



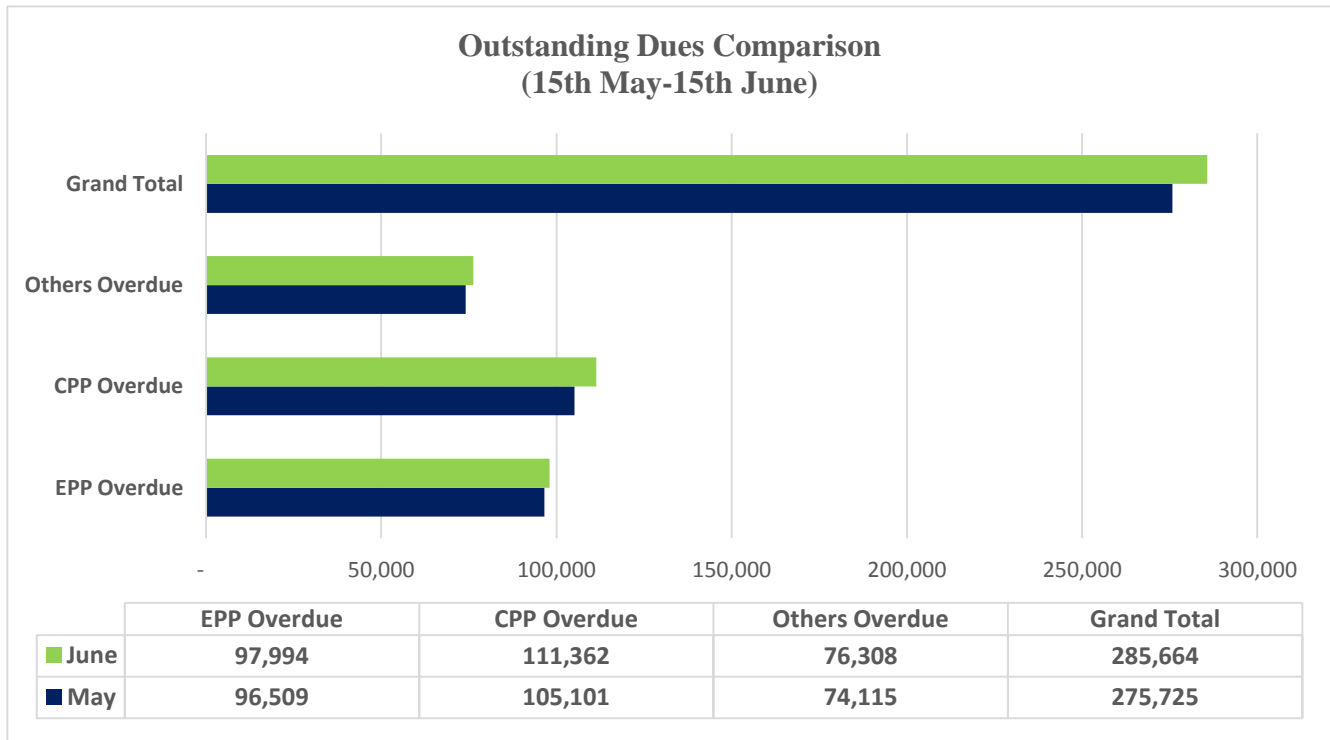
INDEPENDENT POWER PRODUCERS ASSOCIATION

MONTHLY NEWSLETTER

Welcome to the twenty-eighth 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

