



**In The Name Of Allah,
The Most Beneficent,
The Most Merciful**

Country Report Presentation Pakistan

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JICA Knowledge Co-creation Program

ENERGY POLICY

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General Information



1. Country Profile

- ❑ **Formal Name:** Islamic Republic of Pakistan.
- ❑ **Short Form:** Pakistan.
- ❑ **Term for Citizen(s):** Pakistani(s).
- ❑ **Capital:** Islamabad
- ❑ **Geography:** Located in South Asia
- ❑ **Total Area:** 796,096 km²
- ❑ **Land Boundaries:** Pakistan shares a total of 6,774 km of land border with:
 - Afghanistan (2,430 km to the west)
 - China (530 km to the north-east)
 - India (2,912 km to the east)
 - Iran (909 km to the south-west)
- ❑ **Coastline:** 1,046 km along the Arabian Sea and Gulf of Oman



Map of Pakistan

Source: Survey of Pakistan

General Information (2)

❑ **Government:** Federal Parliamentary Republic

❑ **Provinces:**

- Balochistan,
- Khyber Pakhtunkhwa,
- Punjab and
- Sindh

❑ **Federal Territories:**

- Azad Jammu and Kashmir,
- Islamabad the Capital Territory and
- Gilgit Baltistan.



Flag of Pakistan

2. Economic Indicators

❑ **GDP:** Rs. 47,709,325 millions (around \$ 302 billions)

❑ **Population:** 207,684,626 (2017 census)

❑ **No. of Households:** 32,205,111 (2107 census provisional)

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Formulating Energy Policies

Current Energy Policy and Measures

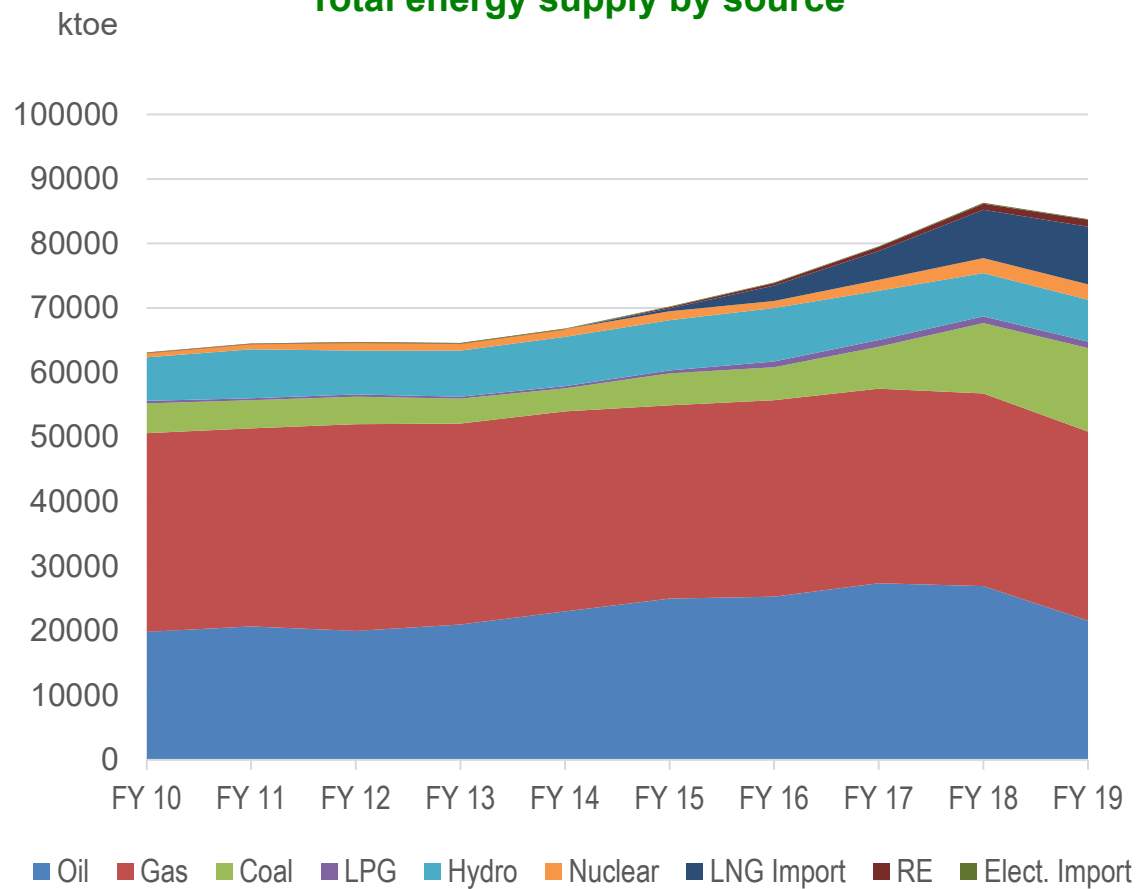
- ❑ Pakistan has not formulated any Integrated Energy Policy however; Pakistan has formulated the following sub-sectoral policies.
- ❑ Sub-sectoral policies:
 - National Electricity Policy 2021
 - Alternative Renewable Energy Policy 2019
 - Power Generation Policy 2015
 - Transmission Line policy 2015
 - Exploration & Production Policy 2009
 - Electric Vehicle Policy 2020
 - Automotive Development Policy 2016 – 2021
- ❑ Pakistan has developed a National Action Plan in 2019 with the horizon of 2030.

