

Energy crisis in Pakistan

Outline

• Introduction

• Energy acts as oxygen for any country

• Importance of Energy for a Country

• Australia, self sufficient in energy, has reached 1.53 trillion dollar in GDP.

• Energy crisis in Pakistan: Overview

• Pakistan: currently facing shortfall of 7000 megawatts

• Causes of Energy Crisis in Pakistan

• Lack of Political involvement

• The Federal Minister of Water and Power Raja Pervez Ashraf said "Kalabagh Dam would not be constructed"

Such old reference do not fit to this good writing

• Growing house hold appliances demand

• Evidence: According to National Electric Power Regulatory Authority (NEPRA): The use of household appliances increased 100 percent since 2015.

• Lack of dams

• Case in point: According to the Food and Agriculture organization since its inception Pakistan has built 150 dams and India has 5330 dam.

• Energy theft

• Pakistan on the top of the list

• Lost during transmission and distribution

• Evidence: According to NEPRA report 2022, the overall transmission and distribution losses for the year 2022 was 18.45%.

~~Another reason~~

• Expired infrastructure of Dams

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- According to Water and Power Development Authority (WAPDA) Tarbela and Mangla dam have lost some of power generating capacity
- Non-Shifting towards renewable energy sources
- According to world Bank, "China produces 430 million kilowatt from solar parks"
- Expensive electricity generation
- According to current-PM of Pakistan, Pakistan generates ~~the~~ most expensive electricity in world.
- Impacts of Energy crisis on Pakistan
 - Increase in loadshedding
 - According to BBC, Pakistan's load shedding hours exceed to 8 hours daily
 - Textile industry is facing worst time due to power shortage
 - Pakistan Exports Bureau claimed that in 2022, Pakistan has exported the least textile compared to last 10 years
 - Increasing the price of fertilizer.
 - According to Pakistan Journal of Agricultural Sciences 2022, the price of Urea has increased upto 3 times within 2 years
 - Shutting down of local industry, running upon electricity
 - According to survey of Pakistan, 80 percent of the local electricity industry is about to shut down.
 - ~~Spending~~ Experiencing the lowest count of Foreign Direct investment FDI
 - According to the Division of Foreign Ministry, Pakistan has not received FDI for last 3 years
- Solutions of Energy crisis on Pakistan
 - To encourage use of renewable energy resource
 - To build more dams
 - Repair outdated infrastructure of existing dams

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- To build more dams.
- To look for cheap methods
- To establish a theft free power distribution
- To limit use of household appliances.
- Conclusion

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Energy acts like oxygen for any country. All the economic, political, and social growth of a country depends on its energy, whereas, energy crisis acts like a toxic gas which paralyzes a country and stops its growth socially, politically and, above all, economically. It is saddening that Pakistan, being no exception, is counted

among those countries suffering from energy crisis over the years. Has been grappling with

sector ~~has been~~ grappled with issues like rising electricity prices, ~~due to~~ load shedding, lack of dams, loss of electricity during transmission, ~~theft~~ electricity theft, circular debt's and much more. These factors not only result in energy crisis, but it also has deleterious effects on the economy of Pakistan.

Energy is considered
To begin with, energy is considered a backbone of a country, and is considered very important to run a country. It transforms the fate of a nation by empowering its economic stability. The countries that are self-sufficient in energy have a high growth rate. For instance, Australia, self-sufficient in energy, has reached 1.53 trillion dollars in Gross Domestic Production GDP. The self-sufficiency in energy has made the country attain such ~~marvellous~~ progress. It is a glaring example depicting the importance of energy for a country.

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On the contrary, Pakistan is listed as an energy-insecure country. The country has not only failed to meet domestic electricity needs but also failed to provide enough power to its industries. Currently, Pakistan has a shortfall of 7000 megawatts of electricity. Although 7000 megawatts seems to be a small figure, it is costing the country a loss of millions of dollars. Such a vast shortfall is hampering the state's progress socially and, above all, economically.

~~Now moving towards causes of these tremendous shortfall. There are several reasons behind the prevalence of such menace. The lack of political vision at the top of the line. Politicians want to avoid getting along on a single platform to deal with the crisis. For instance, the Kalabagh dam is a matter of life and death for Pakistan, but some politicians have been using it as a weapon to achieve their vested political interest. On 26 May 2002, the Federal Minister of Water and Power, Raja Pervez Ashraf, said "Kalabagh dam would not be constructed". Although constructing Kalabagh dam is need of time, but the politician^{who} belong to Sindh and Khyber Pakhtunkhwa are playing the national card. The parties have manipulated the minds of innocent people~~

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by making them believe that, the Punjab would block the water of Indus river after constructing the dam. With every passing day, the intensity of crisis increases. Still, the politicians need to give the situation a serious thought.