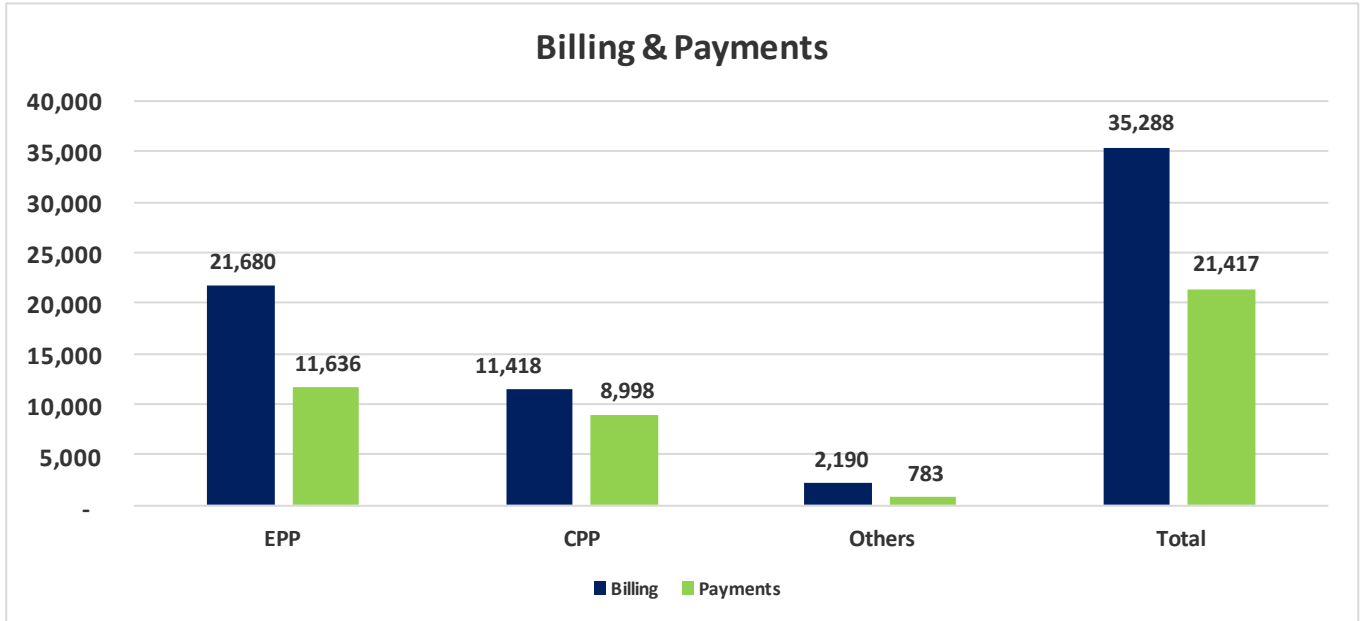
Outstanding Dues as of 15th June, 2019 in PKR Millions



