

Economic cost of energy crisis in Pakistan **and the way forward**

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Energy indisputably is a primary catalyst for national development. It is termed as the backbone and lifeline of a country's economy and its availability ensure accelerated growth and development. On the other hand an acute shortage of energy can be a great bottleneck in the supply of energy resources to an economy. Continuous and accelerated supply of energy has turned out to be the biggest challenge and a matter of serious concern of the contemporary world as the global scenario is now shifting its face from geo politics to geo economics. As a matter of fact, there has been an enormous increase in the global demand for energy in recent years as a result of industrial development and population growth. Supply of energy is, therefore, far less than the actual demand.

Pakistan's energy concerns are now assuming serious and horrific proportions owing to the fact that Pakistan has been suffering from an energy crisis for about half a decade now. The power crisis is becoming unbearable with every passing day proving to be a serious threat and impediment in country's economic progress. Internal stability of any country is highly dependent on its economic well being which is directly dependent upon sufficient energy resources and their proper management. At present Pakistan is suffering from energy deficit of about 4500 MW. This dismal state of affairs has led to the closure of many industrial units hence rendering a large number of people unemployed. Moreover, large parts of Pakistan have been affected by power blackouts due to an electricity crisis.

There is a shortage of more than 7,000 megawatts which amounts to 40 per cent of the total demand. Energy crisis is threatening to become bigger in coming years. There is an expected shortfall up to 50% because of increase in demand and supply gap up to 3,000 MW. Pakistan's total energy requirement will probably increase by 48% in 2011. Power generation in Pakistan is hugely dependent on oil, whereas we have only 20% oil of the original amount needed for the production. The remaining oil has to be imported from Gulf States and other countries of world. No major oil field so far has been discovered in the last three decades. Oil demand is expected to double by 2015 and quadruple by 2025. This would lead to an alarming trade shortage, and general price hike.

Pakistan energy sector comprises major sources with share of 50.4% of gas, followed by oil 29%, hydro electricity 11%, and coal 7.6%. Consequently, Pakistan imports energy to overcome the problem and maintain standard of living of people. The major shortfall is expected in natural gas supplies. Pakistan had 28 trillion cubic feet reserves of natural gas in 2006 but due to increase in its demand it is expected to be exhausted in next two decades.

The power outages have almost crippled normal everyday life of people and particularly hit industrial and agricultural production. This energy shortfall has caused 3 to 4 per cent GDP loss in financial year 2010-2011. As recently as 2001, the country had 4,000 megawatts of excess power capacity. Today unfortunately the situation has faced threatening prospects. The Asian Development Bank (ADB), in a report has said that Pakistan's economy faces a major hurdle in the shape of its domestic energy crisis as the economy continues to be affected by structural problems, including a domestic energy crisis, a precipitous decline in investment, persistently high inflation, and security issues. Budget deficits remain high,

driven by substantial subsidies and losses at state-owned enterprises, and tax revenue below target. Losses arising from power and gas shortages held down GDP growth by 3–4 per cent in FY2011 and FY2012. As a matter of consequence the state-owned enterprises, naming Pakistan Railways, Pakistan International Airlines (PIA), and Pakistan Steel Mills are bearing the unprecedented losses. Nations are using renewable energy, transport policies and eco-cities to overcome poverty, create millions of jobs, expand industries, attract direct foreign investment and strengthen economies. Pakistan can solve its energy crisis and join modern world provided our leaders are willing to adopt effective laws, transparent policies, get rid of corrupt practices, and explore and invest in renewable and alternate sources of energy.

Let us delve into the issue to chalk out the reasons for this acute shortage of energy in Pakistan despite the presence of enormous natural resources. Over-reliance on dwindling hydro power, lack of research and planning, untapped energy resources, lopsided priorities, poor management and lack of accountability can be the reasons for the dearth of energy in Pakistan. It has to be kept in mind that the number of consumers of electricity has significantly increased owing to the rapid urbanization process and modern living style. The facility of electricity is now provided to the remote villages. The power loss is to tune of about 15 to 20 percent annually due to poor distribution system. Industrial, transport and domestic sectors are the three important consumers of energy. It is assumed that a misplaced use of energy is rampant in industries which need to be curtailed.

If one analyses the situation of the past few decades, it can be observed that Pakistan used to generate and meet half of its energy demands through hydel power and remaining from thermal generation. However, there is a limit to the extent of exploitation of hydel resources and thermal power plants due to environmental and other concerns. Economic situation of the country has now changed manifolds. To meet the challenges faced by today's Pakistan, there is a dire need to go for the alternate sources of energy. For that matter the process of converting coal into product gas underground can be a good alternate source of energy. Technically this process is called as underground coal gasification. Besides coal, the renewable energy as biomass can also be utilized to overcome this crisis. Similarly the wind energy is also available in Pakistan which can harness this energy in a much more effective way. Wind can be utilized to produce electricity at the coastal areas. If windmill power plants are set up along the coastline and this venture is handed over to the foreign investors, satisfactory results can be achieved. Similarly, hot climatic conditions of some areas of upper Sindh and Southern Punjab may prove to be a source of solar energy. Solar energy is the best solution for energy crisis, as the country has a potential of generating 29,000 MW electricity from sun.

Pakistan has world's seventh largest reserves of coal after discovery of THAR. These reserves are still untouched due to lack of technique in coal mining. Similarly solar and wind energy in coastal areas of Baluchistan and Sindh have a lot of potential to generate electricity but acquisition of technology at an enormous cost makes this an unbelievable source. Pakistan has only two nuclear plants providing two percent of electricity to our country. Population explosion is another cause of energy crises. At present Pakistan is pursuing a multidimensional pro-longed strategy to ensure adequate and uninterrupted oil and gas supply and other energy resources to sustain the present pattern of energy for the rapid national economic growth. Greater reliance on gas, aggressive pursuit of hydroelectric power generation, and enhancing nuclear power generation capacity are some of the key elements of this strategy.

Pakistan is also seeking to expand its primary energy supply base by encouraging oil exploration and power generation companies to undertake energy project in Pakistan. The

regional gas pipe line projects in which Pakistan is actively pursuing to meet its expanding domestic energy demands.

These are the prerequisite for resolving energy crises that, unless resolved promptly, would cast a long shadow on the short and medium term objectives of economic growth and development.

To cut the long story short, Pakistan is at a critical juncture entangled with multifaceted problems. Pragmatic approach coupled with rational decision-making can show some light at the end of the tunnel.
