

# Mapping IPPs Across Pakistan

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Prepared on: 26th September 2024



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# The IPP Landscape: Visualizing Pakistan's Private Energy Sector

## Introduction

### What is an IPP:

An Independent Power Producer (IPP) is a private entity that generates electricity for sale to the national grid or large consumers, operating independently of government utilities.

### 1st IPP: HUBCO

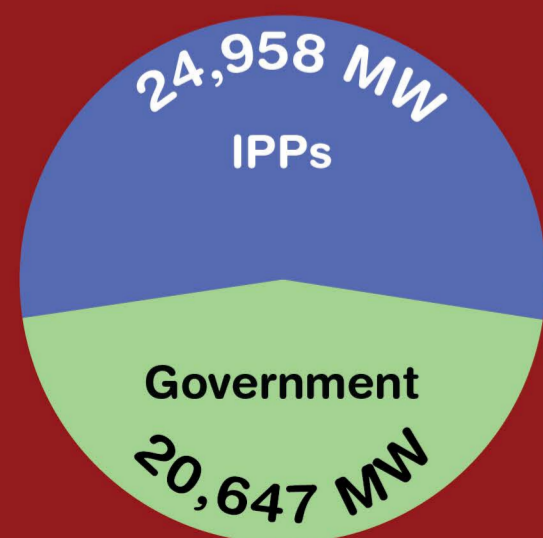
### 1st Private Power Generation Policy: 1994

