

Sadaf-075

(Current Affairs)

Energy Crisis in Pakistan

Introduction:

Globally, "the main cause of energy crisis" directly relates to the scarce resources of any country. The natural resources are depleting by every tick of clock. Many countries are now producing solely energy by the production of natural gases, utilizing water and through nuclear source. And these countries have earned a prosperous status in the world. But there are also many countries which can't produce their own energy or can not able to use natural resources, these countries lag far behind in all aspects of life. Pakistan is, unfortunately, one of them which is facing severe energy crisis.

The energy sector of Pakistan is under-developed due to lack of long-term planning, line-losses, power thefting, corruption in companies mainly DISCOs and GENCOs and other conditionalities. The crisis have challenges and impacts on socioeconomical, developmental and psychological aspects of life. Additionally, to overcome this problem and foster economic growth, Pakistan must have to adopt holistic strategy to stable economy, grid enhancement and a strong renewable energy sector.

Basic Concept of Energy Crisis:

The energy crisis of Pakistan is an on-going and substantial issue. The origins of this crisis traced back to 1994 when the country, with the population of (130 million) today it is approximately (250 million) start to

Reduce the responsibility of public sector in economy.

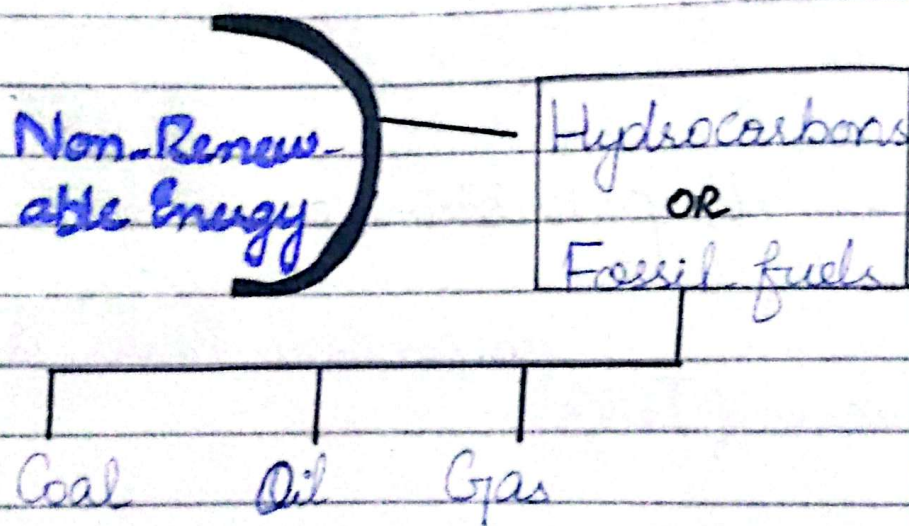
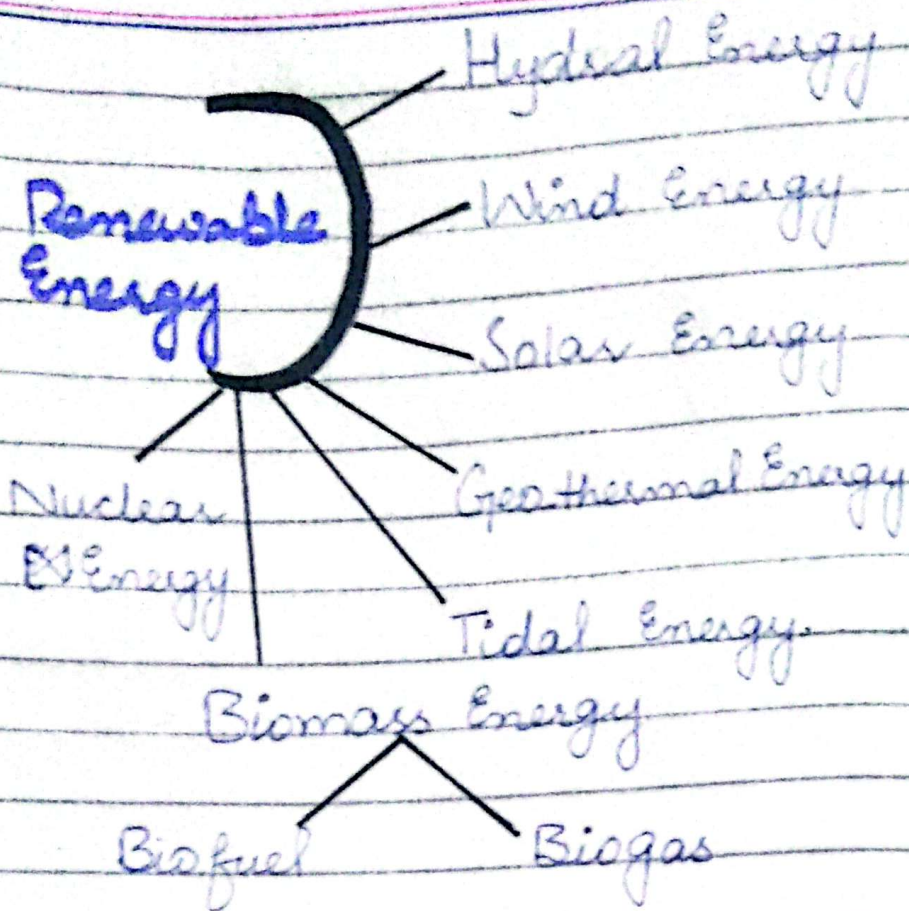
The policy of 1994 aim to address the problem of lower production of electricity which not only failed to provide electricity to domestic sector but also failed to provide electricity to industrial sector which badly impacts to their production.

