

# Energy Issue

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## Energy crises

- Country is confronted with acute shortage of electric power
- Owing to such shortage **agriculture, industries & services** sectors are affected

## Pakistan an energy deficient country

- 1960s & 70s are remembered for construction of Tarbela & Mangla Dams
- BB's era some independent power plants were installed
- Pakistan has faced 1000 to 2000 MW shortage of power.
- Pakistan is facing 80 millions tons of oil shortage
- import of oil products would cost \$11.1 billion to the national kitty. (in Year 2017-18)
- **Thar** is enriched by natural coal, which is the fifth largest treasure of the world.

## Pakistan's energy potential

- Dams
- Solar
- Coal (first unit of 1,320 MW power plant has started tentative production prior to its stipulated completion – May 2017)
- Wind

## Functional Dams

Tarbela	3478 MW
Ghazi Barotha	1450
Mangla	1000
Warsak	243
Chashma barrage	184
Khan Khawar	72
Jagran-i-Dam	304
Rasul Barrage	22
Malakand	22
Dargai	20
Nadipur	13
Shadiwal	14
Chiholi	14
Renala	01

## Under construction dams

	Capacity
Bunji	7100
Dia Mer Basha	4500
Dasau	4320
Kalabagh	3600
Kohala	1100
Thakot	2800
Patan	2800
Neelam Jehlum	969 (97 % completed will commence from Feb 2018)
Akhon	600
Lower Palas	665
Lower Spat Gah	496

## Wind & Solar energy

### WIND

- Pak has potential of 10000-50000 MW
- India is producing 10,000 MW & China 25000 MW
- WE plants in Jhampir, Gharo, Ketu Bandar & Bin Qasim Karachi

### SOLAR

- Pak has potential of 100000 MW
- Alternate Energy Development Board is working for 20,000 solar water heaters in GB
- Govt asked mobile companies to shift transmission towers from petroleum to solar energy
- there are a total of 28,178 public schools in 25 districts of KP, and so far solar panels have been installed at more than 400 schools.

## Electricity

### ENERGY MIX

- Thermal 64.12 %
- Hydel 33.30%
- Nuclear 2.37 %

### Electricity Consumption

- Total generation **installed capacity** = 21000 MW
- Demand in peak summer = 19531 MW
- Total generation = 17473 MW
- Household consumers **43%**
- Industrial consumption 30%
- Agriculture 13 %
- Govt 7 %
- Commercial 6%
- Street light 1 %
- **Pak consumes only 0.5 % of the world**

## How to produce cheaper energy?

- The production cost of furnace oil electricity is **Rs.16 per unit**, add to it the transmission, distribution cost (including losses), “the total cost of such electricity works out to approximately **Rs.22**”
- The difference between WAPDA tariff and the furnace oil electricity is Rs.17 per kWh.”
- It is estimated that the country consumes at least 25 billion units of electricity produced annually through furnace oil, which amounts to the total deficit of Rs.425 Billion.
- If WAPDA has to balance its books it would require a subsidy of Rs.425 Billion.
- Power sector’s circular debt swelled to **Rs385 billion** as of March 31, 2017(The News)

## Issues

### Major issues

- High production cost(Hydal Rs 1.83 per unit, Gas Rs.8.16 Coal Rs. 12 Nuclear Rs. 7.5 & Wind Rs 14.4 Solar Rs. 22.5)
- Dependence on furnace oil(high cost)
- Maladministration
- Obsolete equipments
- Electricity theft
- Long power outages
- circular debt- Rs-222 billion (October 2016)

### Effects

- Closure of industry (25 % textile industry closed)
- Trade deficit
- Export targets not attained
- Investors shifting to other countries
- Inflation
- Low industrial growth
- Poverty
- Unemployment
- Law & order situations

# Solutions

## Short term

- Electricity conservation
- Completion of ongoing projects
- Installation of solar tube wells
- Installation of bio gas plants
- Reduction in line losses
- Prevention of theft
- Industries should start producing their own energy with their own investment without depending upon the grid.

## Long term

- Solar industry
- Wind projects
- Small dams
- Mega dams Kut zara Dam 17000 MW, Neelam Jehlum 969 MW Bonji 7100 MW

### Visit of PM to Tajikistan

- PM inaugurated installation of transmission line for supply of 1,000 megawatt electricity to Pakistan.
- The work on transmission would be completed within a period of two years with a cost of 1.2 billion dollar.
- Tajikistan could export more than 5000MW electricity to Pakistan through hydel projects,
- As per the agreement, Tajikistan would export 1,000MW hydel electricity to Pakistan under Central Asia South Asia (CASA 1000) project through a 750 kilometer long transmission line by year 2018.
- Tajikistan is a country with resources of approximately 50,000MW electricity due to unique networking of about 1,000 rivers and lakes.



- 1986 as "Small Hydel Development Organization
- KHYBER PAKHTUNKHWA HYDRO POWER POLICY2016
- 7500 MW will be added to national grid in 2017-18 by Private power & Infrastructure board (PIIB)(DAWN 12<sup>th</sup> May 2017)



- Punjab is an energy- deficient province and accounts for only five percent of Pakistan's total annual production of 4.3 billion cubic feet per day (BCFD). Sindh is the largest gas producing province with a 57 percent share, followed by Balochistan with 20 percent and Khyber Paktunkhwa (KP) produces 18 percent. Hence, as a direct result of the 18th Amendment the gas supply to Punjab was slashed drastically and shortfall jumped five folds.
  - KP government has put up two cases before the CCI that cumulatively seek additional financial flows of around Rs55bn from the federal government. This includes increasing the amount of Net Hydel Profit (NHP) proceeds from current Rs18bn per annum to about Rs67bn and an end to centre's at source deduction of KP's on account of gas, electricity and other bills.
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- PM inaugurated Golen Gol Hydro Power Project in Chitral
  - Generation capacity = 108 MW
  - KP claims generation of 74 MW but expressed that center is not ready to buy.