### Contract type: Take or Pay

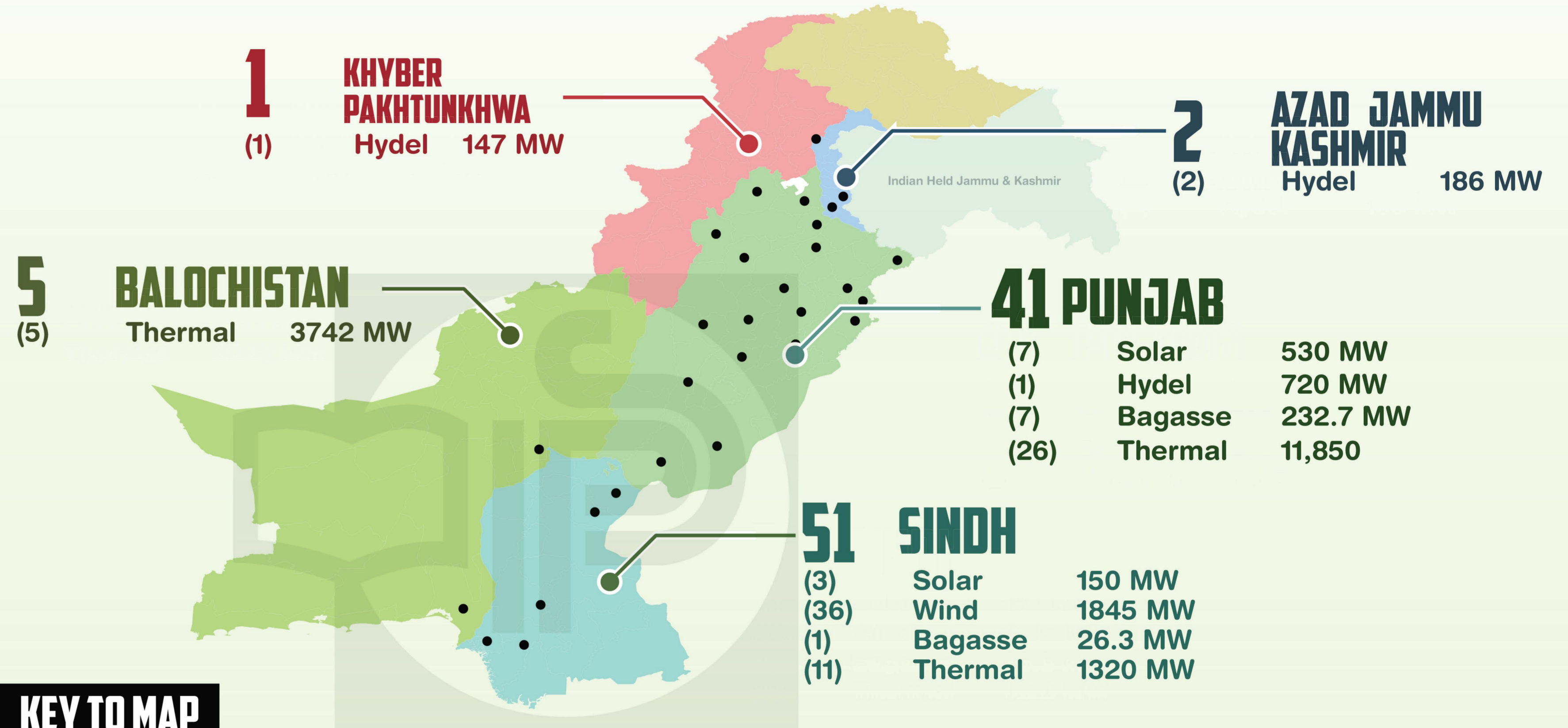
### Total No. of IPPs: 100

### Total Installed Capacity: 45,605 MW

### Total Capacity of IPPs: 24,958 MW



In the current energy sector IPPs hold a 55% share of the installed capacity, while the government's share is 45%, reflecting the growing dominance of private investment alongside state-run entities.



