. The industry is also growing in markets like the United States, Taiwan, and Japan, told IEA. Denmark's Orsted is the world's prime creator of offshore wind, while Siemens Gamesa and MHI Vestas, a joint venture between Vestas and Mitsubishi Heavy Industries are the largest makers of wind turbines employed at sea.

Source: Reuters

Belt and Road to bring 1 GW of Solar Energy to Italy

The Chinese state-owned PV manufacturer Jetion Solar says it has signed an agreement with the Italian government-owned oil and gas major Eni to develop a slew of new Solar Projects of capacity equivalent to 1 GW crosswise in five regions in the next three years in a contract worth €2 billion. This comprehensive accord defined the priority of the Italian government in pursuing renewable sources of power generation to minimize environmental degradation and fulfill the domestic power demand of the country. The Belt & Road Initiative has further bolstered the government's ambitions in fostering a renewable energy generation scheme for the country and ending energy outages.

The previous Italian government in June won approval from the European Commission to disburse up to €5.4 billion in subsidies for Solar, Onshore Wind and Hydropower by 2021, in breach of the political bloc's usual public spending and budgeting constraints on member states. Furthermore, Jetion stated Italy will need a 158% rise in installed solar capacity, from its current 20 GW to 50 GW in 2030, in order to satisfy the energy and climate plan being wished-for by the government this year. The press release further added that the fossil fuel giant Eni is aiming to install 1.6 GW of new renewables generation and energy storage capacity by 2022 and 5 GW by 2025.

Source: PV Magazine

Amazon announces three new renewable energy projects, including its first in Scotland

The famous tech giant Amazon announced three renewable energy projects, saying it was committed to minimizing carbon emissions following criticism earlier this year. According to the sources, the facilities would provide energy to its Amazon Web Services data centers. A wind farm, with an all-out capacity of 50 megawatts (MW), will be sited on Scotland's Kintyre Peninsula and is projected to generate 168,000 Megawatt hours (MWh) of energy every year. Amazon said the facility could power the comparable of 46,000 U.K. homes and would be the U.K.'s largest corporate wind power purchase agreement.

Moreover, two solar projects in North Carolina and Virginia will extent to 215 MW of absolute capacity, with Amazon assuming them to produce 500,997 MWh

per year. The projects proclaimed are expected to lead generating energy in 2021. In a statement, Amazon's Director of Sustainability Kara Hurst said the firm was "committed to minimizing our carbon emissions and reaching 80% renewable energy use across the company by 2024". It is to be noted that Amazon is just one of many global technology organizations considering to power processes using renewable sources of energy to cater for environmental tribulations confronting the world in the future.

Source: CNBC

UK Renewables generate more electricity than fossil fuels for the first time

Interestingly, in the third quarter of 2019, UK's wind farms, solar panels, biomass, and hydro plants generated more electricity than the combined output from power stations fired by coal, oil, and gas. According to an empirical research conducted by the Carbon Brief, renewables generated an estimated total of 29.5 terawatt hours (TWh), compared with just 29.1TWh from fossil fuels during the last three months of July, August, and September. This is the first-ever quarter where renewables outstripped fossil fuels since the UK's first public electricity generating station became operational in 1882. It is another figurative milestone in the stunning revolution of the UK's Electricity Sector over the past decade. Nevertheless, a dearth of improvement in other parts of the economy means that UK remains unsuccessful against its forthcoming legally binding carbon targets.

Source: Carbon Brief

Japan rescues Zambia from energy outage caused by drought with a Solar Investment of $200 million

The Japanese renewable energy company, "Univergy Solar", is to invest more than $200 million in two Solar Power Projects in Zambia that will add 200 megawatts (MW) to the country's national grid next year. Zambia primarily relies on hydropower and has an electricity shortfall of about 750 MW due to low water levels at generation plants after a severe drought hit power production. As per the governmental sources, Univergy Solar Company will develop and implement a 135 MW project in northern Zambia and another 65 MW project in Zambia's copper belt. The two projects are projected to be accomplishing between six and eight months. According to the statement by the Zambian embassy in Tokyo, the Solar Plants would be immensely pivotal in job creation and business enhancement in the country. Zambia expurgated its economic growth forecast to around 2% for 2019, from an estimated 4%, due to the impact of the drought on its power supply and agricultural production.

