

# Energy crisis in pakistan essay sample



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Energy is one of the most important sources for economic growth for any developing country. It has many forms like natural gas, hydra energy, power energy, water and thermal etc. Today's most developed countries like UK, China, Malaysia, etc. are successful because they are managing their resources in a sensible way so that they could get benefit from them for a long duration.

Moreover the economy of any country is based on its resources.

Unfortunately in Pakistan is one of those countries in the world which are facing huge economic crisis. Pakistan is undergoing an unprecedented energy crisis since the last few years leading to disrupted daily routines. Though energy is the rightly referred as life line of any country's economy but the current situation articulates that fact of abandoned socioeconomic development of the country due to contemporary energy crisis in the country.

Crises arise when the supplies are inadequate to go along with the demands. Hence the energy crisis refers to shortfall in the supply of energy resources to an economy. It usually refers to the shortage of oil, electricity, gas and other natural resources

Energy is considered to be life line of any economy and most vital instrument of socioeconomic development of a country. Energy is pivotal in running machinery in factories and industrial units, for lighting our cities and powering our vehicles etc.

There has been an enormous increase in the demand of energy as a result of industrial development and population growth, in comparison to

enhancement in energy production. Supply of energy is, therefore, far less than the actual demand, resultantly crisis has emerged. An energy crisis can be defined as any great bottleneck (or price rise) in the supply of energy resources to an economy.

Pakistan is in the grip of a serious energy crisis that is affecting all sectors of the economy and the various segments of the society. As the situation stands to-day, there are hardly any immediate solutions to resolve the issue. A change of attitude and a change of life style is needed at the national level which should be triggered by the ruling elite and followed by all segments of the society that have access to electricity. At best there could be some short and long-term solutions to the crisis but they need immediate planning and execution with an enormous investment.

The purpose of this study is to analyze the nature of this crisis and to propose some short-term as well as long-term solutions to this problem. This study is exploratory in nature. We have done our best to conclude and sketch up some recommendations in the light of identified hurdles in the way of implementing the appropriate solution to our problem.

Our study finds some major wholes in our system if they are covered up we can not only overcome the deficiency of energy in our systems but also we can be able to export it to our neighboring countries.

#### HISTORY:

In early 1960's the government of Pakistan felt a desperate need of developing energy source to meet the future demand of energy. In this

regard many projects were started like Tarbela dam, Mangla dam, Warsik dam and some nuclear reactor projects were also taken under consideration for making electrical energy but not implemented at that time.

The miraculous Pakistan is blessed with infinite natural resources by the God and natural gas is the most precious one. The recoverable reserves of natural gas have been estimated at 29. 671 trillion cubic feet (January 1st 2009). During July-March 2008-09 the production was 3986. 5 million cubic feet per day as compared to 3965. 9 mmcf/d during the corresponding period last year showing an increase of 0. 52%. Presently 26 private and public sector companies are engaged in oil and gas exploration and production activities. Natural gas also helped for meeting the our energy needs and a lot of industries were setup like textile industries in Faisalabad. And also was used for domestic purpose.

But from 1970-1990's the government didn't paid any attention towards this issue and all the finances that were meant for the power generation were used in defense and weaponry, as after India's nuclear tests in 1974 the government devoted maximum finances and resources for Pakistan's own nuclear project.

In 1995 the government again felt the need for new power projects in the country and for that they started Ghazi barotha project, which started in 1997 and completed in 2002. Similarly Chashma power plant was built with cooperation of China in 2003. But the energy demands were increasing day by day and rose to double in 2007-2008.

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Currently Pakistan is facing worst energy crisis in all sectors like electricity, water for agricultural needs, natural gas etc.

#### ELECTRICITY CRISIS:

Pakistan had a total installed power generation capacity of 21, 000 MWh in 2011. However, dependable or de-rated capacity is in the range of 14, 000 to 16, 000 MW during the year, due to variety of factors, whereas demand for electricity is increasing at an average annual rate of eight per cent. As a result, people are facing 12 to 16 hours of load shading in summers. The crisis has crippled the GDP of Pakistan and has fallen from the record mark of 8. 5 to 3. Industries have become powerless, exports have decreased, foreign investment in the country is gone and unemployment in the country has increased.

A threefold increase in energy demand over the last two decades has been responded to with an ill-proportioned increment at the supply end.

Consequently, with the advent of 2008 the gap between demand and supply of electricity grew upto 6000MW indicating a 40% deficit of electricity. The prevalent energy crisis has not appeared overnight, the omens were evident for a number of years but the authorities failed to react in time. Senior WAPDA officials claim that in 2002 the government was officially warned about the approaching electricity crisis and was asked to take immediate measures to enhance generation capacity. The timely warning failed to receive any appreciation

#### NATURAL GAS:

Problem of short fall of natural gas available to public is also a problem which

has been running in parallel with electricity problem. Due to the high price of gasoline, petrol and diesel etc. the people started using natural gas for transportation, due to which the demand for natural gas rose to double. And for that reason many plant for generating electricity via natural gas are shut down.