### KEY TO MAP

### TOTAL NO. OF IPPS

(No of IPPs per fuel type)

Fuel Type

Installed Capacity

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Sources: PPIB, NEPRA State of Industry Report, Muhammad Ali Report 2020



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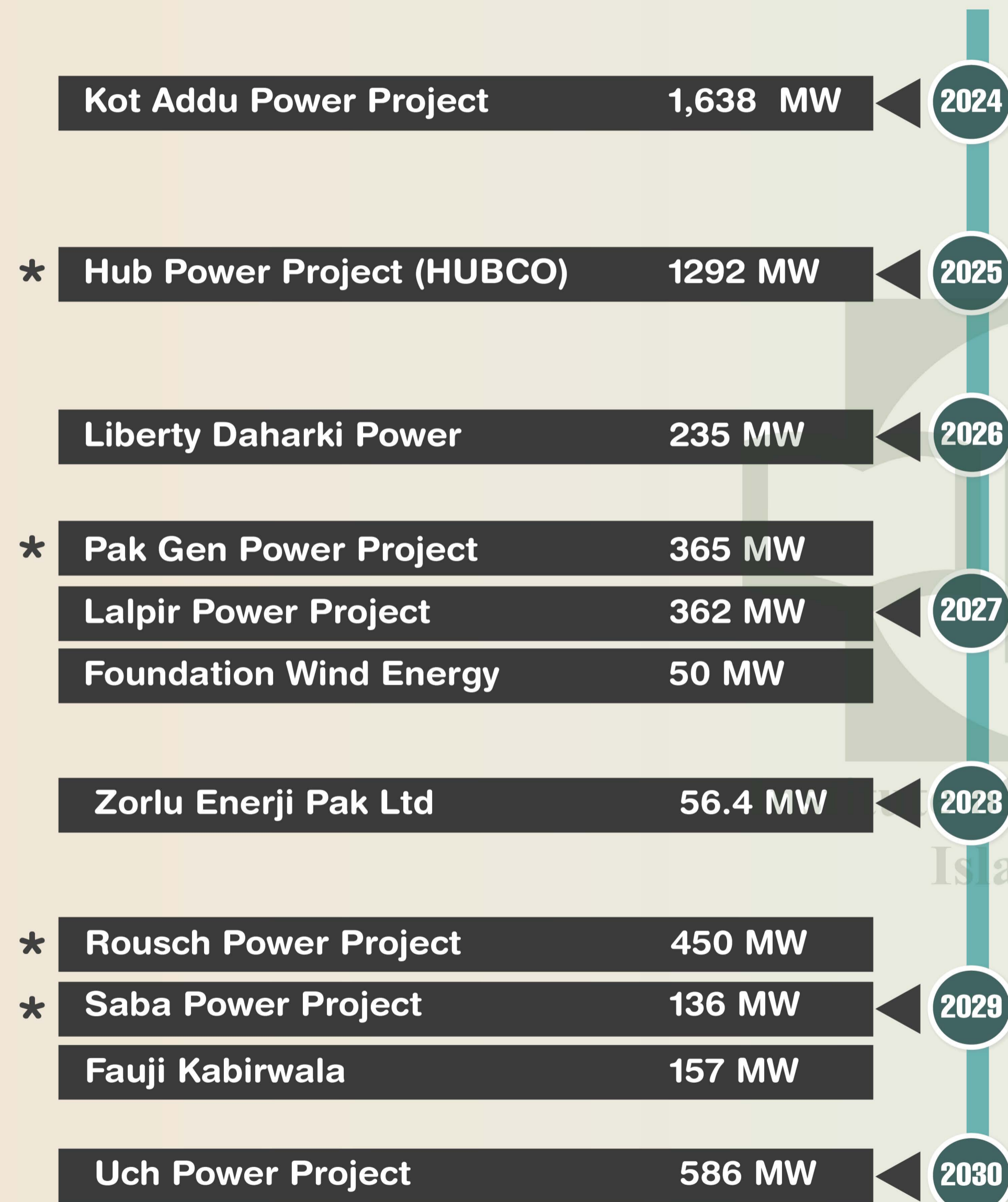
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Data: As of 30 June 2024