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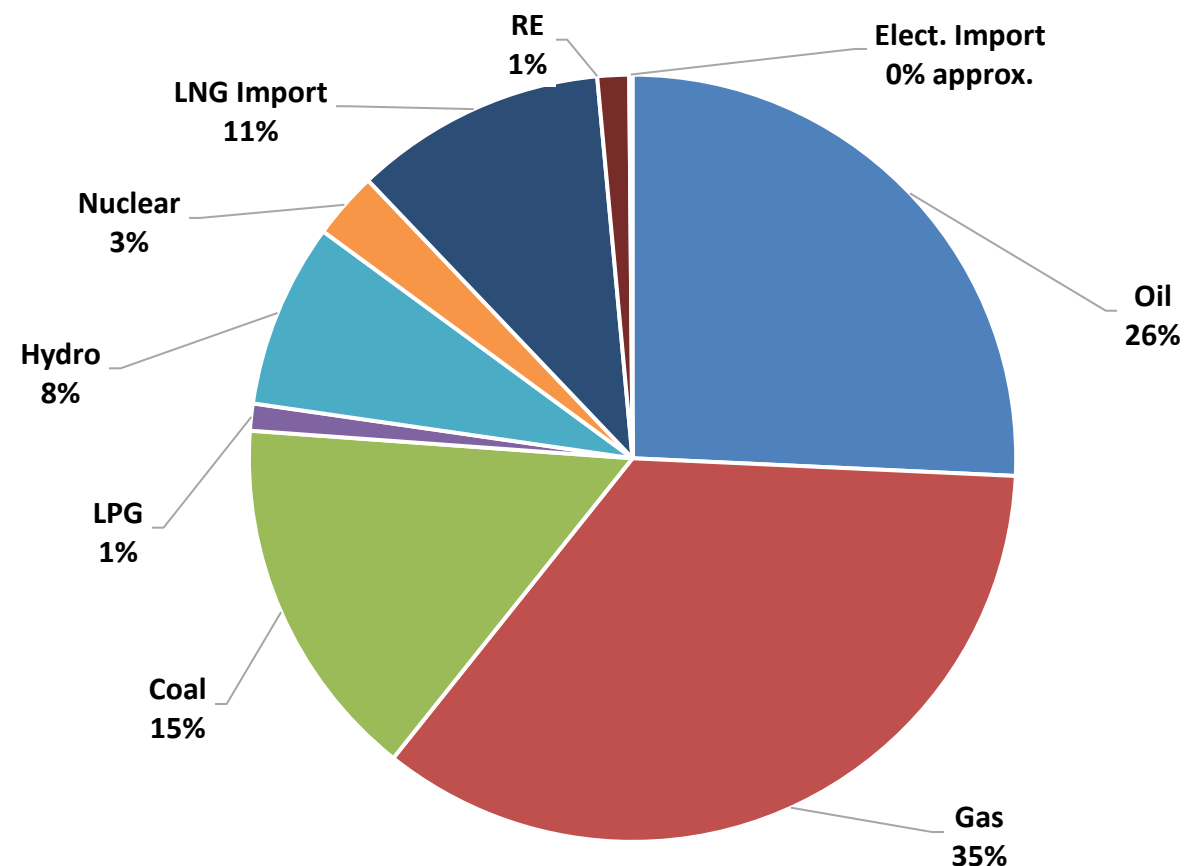
Past Energy Supply and Demand

1. Primary Energy Supply

Total energy supply by source



Energy supply by source FY 19



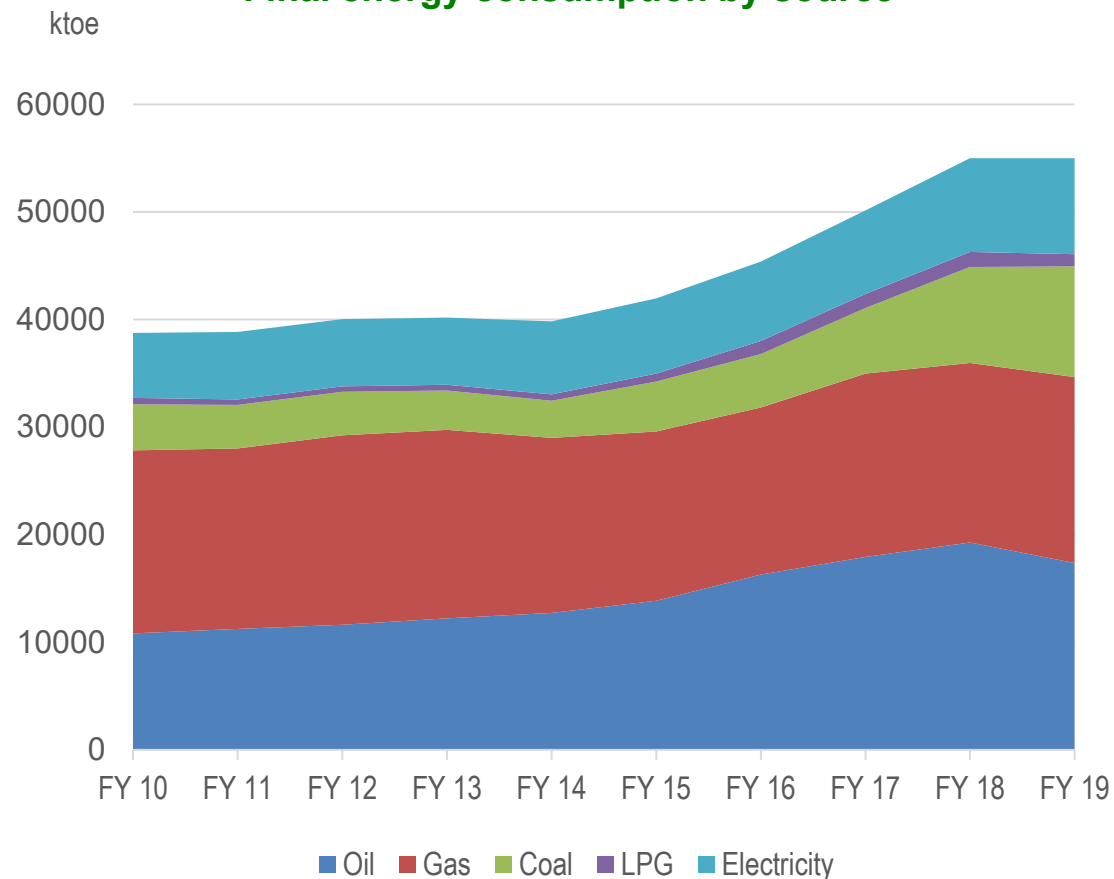
Oil: Excluding petroleum products exports and bunkering; **LPG:** Include imports and production from field plants; **Hydro & Nuclear:** Converted @ 10,000 Btu/kWh to represent primary energy equivalent of hydro and nuclear electricity as if this was generated by using fossil fuels; **Elect. Import:** WAPDA importing electricity from Iran since Oct, 2002.