Source: Member and Subsidiary IPPs

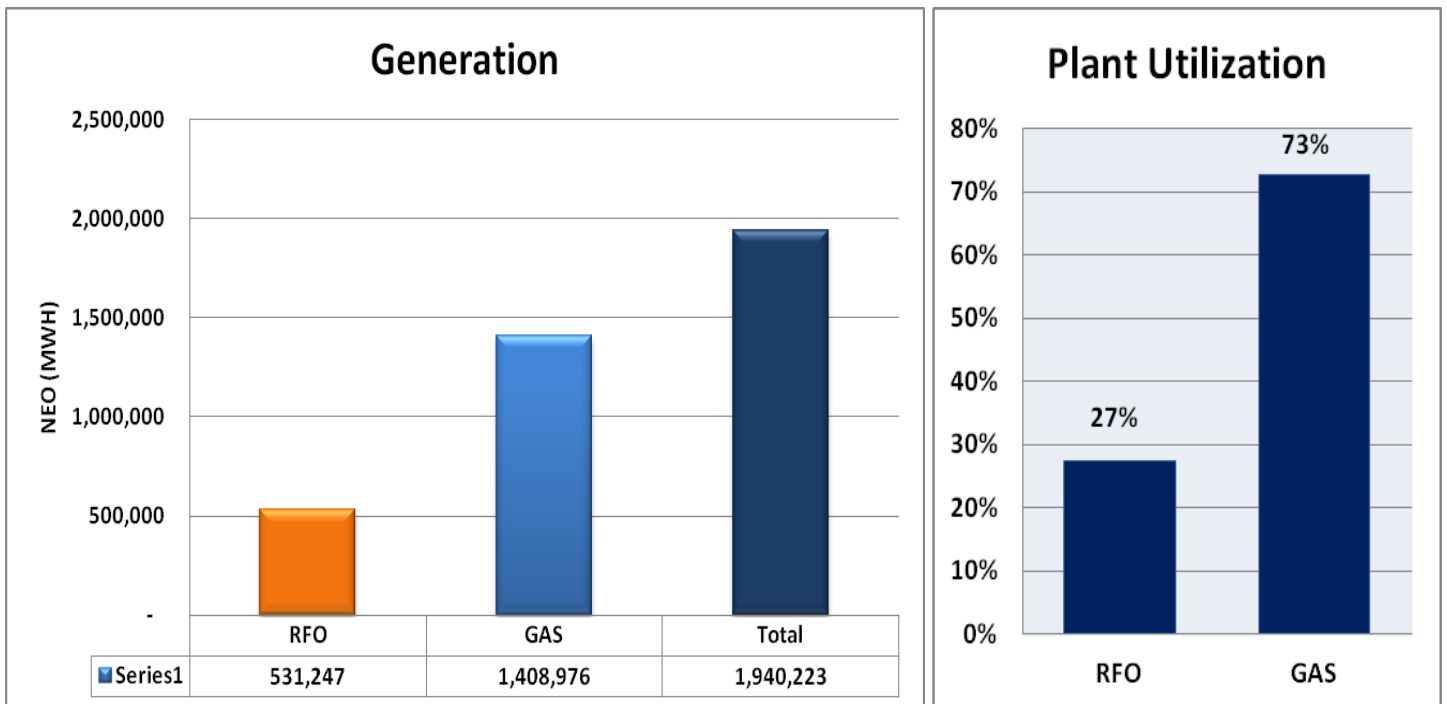
Monthly Infographics

Billing and Payments in June 2019 in PKR Millions



Source: Member and Subsidiary IPPs

Net Generation and Plant Utilization in June, 2019



Source: Member and Subsidiary IPPs

K-electric finally publishes financial results for FY 17

Some key figures were released by K-Electric's board of directors. The company's financial yearly audits have been behind schedule for the last two years. This backlog has been the subject of a lot of controversy among shareholders and industry watchers alike. The financial results were issued to PSX by the Board of Directors.

The company posted a net profit of Rs 10.8 Billion in FY 17 as compared to Rs 31.8 billion for FY 16. The profit for period ending 30 June 2017 is a 67% decrease over the previous year's profits. That is bad news for shareholders where the earning per share (EPS) have decreased from 1.15 Rs per share to 0.38 Rs per share. This decrease in profit came as a result of tariff restructuring. The new Multi Year Tariff (MYT) (for the control period July 01, 2016 to June 30, 2023).

K-Electric has been the first DISCO to be privatized under the government's liberalization scheme. According to the CEO, the company invested more than USD 1.7 Billion across its energy value chain. This investment resulted in an additional 1057 MW of power generation capacity. In addition, the investment also increased the fleet efficiency by 6% from 30% in 2009 in 37% in 2017. Furthermore, all of the industry has been exempted from load shedding to ensure good commercial activity.

Engro to respond to Government's initiative with increased capacity for Re-gasification

Engro Elengy Terminal Pakistan Limited has decided to retire its 690 million cubic feet per day terminal and replace it with a

new terminal having a capacity of 790 million cubic feet per day. The older unit was imported from Kuwait where it was already used to Re-gasify imported LNG. Replacement of the Floating storage and re-gasification units will add 100 million cubic feet per day of re-gasification capacity into the value chain. The government has promoted increased re-gasification capacity via removing the import taxes on LNG and issuing tenders for 200 million cubic feet per day processing capacity.

Such a capacity will be needed once the current tender for a 240 cargo 10-year contract comes to fruition. Once the contract is enforced, Pakistan will become one of the top-five LNG buyers in the world.