# Expiring IPPs by 2030



**5,327 MW**

## Point To Ponder



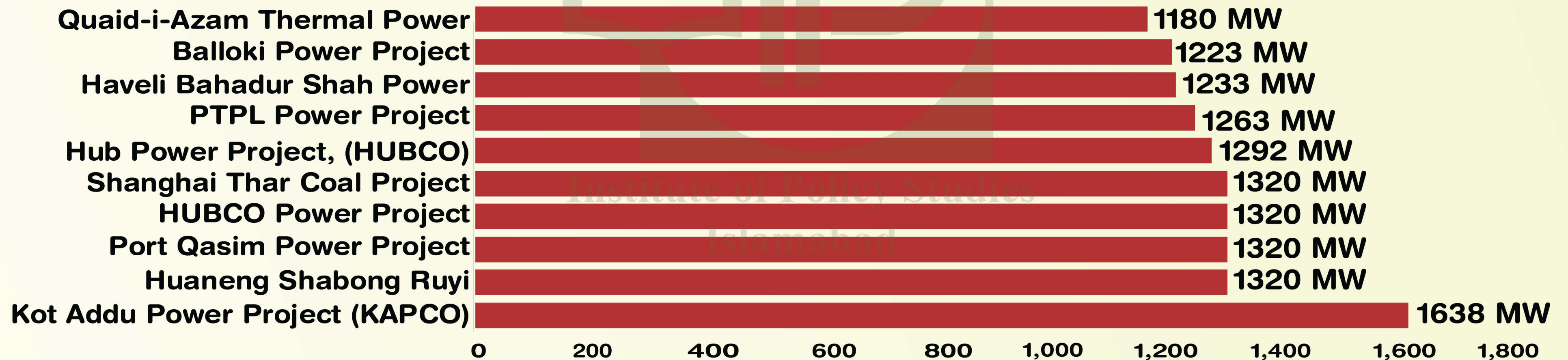
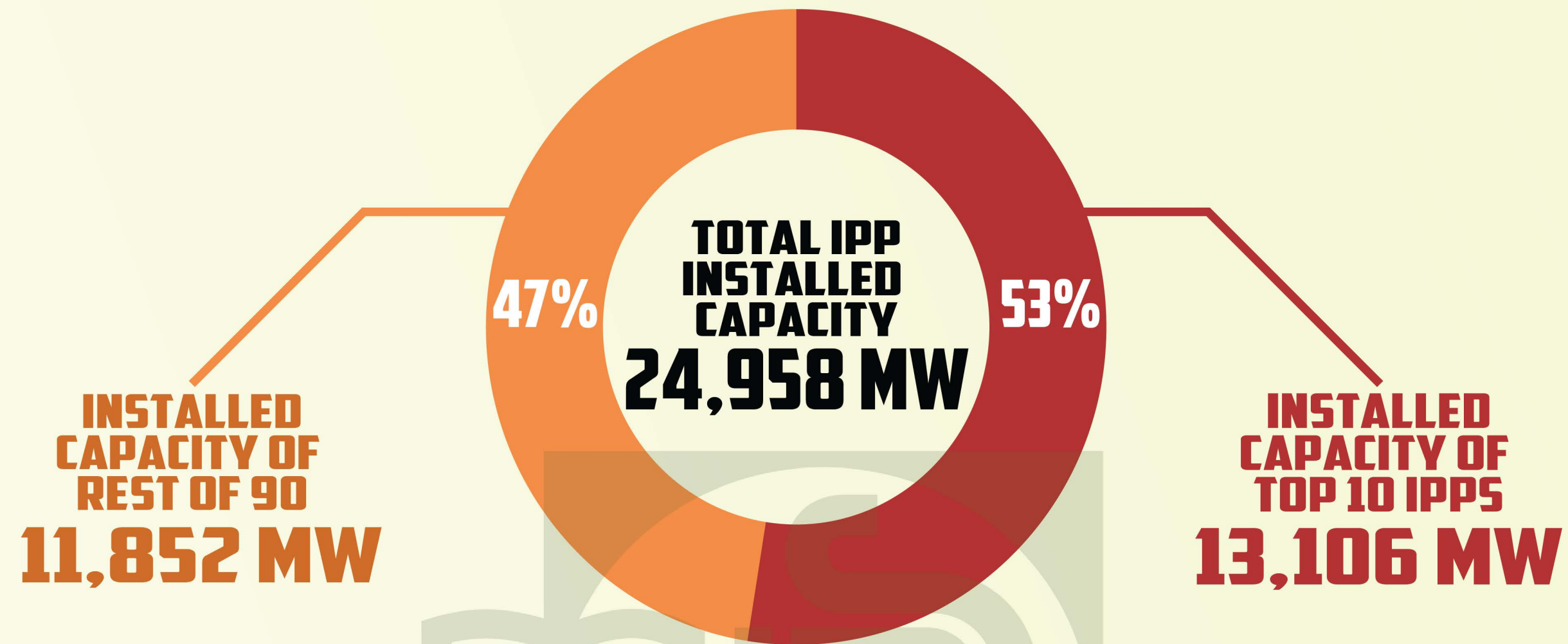
- 1 Approximately 5,300 MW of power will be retired from the system by 2030.
  - 2 The government should refrain from renegotiating contracts of expiring IPPs
  - 3 If adjustments are deemed necessary, the government should focus on converting existing contracts to a "Take and Pay" model
- \* These IPPs including Atlas Power (Expiring in 2034) have signed initial documents to terminate their contract.