Source: Reuters

MONTHLY ACTIVITIES OF IPPA

Conducted Brainstorming Session

IPPA organized a Brainstorming session on Issues in Power Sector Maintenance. The meeting was attended by various stakeholders from the Power Sector. These stakeholders included MD PPIB, CEO Guddu Power and representatives from various other private and government power generators. The meeting touched upon the various maintenance issues within the power generation sector.

IPPA held a Meeting with SDPI

IPPA's CEO Dr Fatima Khushnud held a meeting with Dr Vaqar Ahmed, Joint Executive Director SDPI. The covered various matters of mutual interest. The two representatives discussed various joint collaborations such SDPI's annual event on Digital Economy. In addition, the meeting also focused on current joint research projects and measures to better leverage that research for future activities.

Meeting with ISAPS

IPPA's CEO Dr Fatima Khushnud accepted an invitation from Institute of Social and Policy Sciences (ISAPS) and held a meeting with their representatives. During the meeting, the two parties discussed IPPA's role in achievement of SDG goals for Pakistan. The initiative would see AEDB and IPPA play their part in achieving power related SDGs in Pakistan. This meeting was a continuation of previous efforts by ISAPS which included a symposium on SDGs.

USPCASE and IPPA meet to discuss SSC.

Mr Ammar Yaseer of USPCASE, NUST and IPPA's CEO Dr Fatima Khushnud held a meeting at IPPA office. The two sides shared their interest in promoting power sector related human capital. USPCASE was apprised of the progress of Sector Skills Council in bolstering skills development within the power sector. In response, Mr Ammar shared his interest in collaborating with SSC.

Meeting with Stimulus Consulting

IPPA's CEO Dr Fatima Khushnud held a one-on-one meeting with Dr Hira Wajahat of Stimulus Consulting. The two discussed the topic of "Pakistan's RES: roadblocks for development of Solar and Wind Power in Pakistan.

Meeting with PAKWEA

IPPA's CEO Dr Fatima Khushnud held a meeting with Mr. Danish Iqbal, CEO Metro Wind Power and President of PAKWEA. The meeting focused on potential collaboration between IPPA and PAKWEA on various forums such as research and advocacy.

Meeting with United Energy Pakistan (UEP)

IPPA's CEO Dr Fatima Khushnud held a meeting with Mr. Mansoor Ghayur of United Energy Pakistan. The two discussed various potential collaborations. Dr Fatima apprised UEP of IPPA's progress in establishing Sector Skill Council Energy. Both sides also discussed collaboration on research on Wind Power Generation.

IPPA participated in Symposium on Tax Reforms

IPPA's CEO Dr Fatima Khushnud participated as a panel member in a Tax Symposium organized by Adam Smith International (ASI) in collaboration with Sustainable Development Policy Institute (SDPI). The symposium organized a meeting of select experts for a policy discussion aimed at taking a stock of ongoing federal and provincial tax reforms in Pakistan. The meeting discussed inter alia: on-going challenges in federal and provincial revenue mobilization, Pakistan's commitment to improve tax policy and administration under the IMF program,

the role of private sector associations in helping improve tax compliance. Dr Fatima discussed tax issues in the power sector and economy in general.

IPPA trainer provided training to startups

The impact accelerator (for growth stage entrepreneurs) was organized by National Incubation Center in collaboration with Epiphany lab was held in Islamabad. IPPA trainer helped startup providers in scaling their impact, learning what the fundraising process looks like, preparing their financial statements, designing a strategic plan to become investable, developing, practicing and delivering their pitch deck in front of potential funders on this Demo Day.

