

Mock Exam Topic (November)

Imbalance of Energy Mix and Its Consequences in Pakistan

Outline

Thesis Statement

Pakistan has been facing energy crisis since long. However, imbalance of energy is one of the major factors exacerbating energy crisis. Therefore, diversification and making energy mix more sustainable are the possible options to avoid worsening of energy crisis.

1- Introduction

2- An Overview of Imbalance of Energy Mix in Pakistan

3- Why and how is the imbalance of Energy in Pakistan

- i- Increased proportion of non-renewable energy resources in Energy mix
- ii- Increased proportion of Imported fuels
- iii- Adhoc short-term solutions to overcome energy crisis

4- Consequences of ^{Imbalance of} Energy Mix in Pakistan

- i- Expensive Energy in the region
- ii- Impacts on agriculture and industrial sectors

iii- Exposure to ups and downs in the global energy market due to heavy reliance on imported fuels

iv- Increased Circular Debts

v- No Foreign Direct Investment and decreased exports

vi- Political repercussions

vii- Social Impacts

5- How to ensure balanced energy mix ?

i- Increased share of Indigenous renewable energy resources

ii- Reducing reliance on imported fuels from far away import destinations

iii- Integrated ^{Sustainable} Energy Management

6- Conclusion

Energy is the universal basic human right and need. The socio-economic development of a nation is better judged by its energy consumption per capita and energy self-sufficiency. Similarly, energy resources also remain a vital source of global economy and politics. Pakistan, has also been in quest to ensure its self-sufficiency in energy since long. However, its energy crisis has been deepening with time due to number of factors. Imbalance of energy mix is one of the major factor, which has been resulting in a number of repercussions for Pakistan exacerbating the existing energy crisis. The imbalance of energy mix is due to increasing proportion of imported fossil fuels with time as ad-hoc solution to the looming energy crisis. Higher share of imported non-renewable sources leads to increased price of energy, bringing a number of economic, political and social repercussions.

for Pakistan. Similarly, due to no significant reforms in the energy sector and upgradation of energy infrastructure, the impacts of imbalanced energy mix are further exacerbated. Therefore, ensuring balanced energy mix is vital for overcoming the existing energy crisis and associated political and socio-economic impacts. Increasing proportion of indigenous renewable energy resources, reducing reliance on imported fuels and managing energy sector sustainably and in integrated manner are viable options to balanced energy mix and reduce the negative impacts of its imbalance. Hence, diversification and making the energy mix more sustainable can overcome the consequences of imbalance of energy mix and control the ongoing energy crisis of Pakistan.

Increasing economic activity and transportation needs by the growing population with time demand more energy resources. Pakistan's energy demands have also been increasing with time. However, its looming energy crisis never tends to abate. As the higher rate of energy per unit, ever-increasing shortfall and never-meeting energy demands of public and private sectors are the clear evidences of energy crisis. There exist a consensus that balancing energy mix can prove panacea for the looming energy crisis of Pakistan.

Among various factors responsible for imbalance in energy mix, increased proportion of non-renewable energy resources is the foremost and important one. As Pakistan has reduced resources of non-renewable energy resources on one hand while on other hand it has no fully developed infrastructure to exploit the existing resources. Thus, it has to import

them. Besides importing cost, non-renewable resources cost heavy capital to ensure their supply to the end users. As per report published by Wilson Institute, Pakistan's import energy resources include more than 80% of non-renewable ones. Thus, the energy mix remains imbalanced exacerbating the energy crisis of Pakistan.

Another factor responsible for the imbalance energy mix, the imposed energy resources prove viable source to cater energy needs. As energy mix contains higher proportion of non-renewable resources while Pakistan lacks these local resources on one hand while it has energy production infrastructure for these non-renewable energy resources on other hand. Therefore Pakistan has to import 79.7% hydrocarbons while the indigenous hydrocarbons account only for 30 percent. Hence, negative economic impacts of the imbalance in the energy mix increase further.

As the energy demands have

been increasing with time. To cater these needs, government in power generally opt for quick, adhoc short-term solutions to overcome energy crisis. Thus, instead of diversifying energy mix and increasing the share of indigenous renewable energy resources, either import of the non-renewable energy resources is ~~not~~ increased or production infrastructure is expanded to utilize more local hydrocarbons and coal for energy production. Hence, the imbalance of energy mix gets destabilized further and energy crisis worsens more.

