



Modern Techniques including Renewable Energy Auctions for Economizing Renewable Energy Tariff

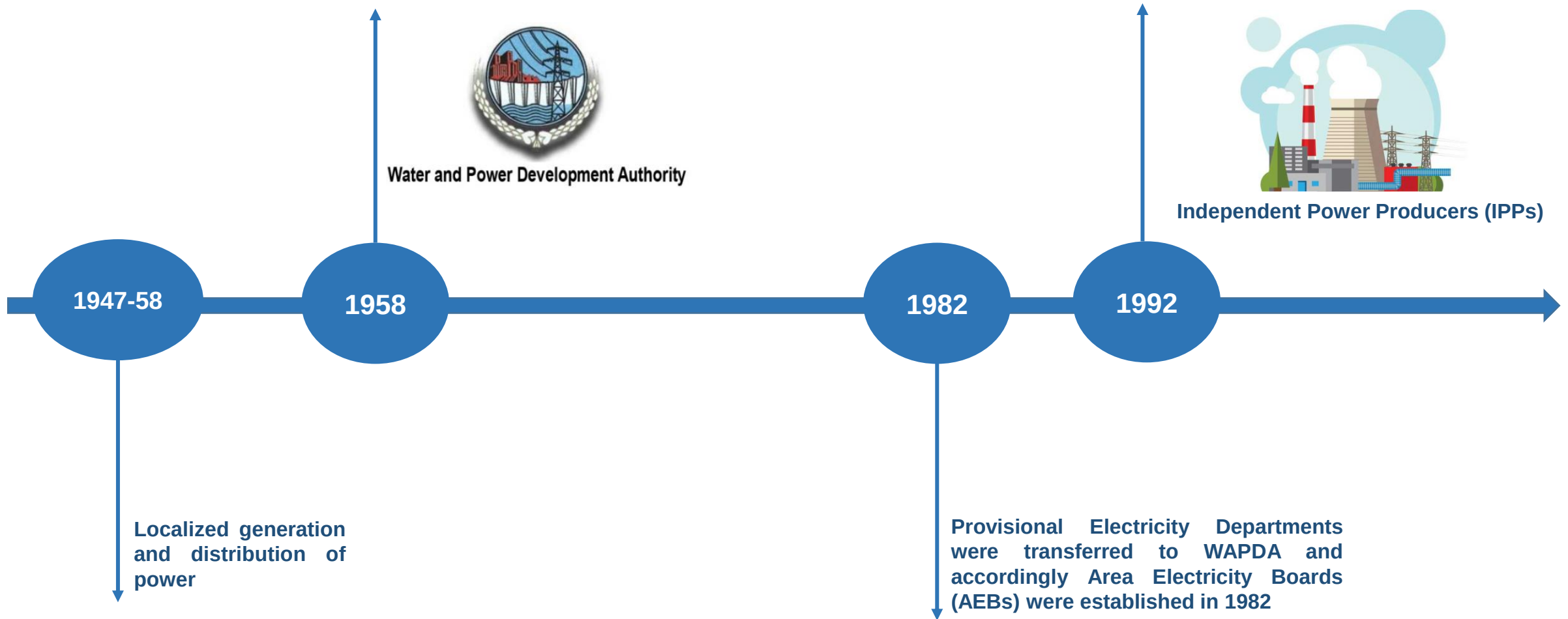
Pakistan Presentation

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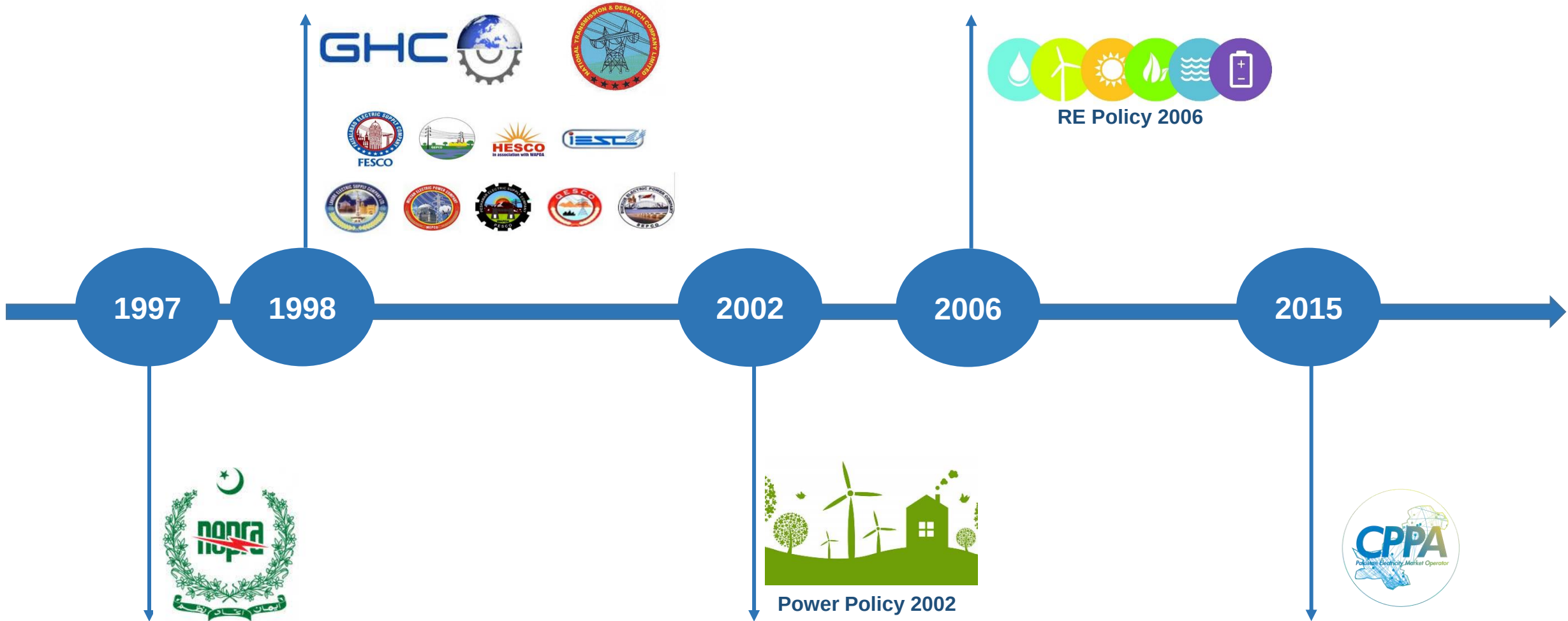
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POWER SECTOR OVERVIEW

POWER SECTOR OVERVIEW



POWER SECTOR OVERVIEW



POWER SECTOR OVERVIEW

POLICY MAKERS	 Government of Pakistan Provincial Governments Planning Commission Ministry of Energy
REGULATOR	 NEPRA
MARKET OPERATOR	 CPPA-G
SYSTEM OPERATOR	 NPCC
GENERATION	 WAPDA GENCOs IPPs PAEC
TRANSMISSION	 NTDC
DISTRIBUTION	 LESCO GEPCO PESCO SEPCO HESCO IESCO MEPCO FESCO IESCO TESCO
ELECTRICITY MARKETS	 Under development phase – coming soon