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## Sources

PPIB, NEPRA IPPs Generation Licenses

# Power Giants: The Top 10 IPPs by Installed Capacity

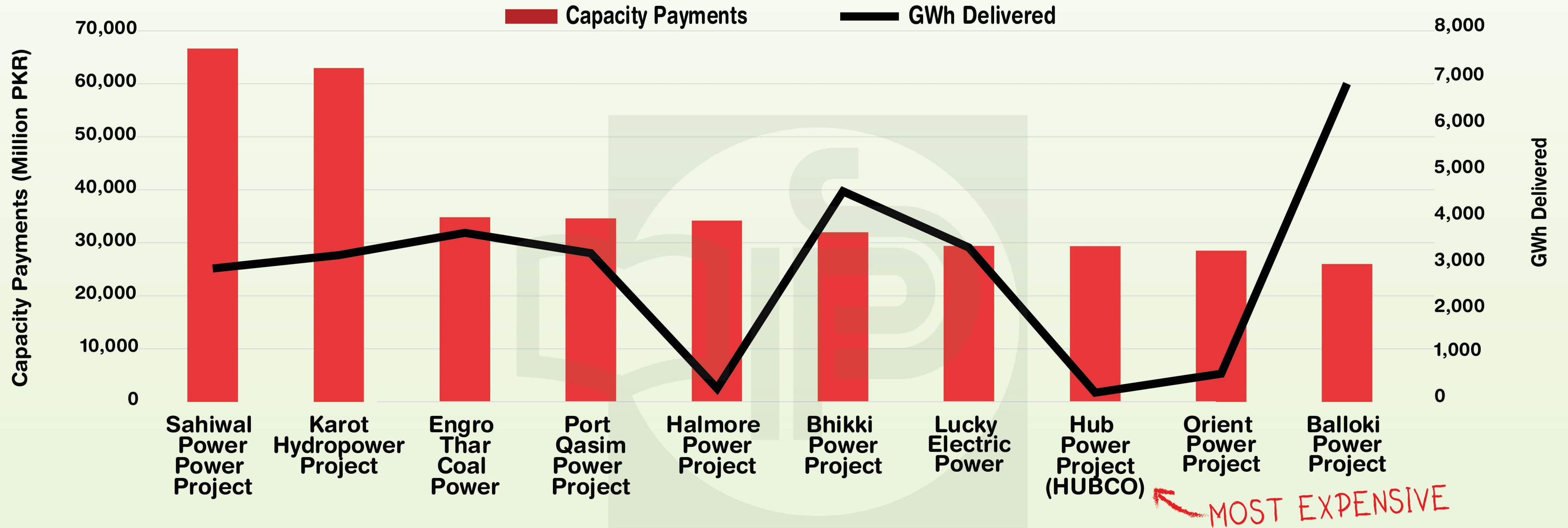


Prepared on: 26th September 2024

Sources: PPIB, NEPRA State of Industry Report 2023

# Who's Charging the Most?

## Top 10 IPPs by Capacity Payments



### Key Takeaways

- 40% of total capacity payments are directed to these power plants.
- Halmore, HUBCO, and Orient Power have delivered less electricity yet received heavy capacity payments.