Source: Pakistan Energy Yearbook; NEPRA State of Industry Reports

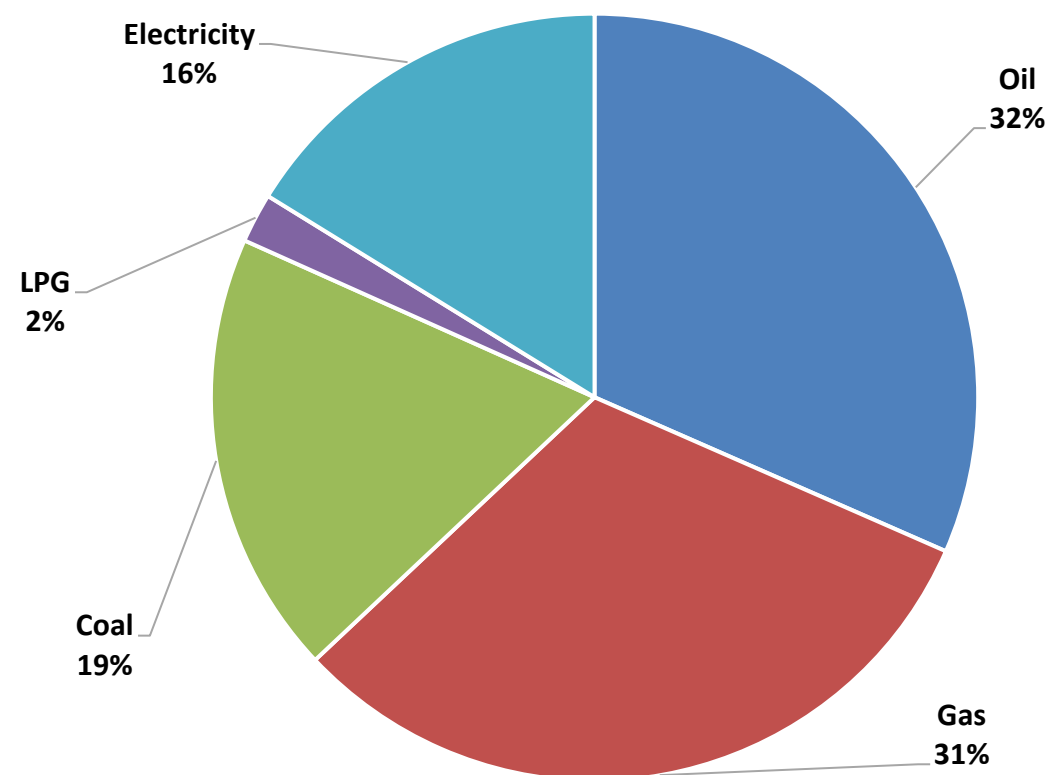
Past Energy Supply and Demand (2)

2. Final Energy Consumption

Final energy consumption by source



Final Energy Consumption by source FY 19



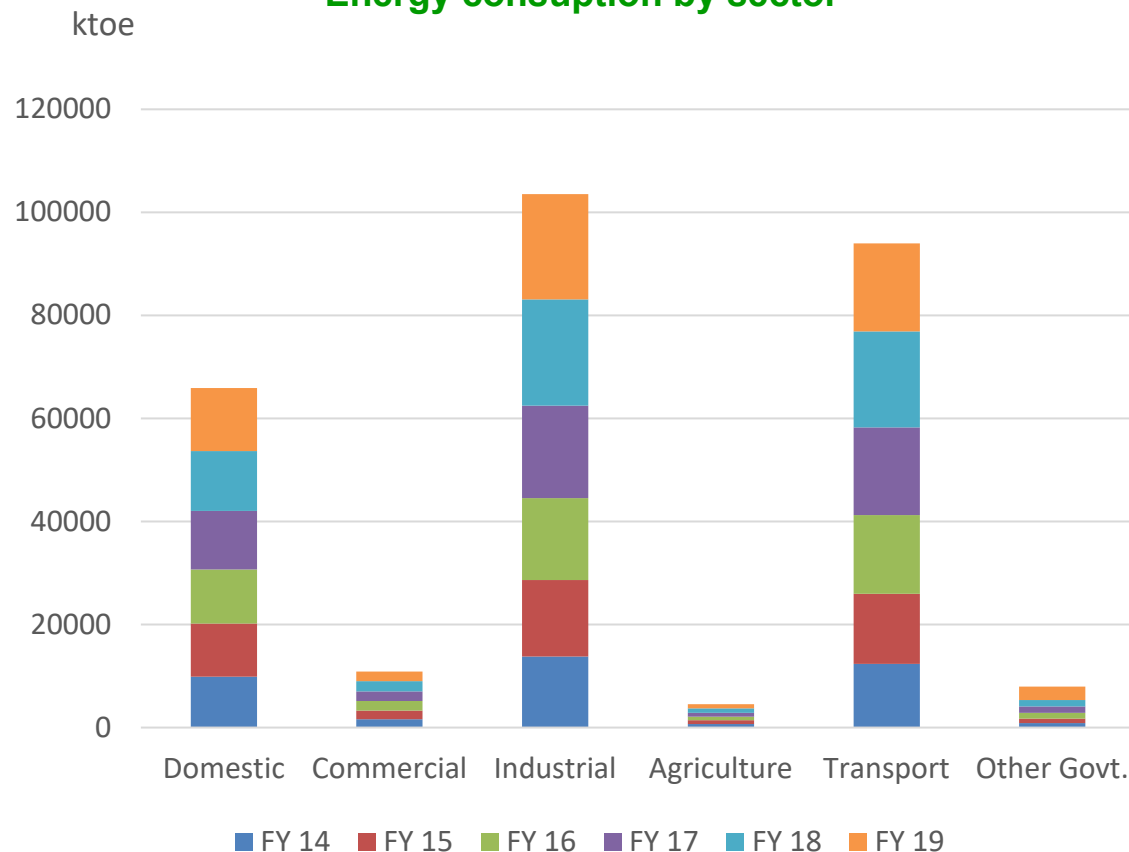
Oil: Excluding consumption for power generation; **Coal & Gas:** Excluding consumption for power generation and feedstock; **Electricity:** @ 3412 Btu/kWh being the actual energy content of electricity.