The policy aim to involves private sector investments in the establishment of new power plants. And transferring economy in-between public and private by 'de-publicizing economy' and introducing private sectors known as "Independent Power Producer" (IPPs).

Sources of Pakistan's Energy

Pakistan gets its energy from mixed sources.

- Renewable Energy sources.
- Non-renewable Energy sources



Total energy suppl, Pakistan, 2022
Renewables (24.7%)
Oil (25%)
Natural Gas (24%)
Coal (14%)

Energy Sector operation:

The energy sector of Pakistan heavily relies on hydrocarbons (coal, oil, gas) for the production of electricity.

Usage of Hydrocarbons:

1. Oil Consumption
2. Gas Usage
3. Coal Production

Oil Consumption:

According to the most recent figures 588,000-barrel per day oil consumed, 83000 produced locally and remaining 500,000 barrel imported. Oil is much expensive and reliance on imported oil add fuel to the fire.

M. King Hubert gave the concept of "peak oil", according to him world will reach at the maximum extraction of oil and then the decline of the world would start. This concept add more despair in depressing situation.

Gas Usage:-

According to figures of recent report, approximately 3 billion cubic feet (bcf) per day gas is used, 75.64% produced domestically and 24.36% being imported.

Coal Production:-

According to the FY2024, power sector consumed remained at 68.9 percent, the Brick Kilns sector consumed 14.9 percent and cement and other industries consumed 16.2 percent. Furthermore, for other needs of electricity coal is imported.

Energy Providers

Energy provided in Pakistan through importers of hydrocarbons and producers of hydrocarbons.

Hydrocarbon Importers:

1. **PSO:** Pakistan State Oil limited.
2. **Attock:** Attock Petroleum limited
3. **Shell:** Shell Pakistan limited
4. **Hascol:** Hascol Petroleum limited.

Hydrocarbon Providers:

OGDCL: Oil and Gas Development Company limited, it is a Pakistan national company which produces oil and gas.

POL: Pakistan Oilfields limited, a company that explores, drills and produce oil and gas in Pakistan.

MOL: MOL is a company that produces crude oil, condensate, LNG and gas in Pakistan. It is operating in Pakistan since 1999.