SSC Monthly Activities

In October 2019, the council welcomed Sona Welfare Foundation on-board as its promoter whilst also inviting Quaid-e-Azam Solar Park and Mr. Mian Imran Masood (Vice Chancellor of USA, Lahore and member of Punjab HEC) to join as promoters of the council. Additionally, further progress was made in fulfilling the pre-requisites for registering the council with the SECP – after obtaining relevant documents from the promoters.

Moreover, the council completed the work on its website and Labor Market Information (LMI) survey questionnaire, and transferred its control and maintenance to The Digital Basement (TDB) – a company contracted for the said purpose. In this regard, the GIZ' technical support team also delivered a website orientation session to the TDB team. The council also held a two hours Capacity Building Session, by Mr. Shaban (Consultant – GIZ) at IPPA's office which focused on apprising SSC members of the structure of NAVTTC and TEVTTA and provided relevant details to the workshop participants. The session also elaborated on the tasks and way forwards for the Sector Skill Councils. Besides, internal deliberations were held on LMI study and it was decided to circulate the LMI survey among the IPPA members in the first phase.

The Convener of Sector Skills Council RE also attended the launch of Kamyab Jawan Program – an initiative under the government's Youth Development Framework which sees development in six areas. The ceremony was addressed by the Prime Minister.

Overall, the council remains engaged in several concomitant activities ranging from membership drive, sector mapping, PR campaigns and interactions with potential stakeholders and interested parties. With governmental oversight from NAVTTC, Technical support from GIZ, and international endorsement from Norwegian, EU and German Embassy; SSC-RE is constantly endeavoring to represent private sector's interest as per ground realities and dynamic challenges that present themselves.

IPPA received interest from CREDs (Centre for Research into Energy Demand Solutions) - Policy & Governance

IPPA received interest from CREDs (Centre for Research into Energy Demand Solutions). CREDS is a Research Centre established in 2018 with a vision to make the UK a leader in understanding the changes in energy demand needed for the transition to a secure and affordable, low carbon energy system. The two sides showed interest on working at research problems that are of significance to both Pakistan and UK.

REALLOCATING FUEL TOWARDS MORE EFFICIENT POWER PRODUCTION

Affordability of electricity has been a major concern in the recent past. The following discussion will focus on the role of government-controlled generation plants in reducing cost of generation. This reduction in cost of electricity can come from reallocating fuel mix from inefficient government-owned gas-based generation plants to more efficient ones.

Currently, the government operates power plants in GENCO (Generating Companies) or IPP format. Most of the IPPs format power plants were incorporated under the 2015 power policy, configured to use Gas and Coal as a fuel. The gas fueled power plants (Bhikki, Balloki and Haveli Bahadur Shah) were some of the most efficient power plants in the world with an efficiency of 62.5%. These power plants were supplied with LNG. In order to understand the decision of supplying these plants with LNG, it is important to revisit the situation in which the decision was taken.

By 2015, Pakistan had started to feel the pressure of a gas shortage that was the result of ill-thought distribution strategies combined with an in-effective E&P (Exploration and Production) policy. The following figure will illustrate the growth of that gas shortage.

