

*The Presidential Address*

**Energy Security and Economic Sustainability:  
The Way Forward**

ASAD ZAMAN

Honourable Minister for Planning, Development and Reforms and Chancellor PIDE, Past Presidents and Distinguished Members of the Society, Excellencies, Ladies and Gentlemen,

It is my pleasure to welcome you all to the 29th Annual General Meeting and Conference of the Pakistan Society of Development Economists.

On behalf of the members of the PSDE, I would like to thank you, Honourable Prof. Ahsan Iqbal for having spared your precious time to open this important meeting. I would also like to especially thank our members and guests who have come from different parts of the country and from different continents to participate in the Conference. We are extremely pleased to see here today many young students—Pakistan's future economists and business leaders—who I am sure are enthusiastic to learn from the many leading specialists attending this Conference on the critical issue of 'Energy' that we in Pakistan face today.

Let me join Dr Durr-e-Nayab in especially welcoming Dr Ilhan Ozturk, Professor at the Çağ Üniversitesi in Turkey who will be delivering the The Mahbub Ul Haq Memorial Lecture. Dr Prof. Zhaoguang Hu, Vice-President and Chief Energy Specialist at the State Grid Energy Research Institute in Beijing who will deliver Gustav Ranis Lecture. Professor Mohan Munasinghe, Chairman of the Munasinghe Institute of Development, Sri Lanka who will be delivering The Allama Iqbal Lecture and Dr Rajendra K. Pachauri, Chief Executive of the Energy and Resources Institute, New Dehli who will deliver The Quaid-i-Azam Lecture this year.

*Ladies and Gentlemen,*

The limited access to commercial energy combined with widespread shortages is inhibiting economic growth and employment generation. In the last ten years or so, growth in the supply of energy has failed to keep pace with the growth in demand. The energy constraint has contributed significantly to the Pakistan's economic growth along a low trajectory for the past couple of years.

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It is this backdrop that has led us to hold this year's annual conference on the theme of 'Energy', to look deeply into the causes of the crisis and develop recommendations to address it. Moreover, to encourage research on the subject of 'Energy' we, at the Pakistan Institute of Development Economics, also initiated a research competition for our staff. Research proposals were invited in the month of May this year. After a thorough and competitive process, five studies were awarded. I am pleased to report that three of these studies will be presented in this conference.

*Ladies and Gentleman,*

Pakistan's energy crisis, as we know well, has many facets. Supply shortages, transmission losses, power theft, circular debt, high cost, inefficient use, poor governance and weak regulation, all have contributed to the crisis that we face today. To overcome the crisis, a comprehensive policy that accounts for these issues was called for and I am happy to note that the national power policy announced by the government seeks to address all the issues that plague the power sector.

It is well known that our current energy mix is too costly. In the Power Sector, out of the total installed capacity, only about one third is accounted for by hydro power and the balance comes from thermal sources. The costly energy mix is not only at the root of the problem of circular debt but is also straining the macroeconomic environment. The costly mix contributes to excessive government borrowing from the central bank, inflation, depreciation of exchange rate, depletion of foreign reserves and higher trade deficit.

We know that hydro power is one of the cheapest sources of power and that huge hydro power potential is available in the country. Regrettably we have not been able to tap the potential due to lack of political consensus over large dams. Focus on small hydro power projects on the canal and river system will help increase the share of hydro power in the power mix. Reportedly the potential for this source is significant and the projects can be developed quickly with relative ease.

Coal based technologies and the nuclear technology offers cheaper ways of generating power and the government has decided to increase reliance on these sources for developing the cheaper energy mix. The environmental concerns associated with coal based thermal power projects are substantial, which call for using clean coal combustion technologies to conform to international standards. Similarly, one hopes that the best available safety measures will be introduced in the nuclear power plants.

Under the 18th amendment the provinces have been allowed to generate electricity but still the provinces have to look towards the centre for a host of issues like the sovereign guarantees. Given that almost all the potential for generating electricity is in fact located in the provinces, the number of power generation projects that the provinces have initiated and the megawatts of electricity that these would generate, is rather low. Perhaps greater attention is required to resolve the problems faced by the provinces in this regard. A dedicated intergovernmental forum involving the federal and provincial governments is called for to speed up the resolution of the issues being faced by the provinces in initiating power generation projects.

The renewable energy sources can be used in a decentralised setup which saves the investment required for extending the grid to the generation point. The added benefit of

using alternate energy sources is that these are environment friendly. Therefore efforts should be made to use alternate energy sources like wind, solar and biomass to generate electricity. I am pleased to note that the letter of support for a 450 megawatt wind project has already been issued by the government and the feasibility of several wind, solar and biomass power projects is being assessed.