NEPRA report informs about monetary side of power loss

National Electric Power Regulatory Authority released a report that placed a price of Rs 45 Billion rupees from electricity theft and other damages during the fiscal year of 2017-18. This financial loss is said to have occurred throughout the various DISCOS in the economy. The report also divulged other interesting facts about the state of transmission and distribution in the economy. It said that Rs 78 Billion worth of due fees have not been recovered in the last financial year.

Performance in terms of service delivery has not improved either. There were more than one hundred and fifty dangerous accidents during last year. Furthermore, the performance of the five DISCOS of Peshawar Electric Supply Company (PESCO), Sukkur Electric Supply Company (SEPCO), Hyderabad Electric Supply Company (HESCO) and Karachi Electric Supply Company (KESCO) saw no improvement throughout the year. However, the report did note that the performance of

Peshawar Electric Supply Company. Lahore Electric Supply Company (LESCO), Faisalabad Electric Supply Company (FESCO) and K-Electric.

Engro Power declares its Commercial Date of Operation (COD)

Engro Powergen Thar (Private) Limited (EPTL) declared its COD for the first phase of the Thar Coal Power Project. The 660 MW power generation facility is composed of two 330 MW generation units. Both of these units have already been synchronized with the national grid. With the completion of relevant testing, EPTL was happy to announce its achievement of COD.

Enertech aims to invest in Pakistani Power Sector

Sindh government and Enertech are signing an MOU with a 50 MW “Waste to Energy” project with scalability. The project aims to tackle Karachi’s garbage crisis and power crises in one fell swoop.

Firms investing in Solar + Storage platforms



Source: Lightyear

Firms all over the globe are investing in solar + storage platforms and hope to provide them to customers very soon. Lightyear and Sono Motors are just two of these players. Sono Motors of Munich is offering test drive on its Sono Sion which promises customers charging of batteries on the go. Light year one is offering deliveries in 2021.

The mainstream car manufactures are not further behind. Toyota has already started offering solar roofs for its Prius line of vehicles. Kia and Hyundai have also announced offering hybrid vehicles in their 2019 line. The cars are expected to charge from 20% to 60% of the 1.5 KWh batteries using solar panels. Solar + storage is even being integrated into cars with internal combustion engines.

Even electronic manufacturers are jumping are eying to capture this lucrative industry. LG introduced its solar car roof variants at Intersolar Europe 2019. The displays at the shows showed two variants of either Neon 2 CELLO cells which are rated at 200 @ or Neon R UBC cells which carry a rating of 300W.

Solar + storage offerings will help improve the global power generation in coping with the increased demand for electricity due electrification of the transport sector.



Source: World Atlas

Mozambique launches tender for 60 MW solar power plant

The International Finance Corporation (IFC), member of the World Bank, and state-owned Mozambican power utility Electricidade de Mozambique have issued a have issued a Request for Expression of Interest for consultants to support the development of small solar parks. Interested parties can submit their proposals until August 1, 2019. These solar parks will be installed between three and five locations throughout the country. These projects will range in capacity form 10 MW to 15 MW and will add up to a collective capacity of 60 MW.

Such a tender breaks from the country's tradition of installing off-grid and micro grid projects. Furthermore, doing so would enable the country to realize its solar potential for utility scale power generation. Currently this potential is only limited to a 40 MW Mocuba Solar IPP project. This project was installed by Scatec Solar at a cost of \$76 million. The project had a 25-year Power Purchase Agreement (PPA) with Electricidade de Mocambique.

South Korean Government announces 2100 MW floating Solar Power Project

The South Korean Ministry of Trade, Industry and Energy (MOTIE) announced an intention to build a 2100 MW floating solar power plant close to Saemangeum, an estuarine tidal flat on the coast of the Yellow Sea. The project is currently under the review stage and will start during the second half of 2020.

The project will be path breaking for the floating solar power industry since the current biggest solar power project pales in comparison to this project. Currently, China's 150 MW solar PV project retains the title for the world's biggest floating solar power photo-vaulting power generation project. In order to complete this project a total of 5 million Photo Vaultic modules will be connected at a cost of \$3.9 billion.