Energy Suppliers



PSO: (Pakistan State Oil)

All the producers and importers of oil handover oil to PSO. If the oil is refined then it is simply disbursed to other distributors and if the oil is crude oil then oil is sent to different refineries like

- Attock refinery
- Pak-Arab refinery
- Hub refinery
- Karachi refinery, etc.

And then **36% oil** can be refined and rest oil is considered as a waste material.

While US refined oil capacity is **91%**, Saudi Arabia's capacity is **85%** and China's capacity is **86%**. Pakistan's refinery is very low due to lack of modern technologies and old infrastructure of refineries.

Outdated structure can not be helpful in much refinery.

SSGCL:

Sui-Southern Gas Company Limited is a gas supplier to different parts of Pakistan.

SSGC supply gas to

- Balochistan
- Sindh.

Company supply gas to industries, electricity producers and domestic sectors.

SNGPL:

Sui-Norther Gas Pipelines Limited is a gas supplier company to different areas of Pakistan like

- Punjab
- KPK
- Azad Kashmir.

Company supplies gas for domestic and industrial purposes and also for electricity production.

It move natural or imported gas from gathering processing to many distribution systems.

NTDC:

National Transmission and Dispatch Company is a power transmission company that transmits electricity from generator to the local grid and from grid to the consumer.

DISCOs:

Distribution Companies, DISCO is an electricity distribution company that supply electricity to the local consumer to a specific area. Just like

- Islamabad Electric Supply Company (**IESCO**)
- Multan Electric Power Company (**MEPCO**)
- Lahore Electric Supply Company (**LESCO**)
- FESCO
- PESCO
- GESCO, etc.

DISCO is a grass-root level body for energy supply.

Regulatory Bodies

1. NEPRA

2. OGRA

NEPRA:

National Electric Power Regulatory Authority, it is an Pakistani electric supply authority that take all the major decisions of electricity.

OGRA:

"Oil and Gas Regulatory Authority" All the major decisions of oil and gas in Pakistan taken by OGRA.

Major Electricity Producers

1. WAPDA

2. IPPs

3. Civil Nuclear Plants.

WAPDA:

Water and Power Development Authority generates almost **28-30%** of electricity.

IPPs:

Independent Power Producers
generates energy from different
sources like coal, oil, gas,
wind, nuclear, solar, thermal.

Nuclear Civil Plants:

Energy is generated from various
civil nuclear projects like

1- (KANUPP)

2- (CHASNUPP)

1- Total **2200 MW** from Karachi
Nuclear Power Plant (**K₂, K₃**)

2- Total capacity of Chasma
Nuclear Power Plant varies but
around about **340^{MW} each** in
the (**C-1, 2, 3, 4**)

Role of Bank sector:

Banks give loan to different
energy producers, importers,
distributors, generation compa-
nies and to other sectors for
generating electricity. So that
electricity efficiently be
generate.

Causes of Energy Crisis

- Policy Commitment with IPPs
- Corruption in GENCOs and DISCOs
- Circular Debt
- Inefficient energy use and wastage
- Power Theft
- Outdated Infrastructure
- Reliance on imported fuels, etc.

Agreements with IPPs:

IPPs are the independent power producers or private sectors that being assigned by the policy of (1990s, 2005, 2011).

IPPs got installed for maintaining the gap between demand and supply of electricity.

When country is not able to meet the demands of power generation then IPPs start generating electricity. But now the demand is less and installed capacity is much than demand.

In Summer 2024, demand is 26000 MW which is 16000 MW less than the installed capacity.

In winter 2024, demand is 13000 MW and 29000 MW less than its installed capacity. So according to the agreement, IPPs produce energy in case of increase in demand but IPPs are not following agreement. Re-agreement signed between IPPs and Government of Pakistan in (2015) to decrease the reliance on imported fuel and use natural reserves (LNG and Coal). But IPPs totally failed to do this. Due to the faulty agreements of government with IPPs, country facing huge crisis in the form of debt. A heavy amount of capacity payment goes to IPPs whether electricity is used and purchased or not in the form of a contract like "Take-or-pay". Government pays almost 8-344 trillion PKR in the last 10 years. And according to the recent survey of

economics, 2.1 trillion is being paid in coming year.