Imbalance of energy mix results in a number of economic, political and socio-environmental consequences for Pakistan. Among economic consequences, expensive energy, is the foremost to ^{be} discussed. In Pakistan, energy per unit is the highest, which poses grave consequences for both producers and consumers. Both cannot cope with rising rates and thus either reduced production

Theft and non-payment are the outcomes. High prices of energy pose serious threat to domestic users, agriculture and industrial sectors. Household activities cannot be carried on within time. Similarly, agriculture and industrial sectors are greatly impacted. On one hand, these sectors cannot afford to continue their operations due to raised energy prices while on other hand they cannot operate optimally due to power outages. Resultantly neither local demands are fulfilled nor any exports can be ensured causing balance of payment crisis for Pakistan.

As energy mix of Pakistan contains major share of imported fossil fuels because indigenous ones constitute only 20 percent of total fossil fuels used by industry, transportation and domestic power production in Pakistan. Therefore, energy sector is heavily exposed to the dynamics in the global energy market due to heavy reliance on imported fuels. Generally, rise in fuels price globally results

in raising per unit energy price manifold. It affects not only the businesses and domestic consumers but it also has heavy impact on public exchequer.

As the latter has to expend its foreign reserves to purchase fuels at high prices and it also has to provide subsidies to consumers to compensate for the increase price of per unit energy.

Consequently, every sector of economy gets the negative impacts of any little change in the global energy market dynamics.

Another major impact of the imbalance of energy mix is the increased circular debt. Though, it is outcome of partly of the inefficiency and poor governance of energy sector but imbalance of energy mix is also partly responsible. As increased imports of fuels are also accompanied by the subsidies and tariff adjustment which are generally either unpaid or paid partially. Similarly, theft and non-payment of bills also add further burden. Resultantly, the circular debt

multiplies with time. It is estimated the cross the figure of 2.8 trillion^{supers} by the end of 2023.

As neither exports find it feasible to enhance its exports nor the investors think it conducive to invest. Thus, exports and foreign direct investment decline in the presence of energy crisis. As in the existing energy mix, the energy is not only insufficient to cater the needs but it is also responsible for the increased per unit price. Consequently, economic activity in Pakistan is negatively affected at large.

Along with these various economic impacts, the imbalance in the energy mix also gives birth to various political repercussions. The most significant political consequence is the growing rift among the provinces and centre. There is long-lasting contention over non-supply of the required energy to provinces. Consequently, the political

leadership remains at the loggerhead with the centre for solving the power issues. Similarly, a wide energy of political leadership is being wasted on the energy issues. Along with these political consequences, a number of social impacts are also associated with the imbalance of energy mix.

Education, health and private lives are worsely affected by the energy crisis associated with the imbalance of energy mix. Educational institutes and researchers are worsely impacted by the energy shortfall while hospitals ^{face} serious hampering obstacles because they cannot provide adequate medical care to ailing ones due to power outages. Similarly, students cannot study well at their residence while parents cannot impart due concentration to their children. Also the households are negatively affected by the increased prices of energy and making arrangement of alternative

energy sources for daily activities. Keeping in view these grave consequences of the imbalance of energy mix in Pakistan, there is dire need for adopting measures to ensure the balanced energy mix. Foremost measure should be increasing the proportion of indigenous renewable energy resources. Pakistan has huge potential of renewable energy resources like solar, wind, hydel and geothermal power, which can be easily harnessed. Resultantly, not only the prices of energy can be lowered but it also results in ensuring the balance in the energy mix.

By harnessing indigenous renewable resources of energy, the demand for imported fossil fuels can be automatically reduced. However, it takes time to erect power infrastructure for local energy resources. Thus, to reduce the capital expended on the imported fuels from far away

destination, contracts should be ensured with neighboring countries like Iran, Central Asian countries and Russia to keep the energy supply sustained at relatively low rates for short period. It will not only reduce per unit energy price but it will also help in attaining the balance in energy mix in long run.

Besides these measures, there is also need of ensuring the sustainable integrated energy management to take full advantage of the energy mix balance. Like stepping distribution and transmission infrastructure, enhancing energy efficiency, adopting energy conservation measures and effective energy ~~management~~ governance system should be prioritized. These initiatives will not only overcome the existing institutional gaps in the energy sector but it will also help in getting the real advantage of the balanced energy mix.

In conclusion, the solution

of the deepening energy crisis lies within the balanced energy mix. As the balanced energy mix will not only ensure energy at optimum rate but it will also render huge socioeconomic and political dividends. As Pakistan will get saved from the shocks of global energy market by decreasing reliance on the imported fossil fuels. Similarly, increasing the share of indigenous energy resources and reforming the energy governance system will help in reaping the fruits of balanced energy mix in the long run. Thus, it is wise and better to diversify and balance the energy mix and save the polity of Pakistan from the negative consequences of the imbalance of energy mix.