POWER SECTOR OVERVIEW

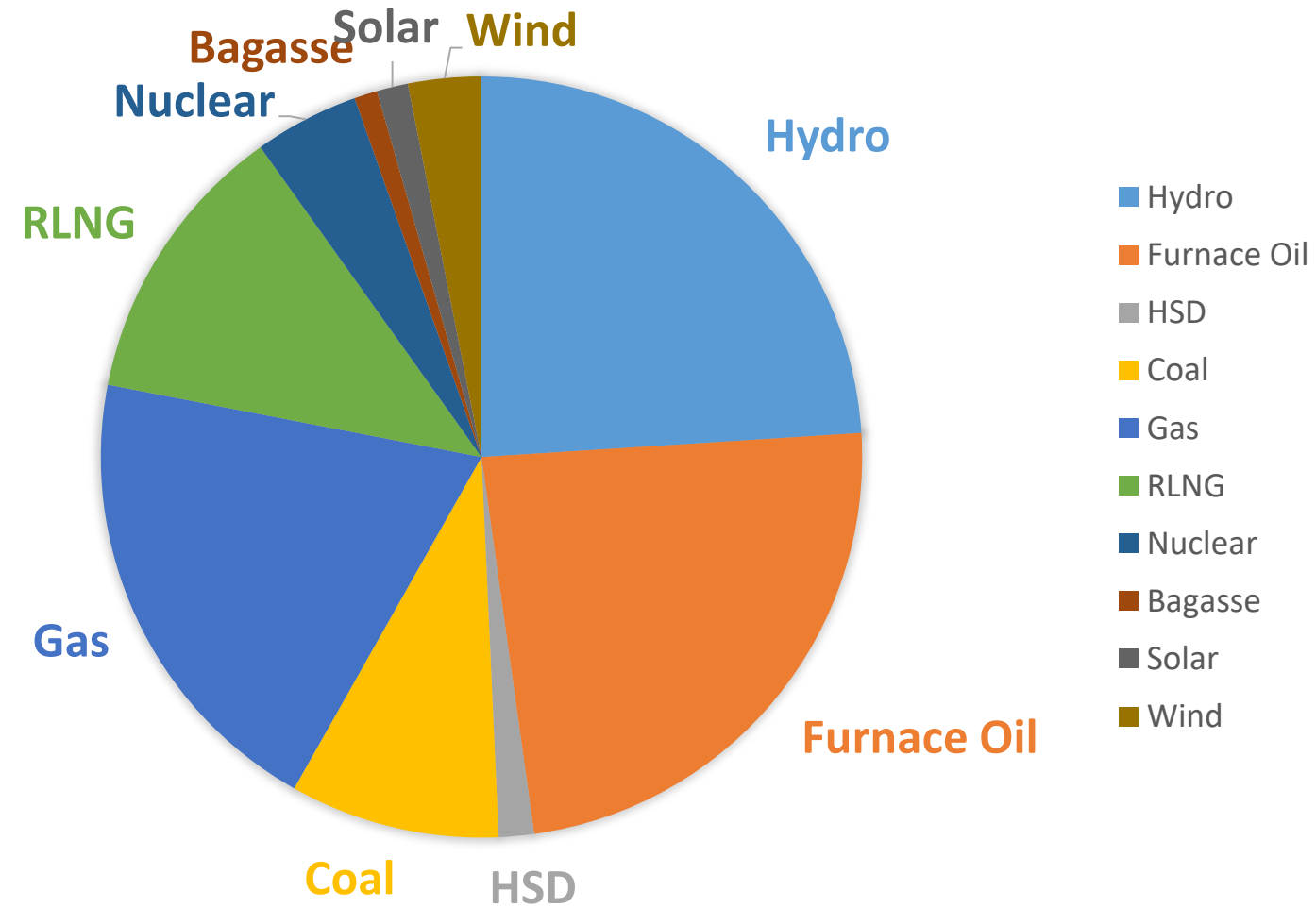
**Current
Scenario**

TOTAL INSTALLED
CAPACITY
30,195 MW

FUEL TYPE	CAPACITY (MW)	Percentage Share
Hydro	7,244	24%
Furnace Oil	7,185	24%
HSD	451	1%
Coal	2,690	9%
Gas	5,996	20%
RLNG	3,651	12%
Nuclear	1,345	4%
Bagasse	296	1%
Solar	400	1%
Wind	937	3%