Source: Pakistan Energy Yearbook; NEPRA State of Industry Reports

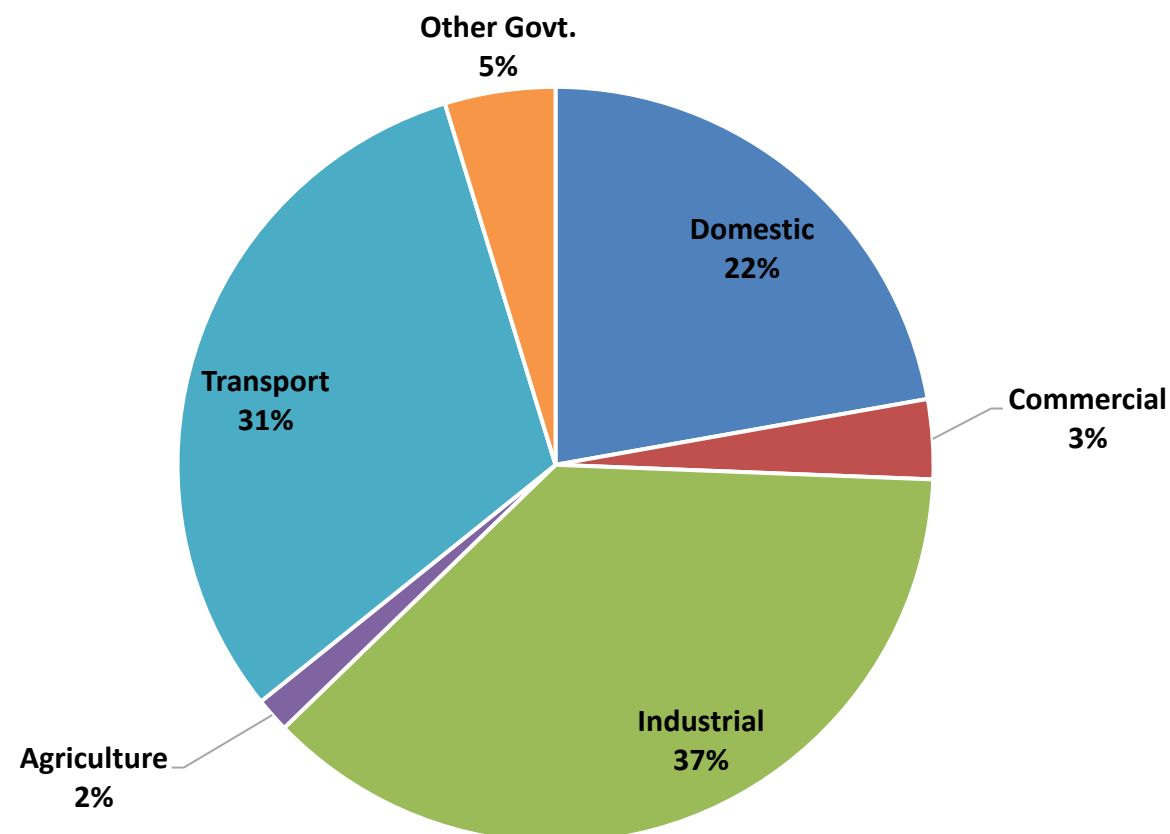
Past Energy Supply and Demand (3)

