

Pakistan's energy crisis, potential and security

Hussain Ahmad

Environmental Protection Agency, Khyber Pakhtunkhwa, SDU Building, Old Courts, Khyber Road, Peshawar
depa_kp@yahoo.com

Abstract

Energy plays an important role in economic development. Due to limited supplies and lack of infrastructure development for provision of energy to main sectors of economy such as industrial and agricultural sectors, energy demand far exceeds the energy supply. The non-availability of sustained and affordable energy to these sectors has suppressed economic growth and created declining tendency for investment in the country.

The per capita energy consumption, which is one of the key development indicators as well as a measure of quality of life of a country, is low with only 14 million British thermal units (Btus), as compared to 92 million Btus for Malaysia and 34 million Btus for China. The input dependence of the country for energy at 24 percent is also high.

Pakistan has an immense potential for renewable energy growth and development. The three provinces of Pakistan i.e. Khyber Pakhtunkhwa, Baluchistan and Sindh provide vast untapped resources for hydropower, wind, solar and geothermal energy sectors. These sectors, therefore, represent an additional opportunity for the commercial sector and foreign governments to take on workable investments that will also assist Pakistan in exploiting its cleaner forms of energy.

Pakistan is blessed with a hydroelectricity potential of more than 50,000 MW. However, only 15% of this hydel potential has been harnessed so far. The remaining untapped potential, if properly exploited, can effectively meet Pakistan's ever-increasing demand for electricity in a cost-effective way.

Pakistan has a total installed power generation capacity of about 20,000 MW. Thermal plants using oil, natural gas and coal make up about 65 per cent of capacity (32% Public sector and 33% Independent Power Producers (IPPs), hydroelectricity making up 31 per cent, nuclear and alternate energy, 2 per cent each only.

Based on the present installed generation capacity, the country's Hydel: Thermal mix is 28:72. This is almost the reverse of the ideal Hydel: Thermal mix of 70:30, which would be much more cost-effective from the point of view of the country's overall economic development.

With no significant new generation capacity, Pakistan has to face a gap of more than 5000 MW between peak demand and firm supply in the years ahead. Estimates suggest that the loss due to this power shortages runs into tens of billions of rupees a year. Assuming overall economic growth of 6-7 percent, energy demand will double in 9-10 years.

National Energy Vision 2030 covers aspects like policy formulation, alternative energy sources, attraction of investments and developmental strategies. Overall response of the Government is to develop energy through (i) enhancement in the exploitation of hydropower, and exploration and production activities of oil, gas and coal resources, and to increase the share of coal and alternate energy in the overall energy mix, (ii) optimum utilization of the country's resource base to reduce dependence on imported oil through an institutionalized strategy, (iii) creating an environment conducive to the participation of the private sector and (iv) developing the local energy scenario in the context of regional perspective.