

ENERGY CRISIS

OUTLINE

Introduction

(i) How energy crisis produces numerous problems and challenges

a) ^{It} Hinders economic growth and ^{produces a} crises-to-crisis cycle

↳ Reliance on fossil fuels: increasingly unsustainable process

b) ^{It} produces conflict with global carbon reduction goals.

c) Complexities of infrastructure & policy inertia

↳ NDC determination aiming to achieve 30% renewable energy in installed capacity by 2030.

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(ii) The ways forward to curb the crisis

a) Prioritizing conservation and efficiency measures.

↳ ECBC-2023, ^{SOI} rooftop integration, clean cooking solutions and support for EVs.

b) Separating the debt issue from electricity pricing

✳ ↳ Replacing the single buyer system with a competitive electricity market.

c) Energy transition

✳ C.O.P: Establishing a National Integrated Energy-Economics Plan.

d) Community driven solution and capacity building hubs

iii Conclusion

Pakistan stands at the crossroads in its energy future. The nation's energy sector has long struggled with inefficiency, dependency on fossil fuels and unsustainable consumption patterns. Despite the increase in (energy production by) installed capacity by 12% in the fiscal year-2023, electricity generation paradoxically declined by 40% during the same period. The reliance on imported fuels, off-grid solar expansion and ~~the~~ a declining industrial demand, expensive capacity payment to IPPs reveals a disturbing trend. ~~Energy~~ ~~insecurity~~ in Pakistan

Energy insecurity in Pakistan is not new. The country's reliance on fossil fuels which accounts for 52% of electricity generation is increasingly unsustainable. With depleting natural gas reserves, and economic crunch, limiting coal imports, the energy sector faces a crisis-to-crisis cycle. This dependency on polluting and costly fuels hinders the economic growth of the country. Additionally, there is an increased demand for electricity in summer to cool down the houses. For this surge an additional 18000 MW of energy is required to meet the needs in summer, which will remain ^{der} utilised for the rest of the year. This additional inefficiency causes costs the national economy nearly 100 Billion. As a result the capacity payment to IPPs have ballooned to over PKR 2 Trillion.

In addition to this, The European Union's Carbon Border Adjustment Mechanism (CBAM) poses a serious threat to Pakistan's textile and garment sector exports, which is a cornerstone of Pakistan's economy. Competing nations like Bangladesh are also already investing in renewable energy to safeguard their industries from CBAM related penalties. If Pakistan fails to shift into renewable energy sources, it risks losing competitiveness in exports markets, causing ^{potentially} severe economic damage.

Furthermore, Pakistan's greater dependency on fossil fuel along with ^{to} hinderance economic ~~hinderance~~ growth poses a serious threat to Pakistan's image in the external theatre. If the shift and transition to renewable energy sources is not brought into action and the fossil consumption is not reduced, it will worsen Pakistan's image by producing conflicts with global carbon reducing goals.

With all these problems faced, there are complexities of infrastructure and policy inertia. Pakistan's commitment to Nationally Determined Contributions (NDC) aimed to achieve 30% renewable energy in installed capacity by 2030. However, as of now, the contribution of renewable energy (excluding Hydro) stands mere at 7%. Given the economic constraints and stalled progress, Pakistan is in the condition to recalculate its NDC targets and redefine it.

~~These problems, though having far reaching repercussions, can be resolved systematically with the introduction following are the ways forward, for Pakistan to bloom in energy sector as well as economic sector.~~

The need for integrated planning that bridges economy, environment and energy has never been more critical. For this integrated planning, conservation and efficiency measures must be prioritized. The World Bank's willingness of the provision of energy-efficient fan program is a small yet a positive

and impactful step in the right direction. Not only this, but also adapting Energy Conservation Building Codes (ECBC-2023) can lead to a 15-20% reduction in building sector energy consumptions. This will help Pakistan move closer to net-zero targets. Along these projects, forward thinking policies such as solar rooftop integration, clean cooking solution and support for electric vehicles (EVs) will also be of immense help.

Moreover, separating the debt issue from the electricity pricing will promote transparency, efficiency and fair pricing, ultimately resulting in the resolution of the issues of burden on consumers and discouraging investments. This can be done through shifting from single buyer system to a competitive electricity market. ~~Debt concerns should be managed through restructuring and expenditure cuts, electricity prices need to reflect market dynamics.~~

Similarly, energy transition from non renewable resources to renewable ones will play a pivotal role in equitable progress. This will also help Pakistan in the external theatre to restore its image and shield Pakistan's economy from further crisis by bans and sanctions on imports. ~~The transition needs a proper plan, such as a National Integrated Energy Economic Plan which will pave the way for sustainable economy and progress.~~

Last, but not the least, community driven solutions and Capacity Building hubs for industries by renewable energy for tackling the challenges of CBAM regime. Incentivizing the private sector by exemption from tax and regional market support can provide the economic boost the nation needs. However, these solutions required well structured plans, these plan demand political will and effective government.

In conclusion, Pakistan is being faced with energy crisis for decades which pose serious threats to the economy of Pakistan. However, these problems are daunting but not insurmountable. By focusing on energy efficiency, integrating plans and renewable alternatives, the country can shift from a perpetual crisis to prosperity. Through federal-provincial coordination, public private partnerships and civil society oversight, it can be ensured that the policies do not remain paper dreams. It is time to invest in long term solutions that prioritize not just energy but also the well-being of our economy, environment and citizens.