CNG has been in use by Pakistan since 1992. In the beginning, Pakistani Government persuaded the public, time to time, through media to use CNG kits in their vehicles. Also, investors were offered discounts if they invested in CNG refill stations. Lack of petrol and diesel and oil crisis while the easy availability of CNG and its properties like it pollutes the air much lesser than oil, became the factors which influenced the public with a CNG revolution.

The public started using CNG in a few years; especially the public transport was now running on CNG. According to the statistics of 2009, there were 21, 91, 000 vehicles using CNG Engines/CNG Kits and 2941 CNG refill stations in the country. The industrialists also started using natural gas a fuel instead of oil in their industries. As a result the country which whose consumption of natural gas 23. 4 billion cubic meters in 2001 had a consumption of 42. 9 billion cubic meters in 2011 Pakistan is the second largest country in the world in the consumption of CNG.

Unfortunately, with increase in the demand of natural gas for commercial and or domestic use, its production was never increased. As a result the country started suffering from the shortage of an important energy resource. Pakistan's gas fields are only expected to last for about another 20 years at the most due to heavy industrial usage 29% of our natural gas is used by

IPPs. In order to provide gas to IPPs which run on natural gas, CNG stations and natural gas runned industries are forced to remain close four days a week and in winters, this problem becomes more worse and domestic users also face this shortage.

OGRA officials say that they had indicated massive shortfall in demand and supply of natural gas in its annual report issued in 2002 and had suggested for increasing local production or arranging timely imports to bridge the shortfall from 2009-10 onwards to avoid crisis alike situation but Government did not pay an attention to this problem.

Approximately 22 trillion cubic feet of projected gas reserves of Kohlu district are lying idle at the moment whereas reserves worth 10 trillion cubic feet (tcf) in Zin block of Baluchistan have been discovered. Moreover, nearly 10 tcf gas reserves have been discovered at DeraBugti but the production stage seems very far and the main reason behind this is lack of proper interest by the Government. Other than announcing new load management plans, Government has not taken any worth noting step for uprooting this problem

Many experts are of the view that Pakistani Government receives commission on buying petrol. Therefore, it creates an artificial CNG crisis to increase petrol consumption, which consequently results in increase of its commission. Another apprehension is that the government wants to distract public's attention from its policies, that's why it creates the crisis. It is also believed that CNG crisis is created to inflate CNG prices..

**POLITICAL INFLUENCE:**

Many projects of electricity has not yet been started due to political reasons, like Kalabagh dam, Tanda dam and Hab dam. Similarly natural gas projects between Pakistan, Iran and Tajikistan were also pending due to international political pressure. Due to the rising tension between Iran and USA on nuclear issue the Pakistan-Iran gas pipeline project is badly disturbed. The political leadership of Pakistan has not taken firm stand in front of the whole world in this regard. If this project completes then much of the shortfall of natural gas will be solved for almost next 20 years.

Construction of Kalabagh dam which can provide 3600 MW of electricity is delayed due to lack of consensus among the provinces. Khyber Pakhtunkhwa Government is of the view that while the reservoir will be in the Khyber Pakhtunkhwa, the dam's electricity-generating turbines will be just across the provincial border in Punjab. Therefore, Punjab would get royalties from the central government in Islamabad for generating electricity. Although, Punjab has also agreed not to claim any royalty on generation of resources from Kalabagh dam yet the concerns of the KPK Government could not be removed. On the other hand Sindh Government is of the view that their share

of the Indus water will be curtailed as water from the Kalabagh will go to irrigate farmlands in Punjab and Khyber Pakhtunkhwa, at their cost.

As a result of strong opposition on the construction of the dam from the provinces, on 26 May 2008, Federal Minister for Water and Power of Pakistan Raja Pervez Ashraf abruptly cancelled the project and that Kalabagh Dam will not be constructed.



One of the major limitations that have hindered energy prosperity in the country is short-sightedness. There has not been a meaningful and coherent energy policy in place over this period. The approach has been “ project-oriented,” rather than “ goal-oriented.” Almost every regime has dealt with energy on an ad hoc basis. Long-term and sustainable planning of energy have been an alien concept. The reason is fairly simple; energy projects usually require huge investments and commitment, making them undesirable to any regime.

A typical example is the Independent Power Producers (IPPs) saga of the 1990s. In an attempt to avert an approaching energy crisis, as a result of negligible capacity addition during the 1980s and the early 1990s, the regime in 1993-94 decided to go for thermal generation through the IPPs. Undoubtedly, the IPPs provided a very healthy contribution at the supply end, enhancing power generation capacity by more than 7000MW.

Nevertheless, this power addition cost the country a fortune – apart from the controversial tariff structure, the move was against the spirit of energy sustainability and security for the country. The fact that the IPPs were set up at the terms of the investors suggest that it was a move made in panic. The production of electricity using furnace oil and natural gas came out to be very costly which resulted in tremendous inflation in the country. Today, the government has a circular debt of 420 billion rupees to be paid to IPPs and hence the IPPs are unable to buy furnace oil for electricity production and as a result IPPs produce only around 3500MW of electricity.