2. Final Energy Consumption Contd..

Energy consumption by sector



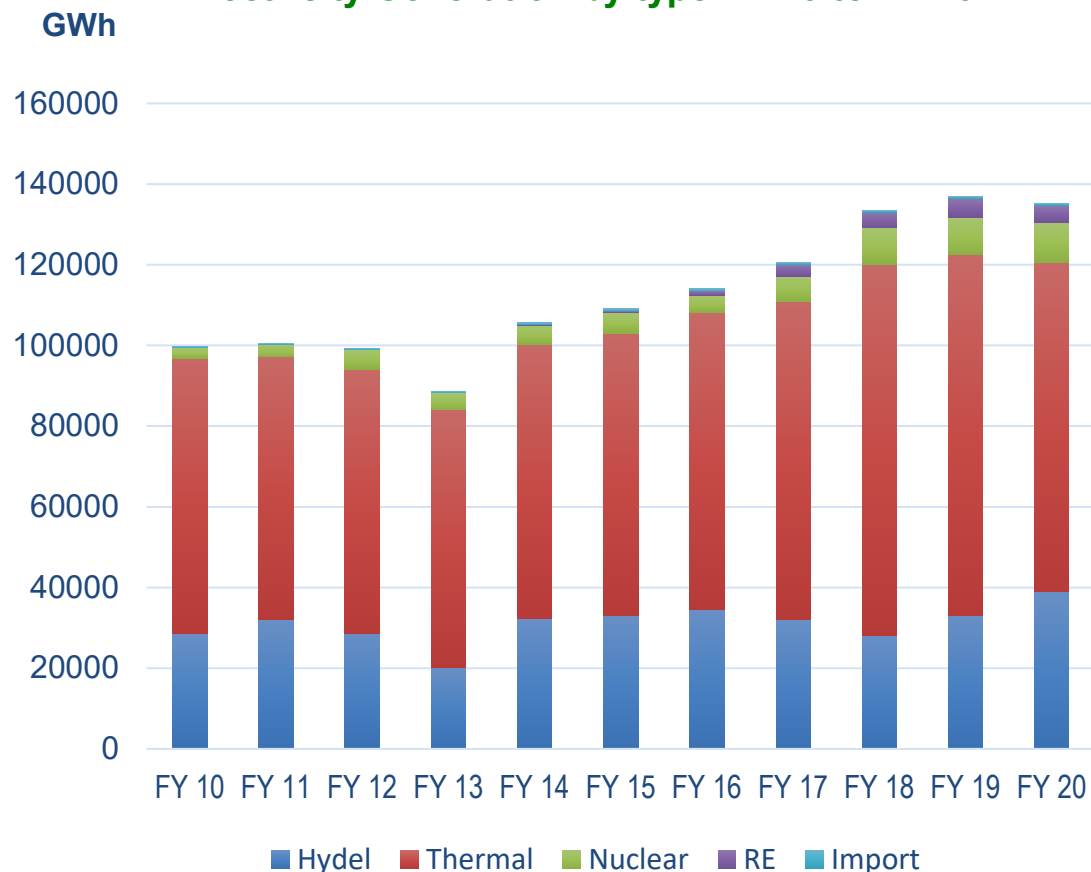
Energy consumption by sector FY 19



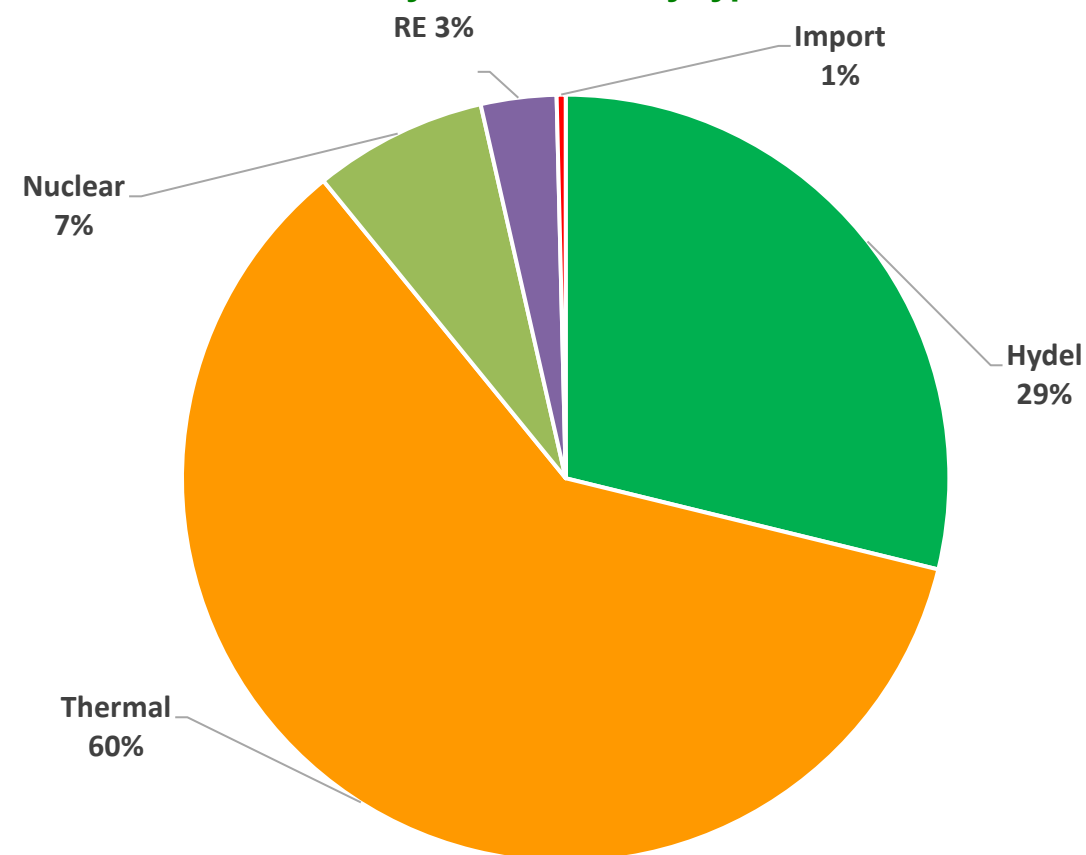
Past Energy Supply and Demand (4)

3. Electricity Generation by Type

Electricity Generation by type FY 10 to FY 20

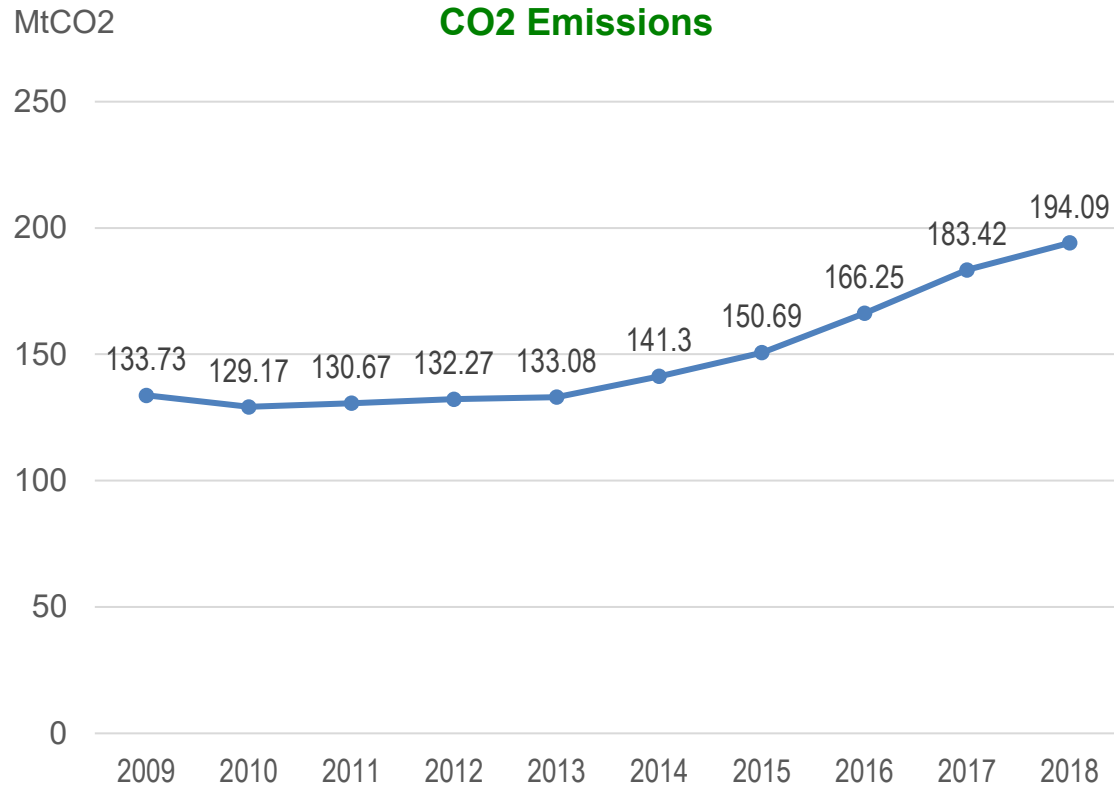


Electricity Generation by type FY 20



Energy and Carbon Emissions

4. CO2 Emissions



Climate change implications

- ❑ Recurrent episodes of drought, flooding, heatwaves and unusual rain patterns.