While we make efforts to bridge the demand-supply gap, we should be cognizant of the possibility that demand may increase rather rapidly. Currently we are using only a fraction of the per capita energy used in developed countries. Our per capita energy consumption at 489 kg of oil equivalent is even less than India's 575 kg of oil equivalent. This clearly suggests that demand may increase at a fast pace as the economy and the population grows. The measures aimed at meeting demand should keep in view the possibility of very rapid growth in demand for energy.

The severity of the power crisis should not be allowed to lessen our focus on the oil and gas sector and fortunately this has not happened. While the initiatives under consideration to import gas through pipelines are needed to meet the energy needs in the coming years we should continue to focus on oil and gas exploration for a sustainable supply over a long period of time.

Roughly around 29 trillion cubic feet of natural gas remains unexplored. To encourage exploration we need to revisit the policy in this regard. The well-head gas price has failed to offer adequate incentives to the exploration and production companies to explore indigenous gas resources. Though, the Petroleum Policy 2012 offers good enough well-head gas prices but still Pakistan is far behind the countries of the Asia-Pacific region in attracting upstream investments. Not only policies are fragmented, a uniform policy for exploration in all geographic locations of Pakistan, may not provide enough incentives, to explore and produce in difficult locations.

Shale Gas is relatively new area that calls for immediate policy attention. Crude estimates suggest that over 50 trillion cubic feet of Shale Gas in the lower Indus Basin and approximately 150 trillion cubic feet in the entire Indus Basin is available for exploration. However due to the inadequate policy incentives, absence of geological data, lack of know-how and lack of access to required technology, initiating the exploration of Shale gas seems difficult in the next few years.

Moreover with the emphasis upon altering the energy mix and relying more upon coal for power generation, the known coal fields need to be developed at a fast pace. This, however, requires huge capital investments in addition to transmission networks. Both require appropriate incentives from government.

So far I have discussed measures required to increase the supply of energy however managing demand is equally important.

Energy intensity in Pakistan is more than double the world average and more than five times that of Japan and the UK. Moreover, for each dollar of GDP, Pakistan consumes 15 percent more energy than India and 25 percent more than the Philippines.

A conservation culture should be inculcated right at the schools by emphasising upon and demonstrating conservation to the kids. The culture needs to be fostered by using energy efficient technology and equipments, designing energy efficient buildings and improving the efficiency of existing energy infrastructure. The chief merit of the conservation strategy is that it is environment friendly.

A conservation programme based upon use of energy savers is already underway. It is said that if all the 50 million consumers are converted to fluorescent bulbs a saving of 1000 megawatts is possible. If this is true, one should give a thought to enacting a legislation banning the manufacture and import of non-fluorescent bulbs thereby gradually phasing out their use.

While we put in efforts to alter the present costly energy mix and conserve energy, we should be cognizant of and stand ready to tackle sinister moves aimed at killing such initiatives. For instance, efforts were made in the past to blend fuel ethanol with gasoline. Evidence suggests that efforts from the oil lobby led to calling off this initiative.

Finally, Ladies and Gentlemen, the regulation of monopolies or industries that have few players is crucial to safeguard the interests of the consumers. The two regulators of the energy sector, NEPRA and OGRA are still young and need strengthening to become independent, transparent and strong regulators. For instance the NEPRA is primarily focused on determination of tariffs and licensing and has not indulged in making power producers efficient. Reportedly the thermal power plants in Pakistan consume substantially more fuel than power plants in Bangladesh and India. However, the NEPRA, despite enjoying the mandate, is yet to force the power producers, to augment the efficiency of their plants to international standards.

With privatisation of the electricity distribution companies and further privatisation in the oil and gas sector, the role of the regulator will become all the more crucial. It is very important that a sound institutional framework is developed to ensure that lobbying by the private sector does not influence the regulator. It will promote the cause of transparency if the NEPRA widely publicises the dates when the applications of the distribution companies for revision in tariffs are to be heard, so that the public, including experts may attend. It would also further the cause of transparency if the two regulators can widely publicise the detailed computation of price/tariff revisions. Public scrutiny of such tariff revisions will force the regulator to be more meticulous in determining tariffs.

Ladies and Gentlemen, I conclude with the hope that this conference will offer practical recommendations for alleviating the energy crisis.

I thank you for your patient hearing.