PEPCO System: Installed Capacity as of 19-04-2018

POWER SECTOR OVERVIEW



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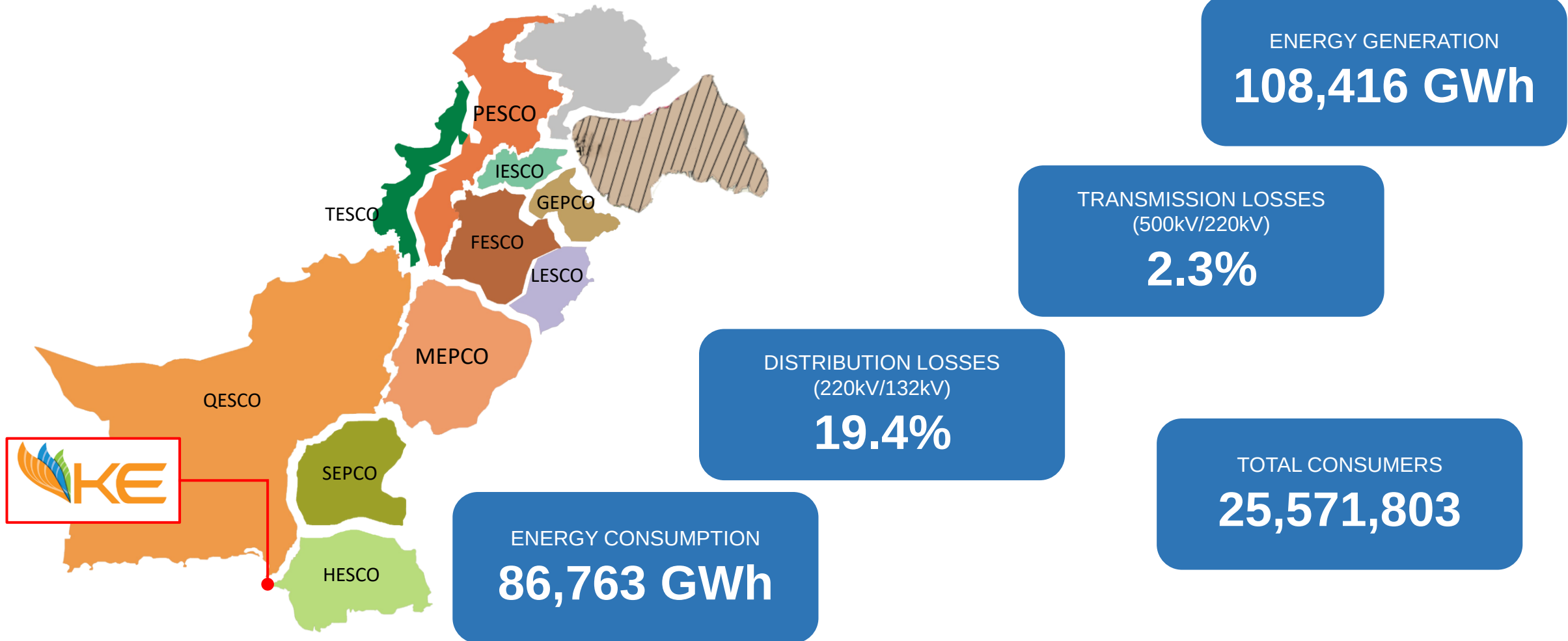
Voltage Level (kV)	Transmission Length (km)
500	5,127
220	10,063
132	29,080

PEPCO System FY 2017

Voltage Level (kV)	Number of Grid Stations	Capacity (MVA)
500	16	20,061
220	55	29,067
132	645	41,942