This Project is part of South Korean government initiative to bolster the country's capacity for renewable power generation. These efforts are being led by Ministry of Trade, Industry and Energy.

RISKS IN FINANCING RENEWABLE ENERGY PROJECTS

Renewable Energy (RE) is the future of power production. It's more than just the shift away from fossil fuels and towards renewables. It's creating a whole new paradigm. With the rise of new technologies like micro grids, the way we create, consume and pay for energy will never be the same again. However, as much as renewables are exciting, it is critical to identify the barriers and allied challenges associated with RE projects

From a macro-economic standpoint, barriers to RE investment can be grouped as below:

Cognitive Barriers: relate to the low level of awareness, understanding and attention afforded to RE financing and risk management instruments particularly in low income countries.

Political Barriers: are associated with regulatory and policy issues and governmental leadership.

Analytical Barriers: refers to the quality and availability of information necessary for prudent underwriting, developing quantitative analytical methodologies for risk management instruments and creating useful pricing models for environmental markets such as carbon emissions permits.

Market Barriers: encompass lack of financial, legal and institutional frameworks to support the uptake of RE projects in different jurisdictions.

Off-Grid Projects: Off-Grid projects face different problems from those on non-grid Renewable Energy Technology (RET) projects. Off-grid projects are generally reliant on sales of individual household or small-scale systems to rural communities. Technical challenges are limited; however, due to small scale of such projects, down to the individual household level affordability and finance-ability are key barriers.

High and Uncertain Project Development Costs: RE technologies projects are quite vulnerable to changes in the regulatory framework. Due to their lack of cost competitiveness, these projects are dependent on a supportive regulatory framework to proceed such as commitments to pay premium prices, priority access to electricity grids including support for the necessary infrastructure investments and guarantees of purchases of their output. Severe problems for project viability can arise where the regulatory framework changes.

Furthermore, such projects are often located in environmentally and socially sensitive areas. For instance, with larger solar and wind projects, land use requirements can be very significant. All these factors make it necessary for RE project sponsors to have access to significant amounts of funds to cover the costs of project development prior to reaching financial close. Generally, such funds come from their own resources or from sources of risk capital. In developing countries, the small size of potential RE technology project sponsors means that this route of funding is limited. Generally, there is little availability of risk capital in developing countries financial markets.

Risks of Renewable Energy Projects

High resource uncertainty

In addition to the above, resource uncertainties are also a problem for all technologies, though in differing ways. For instance, Geothermal projects have the greatest risk at the time of resource appraisal, when the expensive drilling of exploratory wells is needed. While the Biomass projects have a significant problem with the continuing availability of affordable and adequate resources. Similarly, technologies dependent on carbon financing are likely to be more vulnerable to the resource uncertainty problem. The specific risks are covered below:

High exposure to regulatory risks

While all energy projects face regulatory risk, RET projects are particularly vulnerable to changes in the regulatory framework. Their lack of cost competitiveness means that these projects are generally dependent on a supportive regulatory framework to proceed such as commitments to pay premium prices, priority access to electricity grids, including support for the necessary infrastructure investments, and guarantees of purchases of their output. It is pertinent to mention that regulatory framework changes can cause severe problems for project viability.

High financial cost relative to other technologies

The high costs of RETs relative to conventional generation technologies are a key risk to success. These higher costs are exacerbated by the high cost of funds in many underdeveloped financial markets (for example, borrowing costs as high as 16–18 percent have been quoted for Nepal and among other SREP pilot countries, lending rates of 16.5 percent and 15.1 per-cent have been reported by the International Monetary Fund [IMF] for Ethiopia and Honduras, while the same in Pakistan are 13.25%). The high up-front capital costs of many RETs compared to conventional technologies further worsen their commercial position and make costs a concern.

For grid-connected projects, the high cost of RETs can be addressed partially through priority rights to dispatch and/or must-take obligations on off-takers. This means that these projects are effectively removed from having to compete for dispatch with other lower-cost conventional technologies. The higher costs imposed on off-takers of purchases from RET projects are generally recovered from electricity customers as a whole either through the monopoly power of the off-taker or, where the electricity market is competitive, through some form of levy or universal charge.