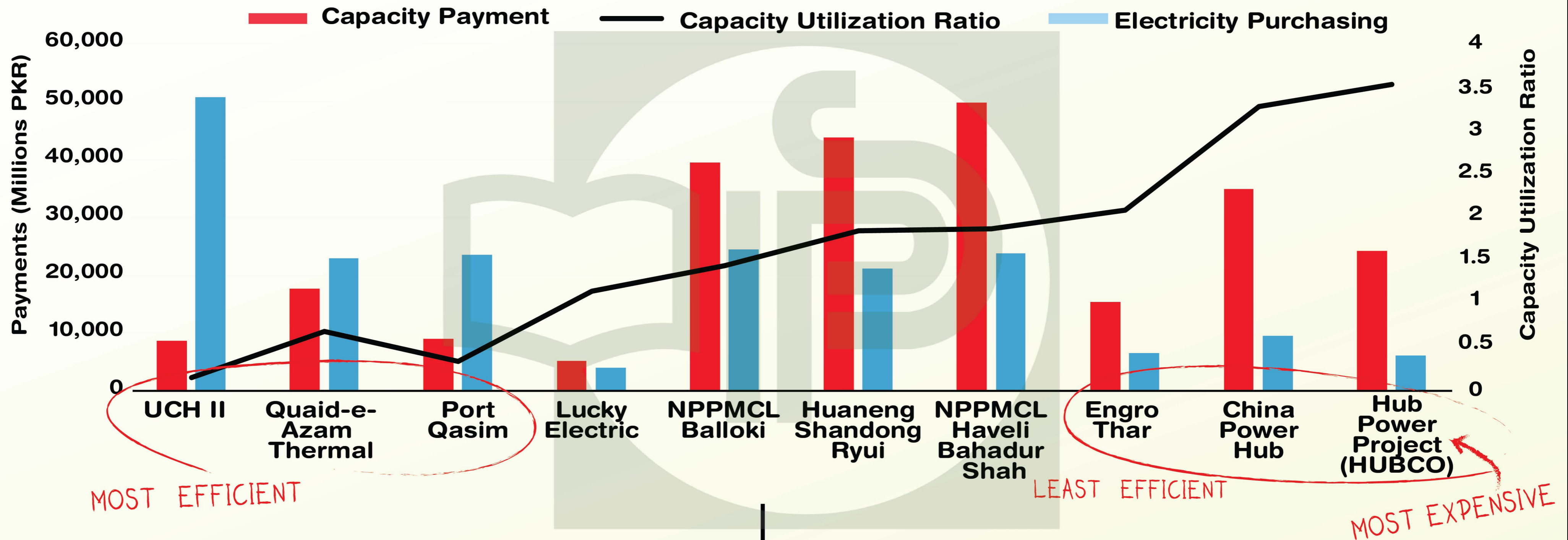
### Recommendations

- The government should prioritize sourcing electricity from power plants that deliver higher units of electricity with lower capacity payments
- Immediate action should be taken to renegotiate contracts with power plants that are delivering minimal amounts of electricity, to optimize their operational efficiency and financial viability.

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Sources: PPIB, NEPRA State of Industry Report, Muhammad Ali Report 2020

# Top 10 IPPs Fueling Pakistan's Circular Debt Crisis



## Key Takeaways

- 1 These IPPs contribute to 25% of Pakistan's total circular debt.
- 2 Quaid I Azam Thermal, Port Qasim, and UCH II have delivered more electricity compared to other debt-generating IPPs.

## Recommendations

- 1 Renegotiations with IPPs that demonstrate low efficiency should be initiated by the government aiming to improve their performance and reduce costs.
- 2 The government should focus on increasing electricity purchases from plants that are subject to heavy capacity payments.

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Sources: PPIB, NEPRA State of Industry Report.

# Upcoming IPPs By 2030

Suki Kinari HP	884 MW
Shah Taj Sugar Mills	32MW
Tay Powergen (Pvt) Ltd	30 MW
Zorlu Solar Pak Ltd	100 MW
300MW Coal Based	300 MW
Safe Solar Pak (Pvt) Ltd	10.27 MW
Access Solar (Pvt) Ltd	11.52 MW
Access Electric (Pvt) Ltd	10 MW
Riali-II HPP	7.08 MW
Kathai-II HPP	8 MW
Siachin Energy Ltd	100 MW
Western Energy (Pvt) Ltd	50 MW
Transatlantic Energy (Pvt) Ltd	50 MW
Oracle Power Project	1,320 MW
Tutonas-Uzghor HPP	82.25 MW