PEPCO System FY 2017

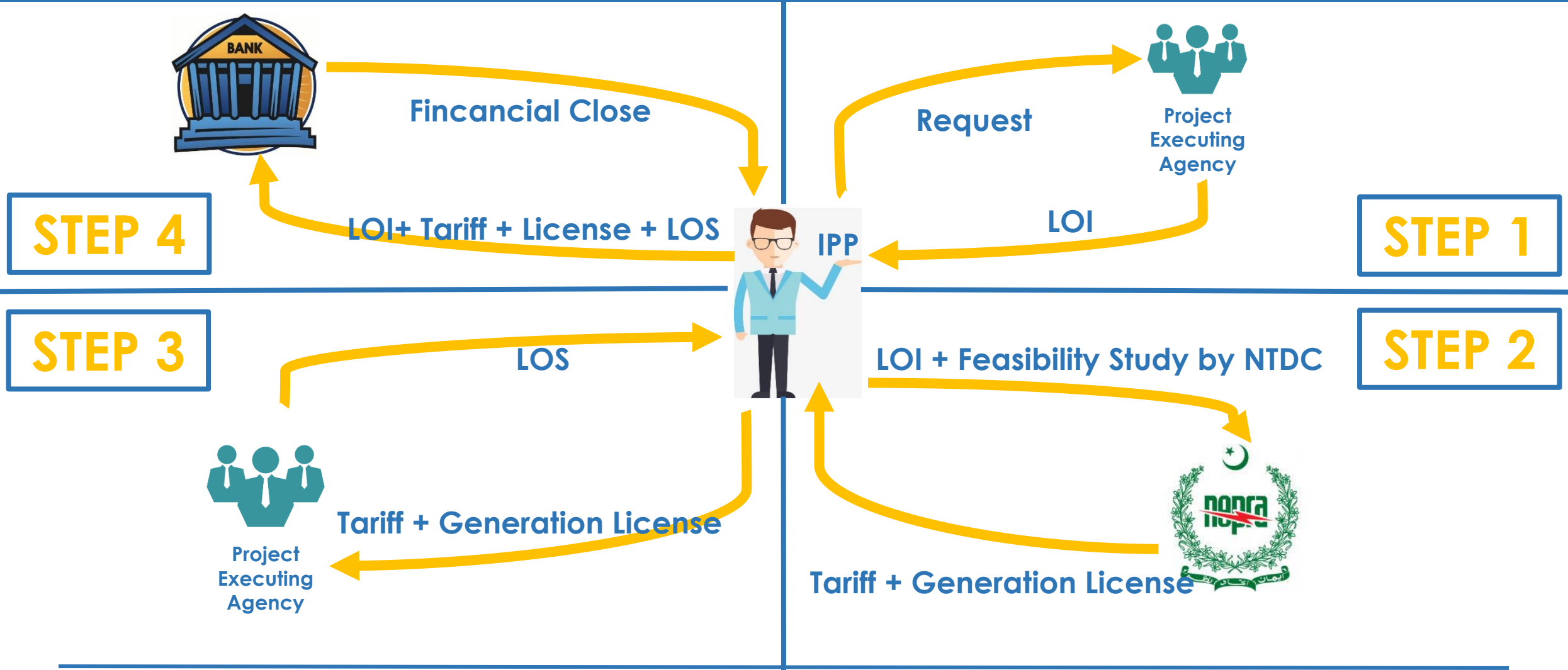
POWER SECTOR OVERVIEW



PEPCO FY 2017

TARIFF MECHANISM IN PAKISTAN

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TARIFF MECHANISM IN PAKISTAN

The tariffs for IPP projects are determined by National Electric Power Regulatory Authority (NEPRA). There are three ways for determination of tariff for RE power projects on IPP mode;

- ☐ Cost-Plus Tariff
- ☐ Upfront Tariff
- ☐ Competitive Bidding (solicited mode)

Source: <http://aedb.org/about-us/staff-directory/31-faq>

TARIFF MECHANISM IN PAKISTAN

❑ Cost-Plus Tariff

Cost-plus tariff is one in which RE IPP is paid its actual cost plus an agreed profit. In this mode, the IPP is required to submit a tariff petition to NEPRA for award of tariff for a particular project along with the tariff proposed for the project and supporting documents evidencing the cost.

Source: <http://aedb.org/about-us/staff-directory/31-faq>

TARIFF MECHANISM IN PAKISTAN

❑ Upfront Tariff

Upfront Tariff is one which is determined and announced by the Regulator based on its own scrutiny and calculations with certain terms and conditions. The project sponsors may accept the Upfront Tariff based on its viability for their project.

Source: <http://aedb.org/about-us/staff-directory/31-faq>

COMPETITIVE BIDDING MECHANISM

COMPETITIVE BIDDING MECHANISM

Part III – Conditions of Competitive Bidding*

(1) The Competitive Bidding shall be conducted by the Relevant Agency keeping in view the demand forecasted by national grid company in accordance with the least cost generation plan of each distribution company.

* No. NEPRA/LA/(Leg.)/NCBT-01/6072 dated: 03-MAY-2017

COMPETITIVE BIDDING MECHANISM

Part III – Conditions of Competitive Bidding*

(2) The Relevant Agency may carry out site specific or neutral and technology specific Competitive Bidding.

* No. NEPRA/LA/(Leg.)/NCBT-01/6072 dated: 03-MAY-2017

COMPETITIVE BIDDING MECHANISM

Part III – Conditions of Competitive Bidding*

(3) The Relevant Agency may adopt any method of bidding as may be approved by the Authority, which shall be specified in the RFP.

* No. NEPRA/LA/(Leg.)/NCBT-01/6072 dated: 03-MAY-2017

COMPETITIVE BIDDING MECHANISM

Part III – Conditions of Competitive Bidding*

(4) In case the Relevant Agency adopts a reverse bidding method, a Benchmark Tariff shall be approved by the Authority.

* No. NEPRA/LA/(Leg.)/NCBT-01/6072 dated: 03-MAY-2017

COMPETITIVE BIDDING MECHANISM

Part III – Conditions of Competitive Bidding*

(5) Where applicable, the Relevant Agency may reject all bids if the quoted rate is equal to or higher than the Benchmark Tariff.

* No. NEPRA/LA/(Leg.)/NCBT-01/6072 dated: 03-MAY-2017

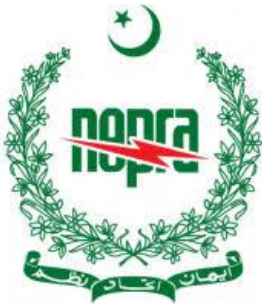
REVERSE AUCTION MECHANISM

REVERSE AUCTION MECHANISM

Reverse Auction Mode

SCOPE

TIME



IPPs

MIN.

COST

THANKYOU



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4th Floor PIA Building, Egerton Road, Lahore.