Further, the growing demand for household appliances is also a cause, fueling the fire.

According to the National Electric Power Regulatory Authority (NEPRA), "The household appliances has increased to 400 percent since 2015." The

excessive use of such appliances results in more electricity consumption, although the country is already experiencing a shortfall of 7000 megawatts. Moreover the increase in electricity consumption is because of the appliances that are used domestically are still manufactured based on old technology, and they need to be equipped with latest features.

Next to it, Pakistan, an agriculture-driven country, has an unsatisfactory number of dams.

The country's electricity production which comes from hydro power depends on dams. According to the Food and Agriculture Organization,

"Pakistan has built 150 dams since inception, and India has built 5330 dams." Dams

serve as power generating bodies and also act as reservoirs for water storage.

The electricity produced by dams is the cheapest as it is produced through the

flowing water of rivers. Therefore, the country

The country has to work hard to construct several dams to meet its energy requirements.

Moreover, one of the other reason for the shortfall is electricity theft or Konda System. In South Asia, Pakistan is on the top of the list. This theft results in losing amount to billions of rupees annually. People tamper with the meter reading, sometime they steal electricity directly by illegally tapping on distribution line. This ~~kind of theft~~ should be stopped, otherwise it will cause very disastrous effects, ^{It will cause} resulting further shortfall.

Next to it, is one of the major cause of electricity shortage is because of power loss during the transmission and distribution of electricity. According to National Electric Power Regulatory Authority NEPRA Annual Report 2021-22, "The overall transmission and distribution losses for the year 2021-22 were 18.45% of the total energy delivered to the system".

The transmission line of Pakistan is ^{The transmission lines are really outdated} outdated, even majority of them are expired before 2000 or 2010. The ^{cause} expired and outdated line resultantly ~~is the~~ highest loss electricity during transmission. Further, the existing dam infrastructure is ~~expiring~~ ^{expiring}, resulting in less electricity production. The ^{Life time} dams have completed their ~~life time~~ and the

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power management of dams has made them malfunction. According to the Water and Power Development Authority WAPDA, "Tarbella dam and Mangla dam have lost their 5 percent power generating capacity". The dams have lost their maximum capacity to produce power and reserve water for non-maintenance due to corruption in WAPDA and non-appointment of qualified personnel. Due to the rampant corruption by WAPDA officials, the dams need to be provided with quality material; consequently, the life span of the dams is reduced. Hence, it is a potent factor contributing to the crisis surge.

Moreover, the country has not shifted itself to the renewable energy resource. Renewable energy is derived from the natural sources, replenishing at higher rate than consumed. Due to its geo-strategic position, Pakistan has abundant renewable energy sources, like solar energy, wind energy and ocean tides. For instance, according to a report from a World Bank, China produces 430 million kilowatts from solar parks. Despite having sufficient renewable energy sources, Pakistan still needs to make the most of it.

In Addition, ~~the~~ Pakistan produced its majority of energy from expensive resource which is Hydrocarbon. Pakistan does not produce enough oil and coal due

to ~~meet its~~ ~~growing~~ ~~energy~~ ~~demands~~, particularly for power generation. According to Current Prime Minister "Pakistan ~~produces~~ ~~generates~~ the most expensive electricity in the world. So this expensive energy generation causes ~~burden on~~ ~~the~~ ~~people~~ in form of high bills. ~~People~~ ~~do~~ ~~not~~ ~~pay~~ ~~the~~ ~~bills~~ ~~due~~ ~~to~~ ~~which~~ ~~circulation~~ ~~of~~ ~~debt~~ increase and ~~result~~ ~~in~~ ~~shortage~~ ~~of~~ ~~energy~~.

Moving towards impacts, the country is facing ~~an~~ ~~increasing~~ ~~issue~~ ~~of~~ load shedding of electricity, which has created many problems for the nation. It has ~~hindered~~ ~~the~~ ~~country's~~ ~~socioeconomic~~ ~~progress~~ by paralyzing the local industry that ~~runs~~ ~~on~~ ~~electricity~~. According to British Broadcasting Centre (BBC) Pakistan's load-shedding hours exceed to 8 hours daily. Load shedding of electricity become a turmoil for people; ultimately, it has affected their social life.