Payment to the IPPs is in the form of dollars and about 33% of the capacity payment has to pay to the IPPs and also to the local IPPs, which caused the country's

dollar reserves ~~are~~ ^{are} ~~destable~~ ^{unstable}. The heavy payments of IPPs due to myopic agreements caused country's third largest debt obligatory after foreign debt and defence.

IPPs get subsidises on power plants from government and government paid four times more than the similar plants in Bangladesh and Vietnam, which also caused conspiracy and corruption for GENCOs.

GENCOs are the generation Companies which are also known as local private producers of power generation.

Power Theft and short recovery of bills:

Power thefting is the process of thefting electricity line and results in line losses, load-shedding and loss in economy.

According to FY 2020-21, the loss is recorded as 2.8 billion rupees for short recovery of bills by the DISCOs in the 430,000 cases of electricity theft.

In the process of power theft inefficiency of power agencies also responsible. Under recovery bills results in circular debts. And all this create a bad image in the international market. The rate of power theft increases also as in the mounting prices of electricity increases.

Less Role of Media:

The power shortage in Pakistan also included by the less role of media. Unfortunately, media does not pay attention

to the emerging issue of energy crisis. Mainstream media does not make discussions about energy crisis to the awareness of public to consumed less energy and save imported energy resources & and do not waste the energy. "Lumen claims that media should concentrate or focus on some few issues and subjects for the people to perceive that there are more important issues than other issues".

By the incompetent role of media, country faces a nightmare of energy crisis, which pushed the country to the downfall.

IMF Conditionalities:

In 2023, an agreement re-negotiated with IMF, in which IMF imposed to remove subsidies on electricity for the provision of loan and increased the price of fuel because Pakistan generate power 60% on fuel. All these things devalue rupee and increased electricity prices.

Impacts of Energy Crisis:

- Economic Instability
- Industrial Downfall
- Setbacks for Agriculture
- Inflation
- Psychological ailment, etc.

Industrial Downfall:-

Industrial sector is worse hit due to the unavailability and increased rate of prices in electricity. Export ratio decreases badly especially of textile, leather, sports, etc. Industrial sector badly affected in product making and losing image as compared to Bangladesh and India. More than 200 industries shut down because of not providing proper electricity.

Setbacks for Agriculture:-

Agriculture sector properly based on tubewells and they work on electricity, due to unavailability agriculture produce products decrease their international market down and import rate is increasing.

Economic Instability:-

As agriculture sector is the backbone of Pakistan's economy. Due to decrease in products and increases in imports, economy badly effected in the result of devalue of Pakistani rupee.

As a result Pakistan need to go for debts to IMF. And also heavy payments to IPPs results in economic instability.

Mental Disturbance:-

Due to skyrocketing prices of electricity, masses comes on roads for protest and as a result mental health disturbed. Increase in prices also leads to suicide for lower community as they can't pay heavy electricity bills.

Solutions:-

- Re-agreements with IPPs
- Reliance on Natural Reserves
- Use of Modern Technology
- Built more Storage Dams
- Providing Technical Education, etc.

Re-negotiate with IPPs:

Agreements with IPPs should be renegotiated and a contract of '**Take and pay**' should be signed for stable economy.

Reliance on Untapped sources:

Pakistan should shift power generation on renewable sources which are untapped like hydel, wind, thermal, etc. Reliance on imported fuel should be discouraged.

Built more dams:-

More storage dams and canals should be made for using flood water as a source of power generation.

Technical Education:-

Technical education for energy policies should be made and introduced '**Engro-nomist**'.

Conclusion:

Pakistan is grappling with numerous crisis and energy crisis is one of them. But with strong policies and political will there is nothing worthwhile that can never be achieved.