Measures by Govt.

- ❑ Sustainable Forest Management
- ❑ Scaling-up of Glacial Lake Outburst Flood (GLOF) risk reduction in Northern Pakistan
- ❑ Being a signatory to Montreal Protocol, banned the import of first generation of ODS.
- ❑ Sustainable Land Management to Combat Desertification
- ❑ Establishment of Geometric Centre for Climate Change and Sustainable Development

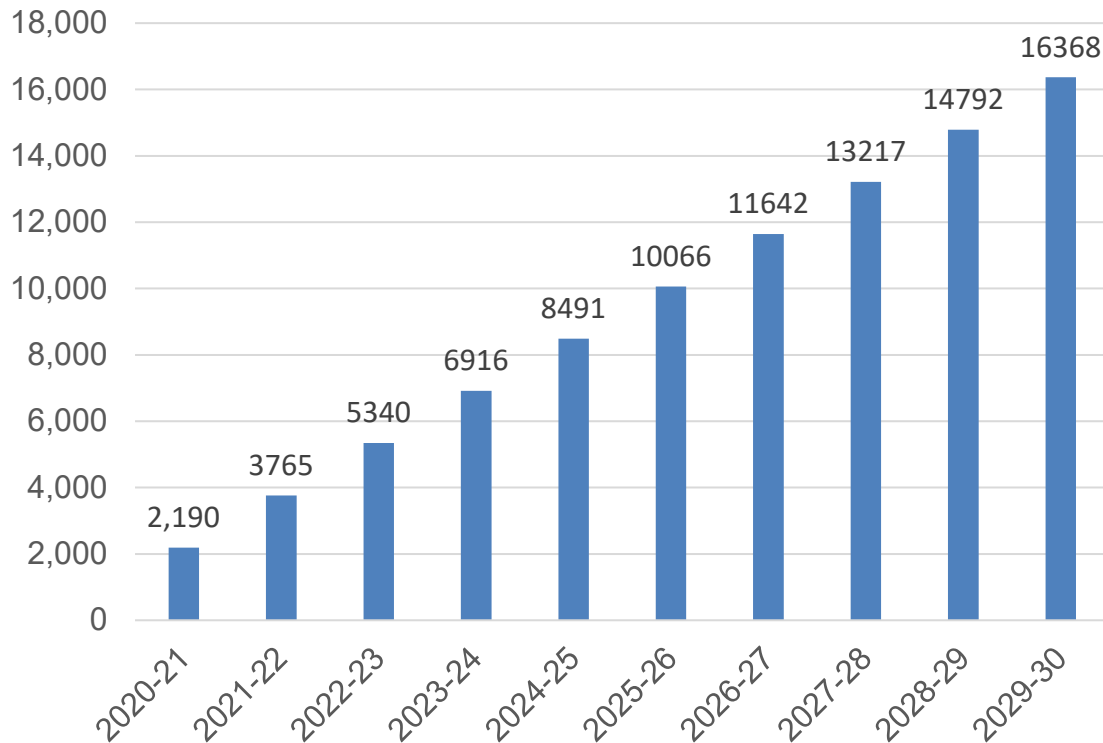
Source: International Energy Agency (IEA);

Ministry of Climate Change (MoCC), Govt. of Pakistan; ARE Policy 2019; National Electricity Policy 2021

Energy and Carbon Emissions (2)

Measures

NEECA Energy Saving Targets GWh/Year



❑ Green Pakistan Program

- Revival of forestry resources
- the total plants planted, sown and regenerated in plantations and enclosures is around 33 million plants and total planting stock established in nurseries is around 22 million.

❑ Promotion of renewables

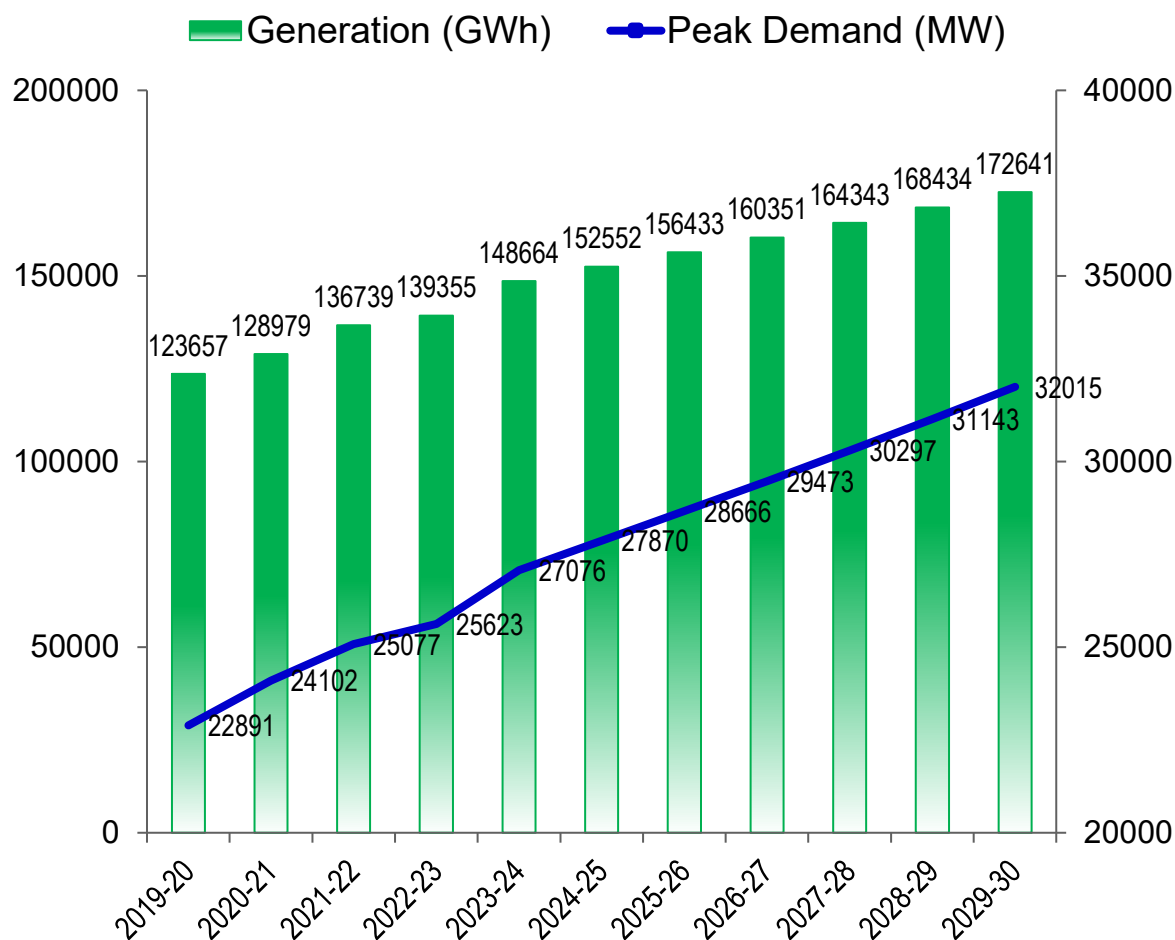
❑ Energy Efficiency – NEECA target over the period 2020-21 to 2029-30