But if costs are too high relative to alternatives, affordability concerns may mean that such priority treatment is not economically viable. There may also be concerns whether RET projects that are more expensive than conventional alternatives will have commitments to pay them honored, whether governments will continue to make the necessary funds available to cover the obligations of publicly owned off-takers, or whether attempts will be made to renegotiate these commitments on the grounds of affordability.

Off-grid RET projects are more likely to be competing directly with conventional technologies, such as diesel generation. For these projects, if users are given a choice of technology, RETs are unlikely to be selected unless their costs can be brought down to competitive levels. This is happening more as global oil prices rise. For example, the cost of solar photovoltaic (PV) modules fell by over 60 percent between 2008 and 2019. In remote locations and small loads, this can make solar PV supplies competitive with diesel generation.

Uncertainties over Carbon Financing

The sale of Certified Emissions Reductions (CERs) through the Clean Development Mechanism (CDM) is a widely recognized source of revenue for RET projects in LICs, and one that can help reduce their costs relative to conventional technologies (in effect acting as a form of subsidy). But unless some way can be found to mobilize this potential revenue source up front, it is unlikely to help at the time of project development and implementation.

Conclusion

RE is expected to revolutionize power consumption and production. However, with all this promise come certain risks and challenges. It is very important to recognize these challenges and risks to the deployment of RE power projects. For starters, RE projects will face many types of barriers including: Cognitive, Political, Analytical and Market barriers. Furthermore, the deployment of RE projects will have to contend with new types of risks. These involve risks of resource availability, regulatory changes, high financing cost and uncertainties pertaining to the use of Carbon Financing.

MONTHLY ACTIVITIES OF IPPA

Sector Skills Council – Energy inches forward with collaborations and registration

SSC – Energy continues to maintain exceptional pace since its inception. Therefore, in July 2019, the council spearheaded the website creation task with the help of technical support from GIZ; it also made progress in registering the council with SECP – after obtaining Endorsement letter from NAVTTC – and has submitted application for name reservation (Association Not for Profit) under SECP’s Section-42 of the Companies Act, 2017. Furthermore, 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- Energy is aiming to represent private sector's interest as per ground realities and dynamic challenges present themselves.

IPPA & ETD Consulting take another step towards supporting Pakistan’s Power Plants

Earlier this month IPPA and ETD consulting deliberated on future events that will pave the way for IPP participation in reducing the overall dependence on foreign OEM manufacturers. IPPA and ETD consulting are currently in a partnership that will introduce expertise in Pakistani Power Plants with the aim to make them self-reliant in terms of OEM expertise. Apart from introducing new expertise, this partnership also aims to save costs for Power Plants by introducing bulk hiring of OEM expertise.

IPPA holds media conference at Serena Islamabad

IPPA invited journalists from major media outlets to inform them about the proceedings of the Inquiry Commission. IPPA EXCOM member and CEO HUBCO Khalid Mansoor elucidated on the details submitted to the inquiry commission. IPPA also took the opportunity to dispel irrational myths about the power sector. These myths included IPPs earning abnormal profits.

Development of a Job Portal

IPPA is happy to announce the development of a job board on its website. The job board will facilitate its members in sourcing talent for their production units. IPPA aims to provide potential applicants with a one stop facility for applying at job positions for all the member power producers. Currently the job portal is in beta stages of construction. We hope to have a trial run within this month.

IPPA held its 23rd board meeting

This month IPPA held its 23rd Board Meeting. In the meeting, the CEO Dr Fatima Khushnud apprised the members of IPPA’s efforts to facilitate the power generation industry. The agenda for the meeting also discussed the expected evolution of the industry in the medium and short term in light of climate change and the changing fuel mix.

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	Saif Power Limited	GAS	HSD	229	209
16	Sapphire Electric Company Limited	GAS	HSD	225	209
17	Halmore Power Generation Co. Ltd.	GAS	HSD	225	209
18	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