**2,995 MW**

2024

2025

2026

2027

2028

2029

## Point To Ponder



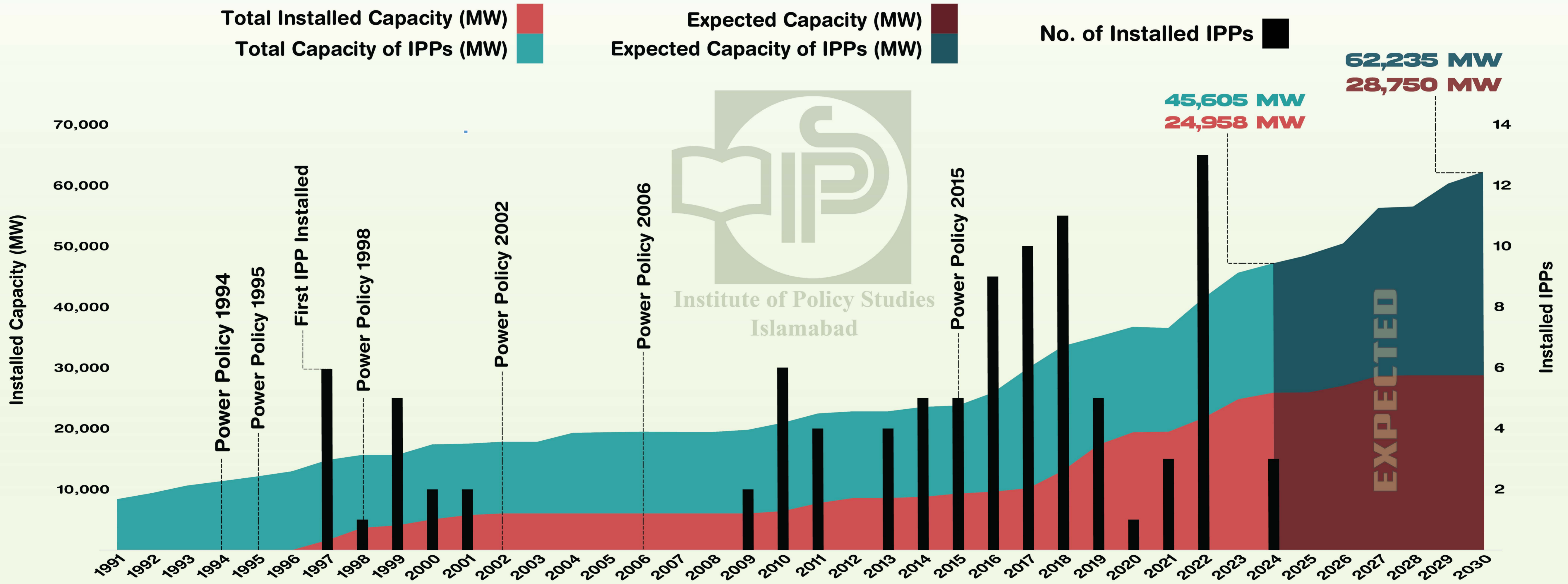
- 1 Additional 3,000 MW is expected to be added to the system through various IPP projects by 2030.
- 2 Despite of having higher installed capacity than demand, what is the purpose of adding more plants in our system?
- 3 If necessary, the Contracts with upcoming IPPs should be government-centric to avoid past inefficiencies.

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## Sources

PPIB, NEPRA IPPs Generation Licenses

# Additions and Projections: Plans till 2030



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# Recommendations



## Ensure Transparency in Power Purchase Agreements

The government should mandate that all power purchase agreements with IPPs be made fully transparent, with key contract terms, financial obligations, and performance metrics publicly disclosed. This will enhance accountability and ensure that stakeholders have an understanding of the financial commitments and operational performance of IPPs.



## Avoid Renegotiating Expiring Contracts

The government should refrain from renegotiating contracts with IPPs nearing the end of their terms. Allowing these agreements to conclude as scheduled will prevent additional financial burdens and help reduce long-term liabilities.



## Transition to a 'Take and Pay' Model

Convert existing power purchase agreements to a 'Take and Pay' model, where payments are based on actual electricity consumption rather than guaranteed capacity. This shift will align costs with real energy use, curb unnecessary expenses, and promote operational efficiency.



## Prioritize Cost-Effective Power Sources

Focus on sourcing electricity from power plants that deliver higher output at lower capacity payments. This strategy will optimize resource allocation and help reduce the overall financial strain on the energy sector.

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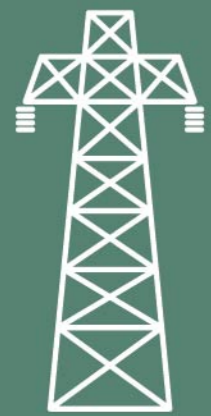
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# Recommendations



## Maximize Utilization of High-Cost Plants

Prioritize purchasing electricity from plants incurring significant capacity payments to ensure that already committed funds result in tangible energy output, thus maximizing the value derived from these agreements.



## Minimize Transmission & Distribution (T&D) Losses

Tackle T&D inefficiencies to reduce energy wastage, improve sector financials, and enhance the reliability of power delivery to consumers.



## Expand the Consumption Base

Stimulate demand growth by fast-tracking the completion of Special Economic Zones (SEZs) and promoting energy-intensive industries. This will increase the consumption base, absorb surplus capacity, and create a balanced energy supply-demand scenario.

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