❑ Promotion of EVs

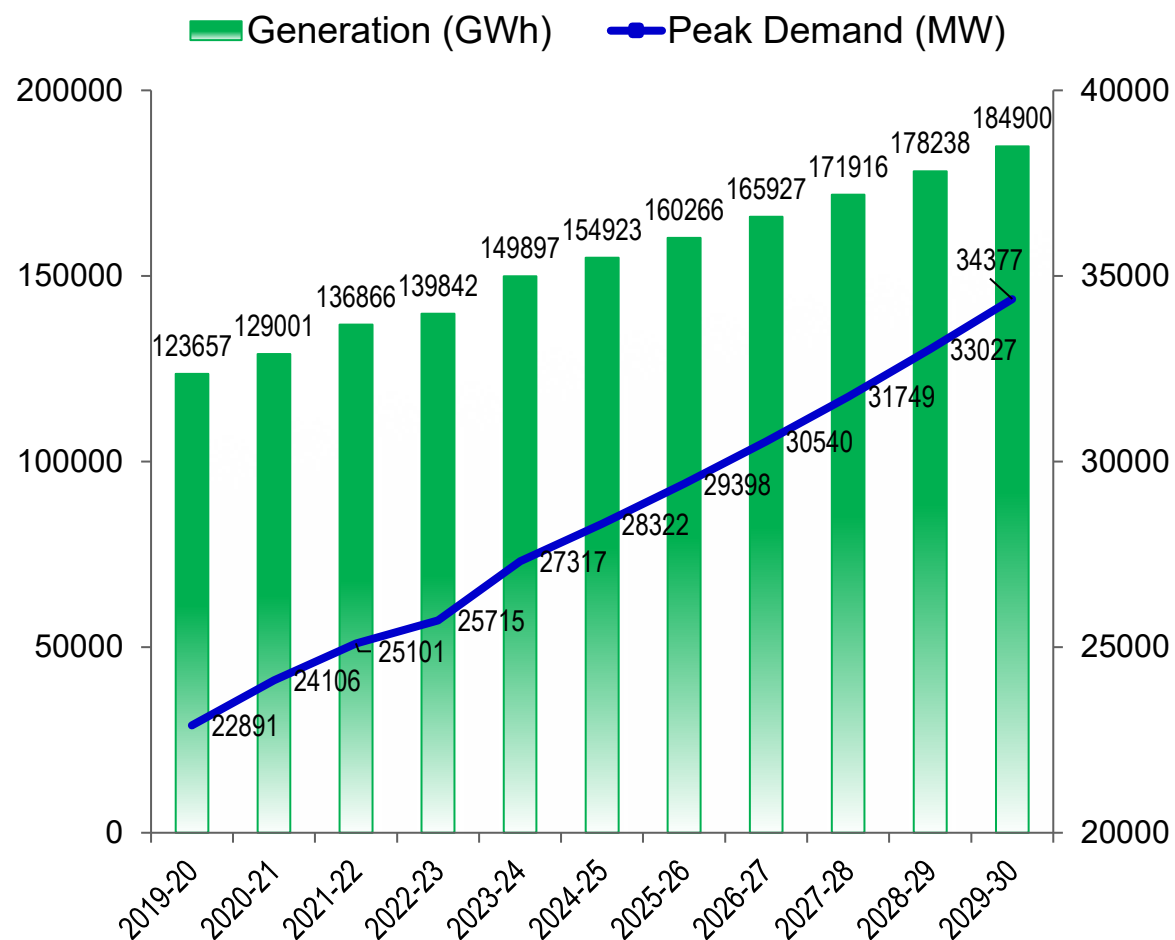
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Energy Outlook (Generation and Peak Demand)