In spite of making long term and productive projects of electricity production, the Government used the energy crisis situation for making

money. For the first time in our history, the name of “ Rental Power Plants” was introduced and the plan was to produce electricity by hiring power companies which will produce electricity for us for a short duration of 4 to 5 years. The Government said that it will add 2700MW of electricity to the national grid by using RPPs. The Government signed awarded contract to 19 rental power companies and paid an advance of 16 billion rupees to them but only one RPP became operational as scheduled, adding only 62 megawatts of electricity to the national grid. The supreme court has taken notice of this situation and a case regarding corruption in RPPs is in the court.

Alternative Energy Development Board was founded in may 2003 by Musharaf which aimed at the construction of Renewable energy resources in Pakistan especially using wind and solar energy. It has completed a few projects of 50 MW to 100 MW in sindh and Balochistan but most of its projects have been delayed due to corruption and lack of release of funds by the Government. The board was to add 700 MW of electricity produced in the national grid by 2010 but the target has still not been achieved. The water issue between India and Pakistan also supported the energy crisis in Pakistan, as India is building dams on rivers which under the claim of Pakistan according to 1960’s pact.

#### PEOPLE REACTION:

DAWN has done well to analyze in its back-to-back editorials (July 22 and 23) the burning issue of energy crisis and the public reaction to unbridled load shedding across the country. Instead of adding to the frustration the people

find themselves in, it has rightly underscored the need to come up with short-and long-term solution to the nuisance, and its effective management.

Power riots, though not altogether devoid of spontaneous reaction to a genuine grievance, hardly do any good to a country. It is a pity that the people resort to violence and eventually do a disservice to their own cause by following the herd instinct.

Protests in our part of the world are infectious and of late they have assumed the form of an epidemic. The disparity-ridden people are inclined to take to the street at the slightest provocation. Is there any point in damaging one`s own property and depleting one`s own resources by targeting utilities?

Are anger and anguish effective weapons to fight it out? How long will we continue to cut grass from under our own feet?

As for solution to the problem and load management, the public service providers (WAPDA and its subsidiaries) should sincerely inform people about the actual situation instead of clouding their minds with jugglery of words and figures.

One official comes up with figures and statements only to be contradicted by another. Keeping technicalities to themselves, they should draw up schedules to manage load (be it power tripping, outage or breakdown) and stick to them. This will make people realize the limitations of the companies.

Even distribution of electricity at the disposal will equally serve as a short-term management solution provided public utilities part with the culture of

exemptions. It will help them create a balance, say in a city, and the trouble shared will be the trouble half felt.

In this way they can avoid public wrath to a great extent. It is time the powers-that-be rose above petty politics and vested interests and stemmed the tide of national anger and hatred.

The public at its end should learn how to protest, that is, how to drive home its point before the corridors of power and how not to limit its own resources. Let`s learn from our past mistakes, for those who do not learn from history are condemned to repeat it.

#### SOLUTIONS:

Following are some steps and solutions to this energy crisis: All the departments of the Government regarding energy and electricity production should be restructured and only highly trained and experienced professionals should be made part of those departments.

Thar coal has the potential to provide 200, 000 MW power for the next 100 years. Thermal power is mostly produced by burning either natural gas or imported oil. The country is yet to switch over to coal from the indigenous source of energy that is estimated to be the third largest in the world with a reserve of 33. 0 trillion tons.

Pakistan has a potential of generating 50, 000 MW of electricity using hydro power. For this purpose dams should be constructed with national consensus on priority basis especially Kalabagh dam.

Pakistan has a potential of generating 2. 324 MW of electricity using solar power, roughly 80, 000 MW using geothermal energy, 50, 000 MW using ethanol technology and 50, 000 MW using wind power.

Steps should be taken to minimize line losses and electricity theft. There are a large number of people who use electricity by acquiring it through unfair means and use it without paying a single rupee.

Although Pakistan is a nuclear state, it produces only 3% of its electricity through nuclear means. Pakistan should set up new power plants to produce more and more electricity using nuclear energy. Pakistan has abundance uranium deposits, can be refined with centrifuge refining method at a reasonable cost. It was estimated that Pakistan can produce 50, 000 MW power from nuclear reactors.

Pakistan sugar industry crushes 30-40 million tons of sugarcane that yields about 12 million tons of sugarcane waste known as bagasse and it can produce over 2, 000 MW of electricity along with it rice husk can also be used.

Government should finance independent standalone power projects that can function in areas where there is no national grid, this way the local communities and businessmen can set up their own energy solutions without taking prior permission from the National Electric Power Regulatory Authority (NEPRA) like they have to now

So in order to tackle the existing crisis and ensure a prosperous energy future, the backbone of the future energy policies would have to be reliance

on domestic resources (hydropower, coal and solar and wind energy) and energy conservation. Decisions on energy projects should revolve around national interest rather than naïve political and personal gains. Energy offices should be run by qualified, committed and deserving people equipped with due mandate. Relevant ministries and departments should also be overhauled.

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