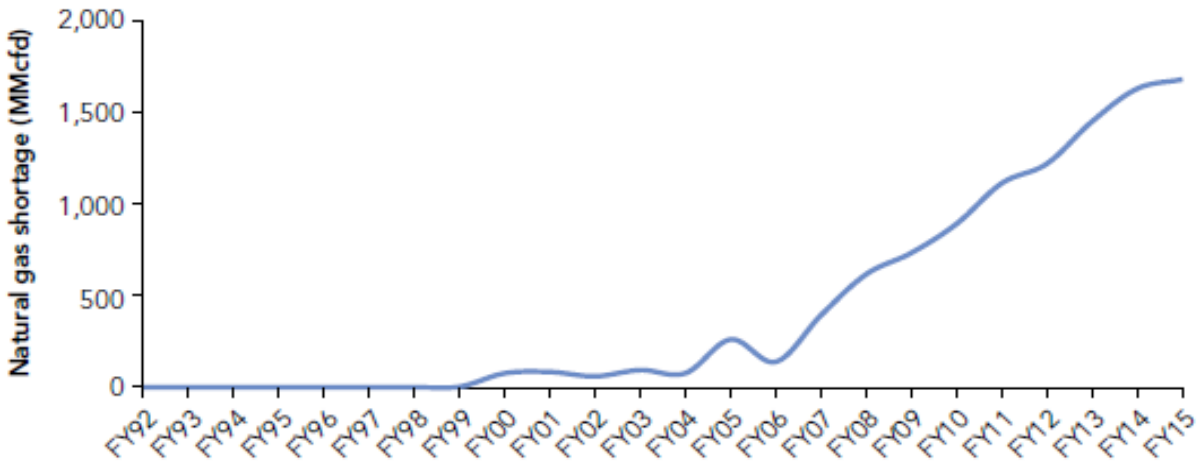


Figure 1: Gas Shortage over the Years *Source: Ministry of Finance and World Bank*

As a result, the new power projects were supplied with imported RLNG. Imported RLNG being more expensive led to the fuel component of new efficient power plants exceeding that from inefficient plants. **Having a higher fuel component led to newer efficient power plants being placed lower on the merit order.**

This anomaly can be addressed if new efficient power plants are supplied with cheap domestic gas from dedicated lines. Doing so would place the newer/efficient plants higher in merit order since fuel cost component is one of the main input factors for merit order. Going up on merit order will translate into more dispatch orders for new (efficient) power plants. Such a move will decrease basket price of electricity generation since the low fuel cost component would allow new plants to fully utilize their efficiency. Such reallocation would also lead to secondary knock-on benefits.

Auxiliary Advantages

Adjusting the gas allocation among government owned Power Plants will have many knock-on effects in addition to reducing cost of power generation.

First, Reallocating the Natural Gas from Older to Newer plants will help alleviate the gas shortage in the country by reducing the overall Gas demand of the country. This is because on an average, power sector consumes about a fifth of all gas in the country (see Figure 2). Furthermore, this reduction in demand will happen without any decrease in overall value of generation in the country.