Next to it, the textile industry, is ~~considered~~ ~~the~~ ~~backbone~~ ~~of~~ Pakistan's ~~dwindling~~ ~~economy~~, is also facing a hard time due to the power shortage. ~~The~~ ~~government~~ ~~has~~ ~~failed~~ ~~to~~ ~~provide~~ ~~the~~ ~~required~~ ~~electricity~~ ~~to~~ ~~the~~ ~~textile~~ ~~mills~~, most mill owners have shut down their factories due to frequent power cut. According to Pakistan's exports Bureau in 2022, Pakistan has exported the least textile compared to last ten years. The massive ~~revenue~~ ~~that~~

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The country's economy through such exports will shrink if the issue remains growing. Hence, the power cut to mills can result in the oxygen cut to the gasping economy of state.

Additionally, the agriculture sector, the backbone of the country's economy, is not exempted from the impacts of the crisis. The fertilizer industries are rising the prices of fertilizers making electricity prices hiker the reason. According to the Pakistan Journal of Animal Agricultural Sciences 2022, the price of Urea has increased up to 3 times within 2 years. Urea is an essential crop requirement and responsible for their rapid and healthy growth. As Urea contains nitrogen, a fundamental need of plants, the farmer must use it in their crops. Without using it the crop yield can drop up to 20 percent.

Furthermore, the local industries, which depend on electricity, are struggling. It has affected many small industries, but the manufacturing factories, making candies and toys, mini flour mills, and grinding wheat and rice are struck by the crisis. As the Survey of Pakistan mentions, 80 percent of the local industry's electricity consumption is at a sharp decline. The majority of the people who are associated with local industry, will become unemployed.

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So, the government must address the issue before it worsens.

Similarly, the foreign Direct Investment (FDI) drops to a surging level yearly. According to the Division of Foreign Ministry, Pakistan has not pitched FDI projects for the last three years for a developing country. FDI ~~projects~~ is not just a mere cross-border investment, bringing precious revenue, but a matter of life and death for the country's slacking economy. Besides the need for more investment by foreign investors, the existing ones are trying to close their business in the country. The lowering FDI indicates the shut of foreign investors towards other Asia countries with cheap labour and electricity. The countries decline in the FDI's can rob millions of people of a bright future.

All hope is not lost, as every tunnel has light at its end. The country can overcome the issue by implementing the following recommendations. First of all, building a ~~robust~~ substantive political consensus among policy-makers over the issue of the energy crisis is the need of the hour. It is the first step towards getting rid of the situation. However, the political parties playing the national card over the issue of Kalabagh Dam must be tried in a court of law as they are proving to be a hurdle in the integrity.

of the State.

Next to it, encouraging the use of Renewable energy resources can address the crisis. Equipped with endogenous Renewable energy resources, Pakistan should install solar Panel in the desert region and wind turbines in the coastal line. The one-time capital investment in renewable energy machinery would give the country lifetime benefits.

Further, the country desperately needs dams, and building more dams would be a lifeline for the country's energy sector. As the country generates its electricity by water, more dams can get it out of the crisis. It has become a must for the government to revolutionize its hydel System.

Moreover, the infrastructure of the existing dams needs to be adequately repaired and maintained. Due to the accumulation of sand at the bottom of the dams, their maximum capacity is hindered. A proper check and balance mechanism to clean the dams must be propagated daily.

In Addition, the government should make policies to limit the use of household appliances as little as one can. The government should also import and manufacture household appliances as one can. The government should also promote the

household ~~based~~ appliances that consume less electricity. For instance, 19 watt energy appliances consume less electricity; therefore, such appliances should be encouraged.

Last, proper distribution mechanisms must be introduced nationwide. A considerable amount of electricity is wasted as line losses. Moreover, the government should conduct regular inspection to identify and prosecute electricity thieves. Government should impose strict penalties, including heavy fines and imprisonment for electricity theft.

In a nutshell, Pakistan is impacted by the energy crisis due to several causes

In a nutshell, Pakistan has a shortage of energy. The issue has been present since the beginning, but it has remained unattended. However, with every passing year, it keeps growing. The several causes of this crisis include, lack of political consensus, shortage of dams, lack of attention towards renewable energy sources.

However, some recommendations can make the country self-sufficient in power, like creating new dams, building political consensus, shifting to renewable energy sources, and establishing a robust power distribution system free from theft and corruption.