Low growth scenario



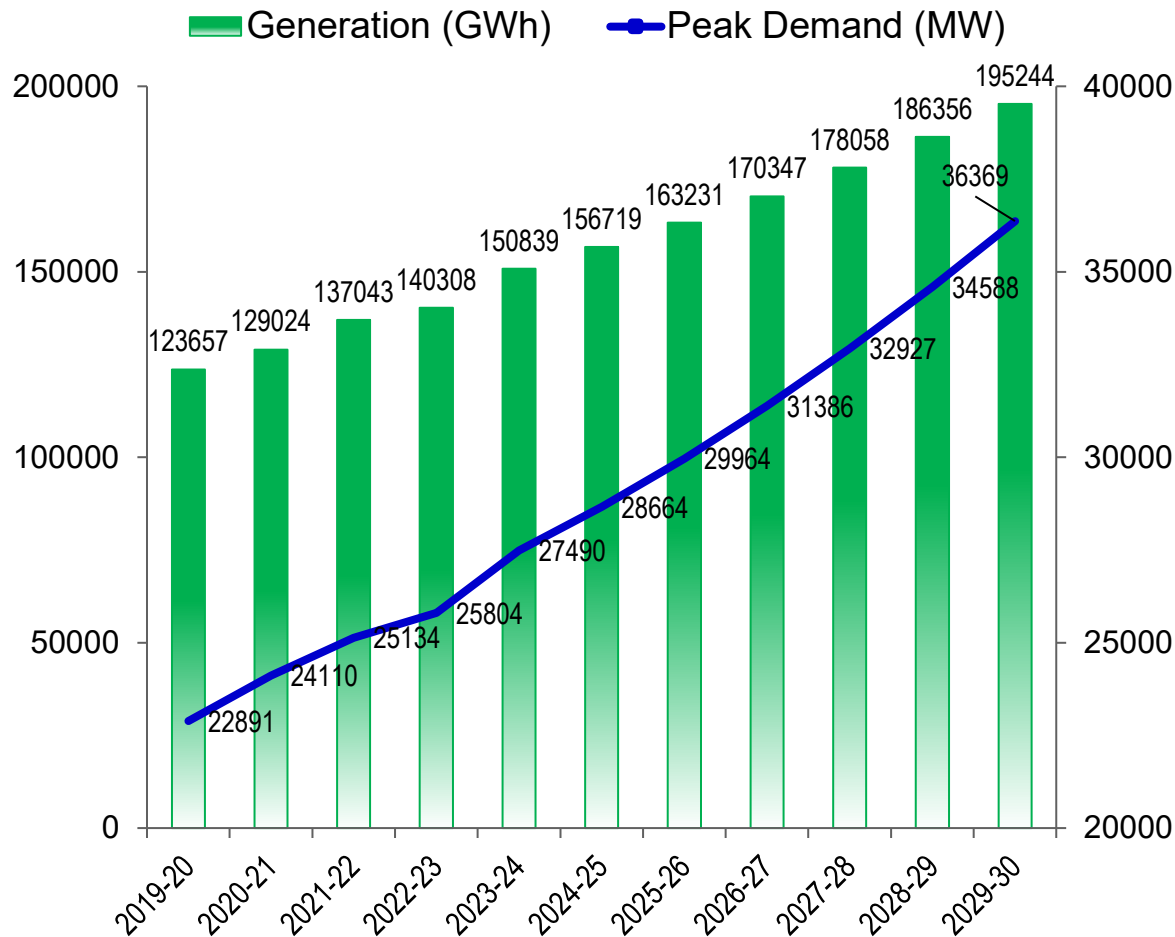
Normal growth Scenario



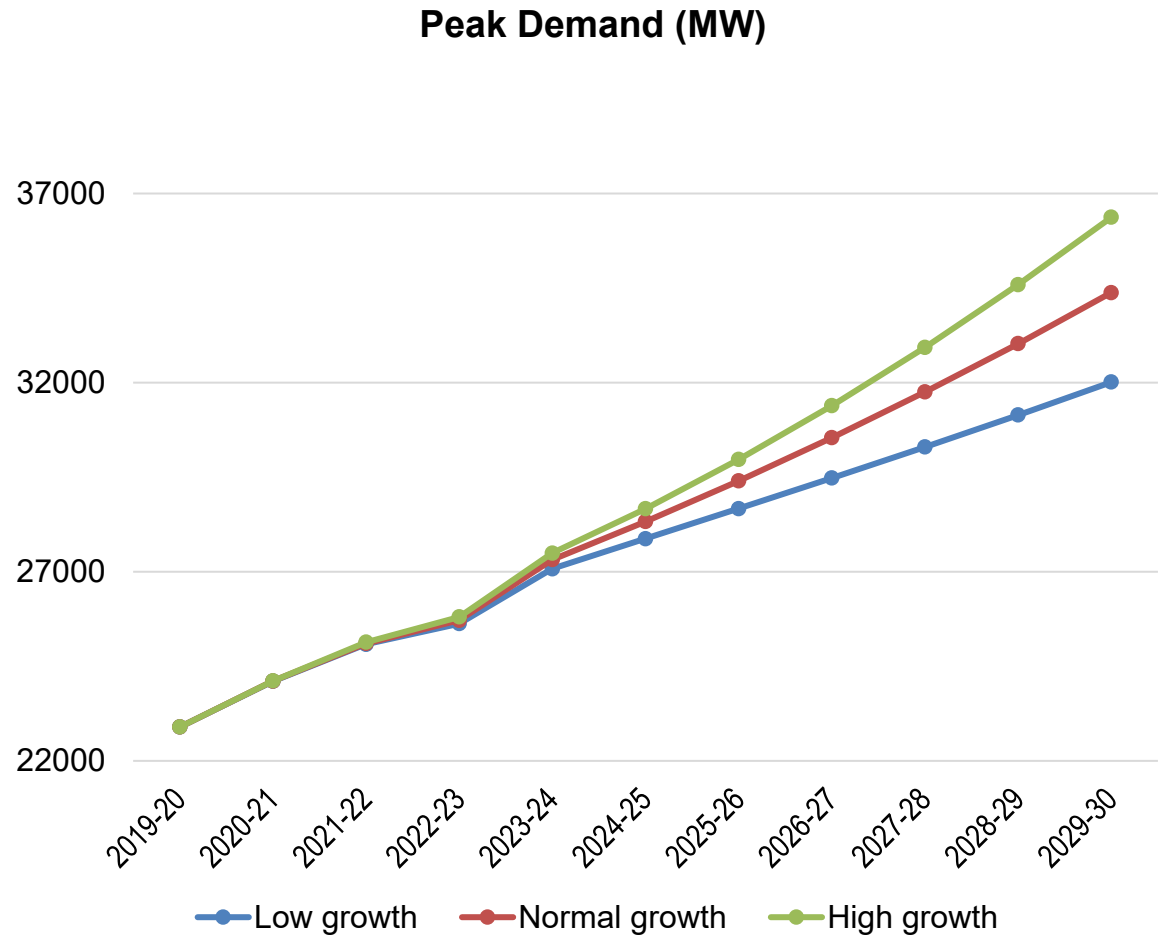
Source: Draft Indicative Generation Capacity Expansion Plan (IGCEP) 2021-30

Energy Outlook (Generation and Peak Demand)(2)

High growth scenario



Source: Draft Indicative Generation Capacity Expansion Plan (IGCEP) 2021-30



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Difficulties in Energy Policy Formulation

- ❑ Certain areas need to be addressed in formulating the energy policy which are stated as follows:
 - Legal & Regulatory Framework
 - Institutional Arrangements
 - Harmony between Federal and Provincial Governments/entities
 - Research and Development
 - Capacity Building

T H A N K Y O U

THANK YOU