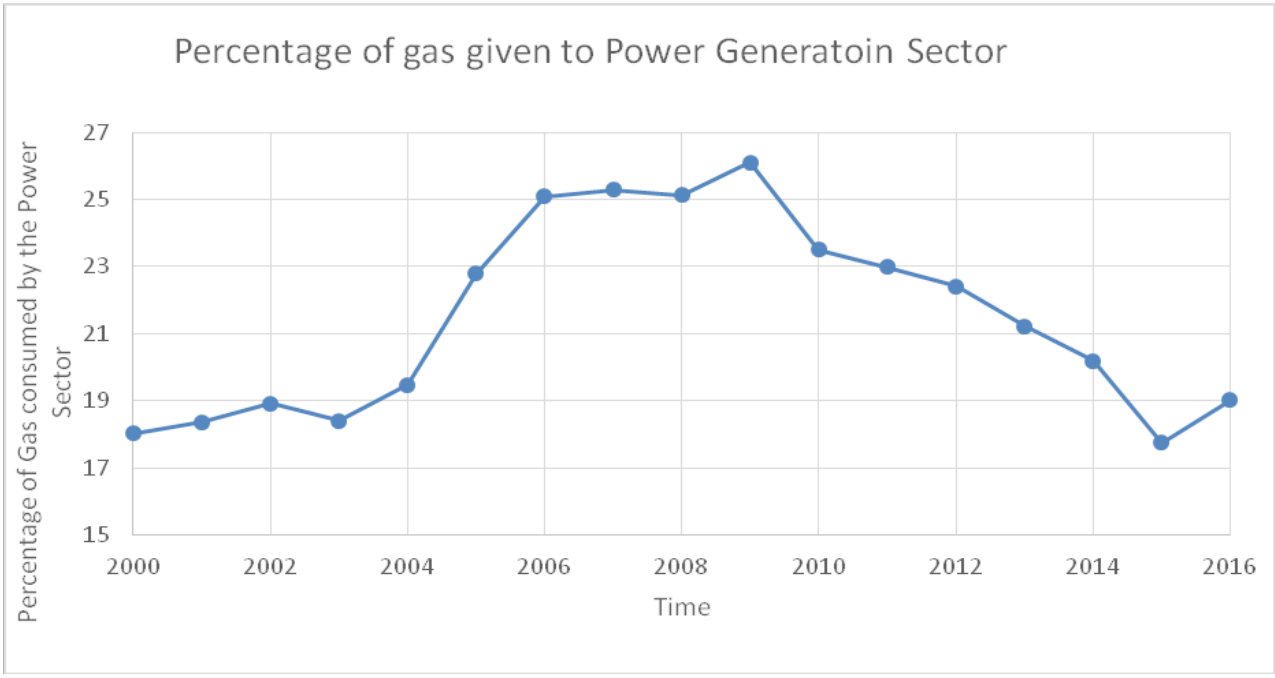


Figure 2 Percentage of Gas consumed by Power Sector *Source: Ministry of Finance*

Apart from reducing gas shortage, reducing overall consumption of gas in the country would also reduce the pressure on current account of the country. Currently, Pakistani rupee is under devaluation pressure due to its current account deficit. Oil based imports contribute to this pressure and LNG imports are also expected to contribute to that weight. Reduction in power sector demand for LNG imports will help alleviate some of that pressure.

Furthermore, a reduction in carbon emission[1] will definitely help Pakistan contribute towards its pledges for combatting climate change by reducing carbon emission per MW of electricity generation. In addition to environmental benefits, increased dispatch order to Bhikki, Balloki and Haveli Bahadur Shah would also lower the capacity payment share of cost due to increasing EP revenue.

Conclusion:

Pakistan is looking for various measures to reduce its cost of power generation. This generation cost can be reduced via reallocating domestic gas pipelines from old power plant to new ones at Bhikki, Balloki and Haveli Bahadur Shah. Doing so would allow newer plants to move up the dispatch order and hence reduce the cost of power generation for the country.

[1] Resulting from more efficient use of gas generation systems.

Our Members

	Member IPPs	Primary Fuel	Alternate Fuel	Gross Capacity (MW)	Net Capacity (MW)
1	The Hub Power Company (Tehsil Hub)	RFO	HSD	1292	1200
2	Pakgen Private Limited	RFO	-	365	350
3	Lalpir Private Limited	RFO	-	362	350
4	Kohinoor Energy Limited	RFO	-	131	126
5	TNB Liberty Power Limited	GAS	HSD	235	211
6	Uch Power (Private) Limited	GAS	-	586	551
7	Rousch (Pakistan) Power Limited	GAS	HSD	412	395
8	Habibullah Coastal Power (Pvt.) Co.	GAS	HSD	140	126
9	Attock Gen Limited	RFO	HSD	165	156
10	Atlas Power Limited	RFO	HSD	225	214
11	Nishat Power Limited	RFO	HSD	200	195
12	Nishat Chunain Limited	RFO	HSD	200	195.6
13	Liberty Power Tech. Limited	RFO	HSD	200	195
14	Orient Power Company Limited	GAS	HSD	229	213
15	Sapphire Electric Company Limited	GAS	HSD	225	209
16	Halmore Power Generation Co. Ltd.	GAS	HSD	225	209
17	Engro Powergen Qadirpur Limited	GAS	HSD	227	217
Subsidiary IPPs					
19	Hub Power Company Ltd (Narowal)	RFO	-	220	214
20	Uch-II Power (Pvt) Ltd	GAS	-	404	375.2
21	Saba Power Company (Private) Limited	RFO	-	134	125.5

Established in 2010, IPPA serves as an advisory body for Independent Power Producers (IPPs) in Pakistan. IPPA liaises with the government and related departments such as NEPRA, SECP, WAPDA, CPPA-G, NTDC and PPIB and also serves as a facilitator between various IPPs and stakeholders within the power sector.

If you have any suggestions or feedback, kindly write to us at feedback@ippa.com.pk