

## COAL RESOURCES OF PAKISTAN WITH SPECIAL REFERENCES TO SOME COALFIELDS OF KPK

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### Abstract

Coal is a vital component of world's energy resources, even presently it contributes to nearly 41% of world's primary commercial energy requirements (IEA, 2012). Among our neighboring countries China is generating 81% of its electricity from coal while India is generate 68% of electricity from its coal. Unfortunately in Pakistan the share of coal to produce electricity is negligible, even though Pakistan is a coal rich country having huge (186 billion tons) coal resources.

Most of world lignite occurs in Asia and a sizeable part of Asian coal potential exists in Pakistan. Coal occurs in all four provinces of Pakistan and also in Azad Jammu Kashmir. Coal is found in Paleocene rocks except in Baluchistan where it is found in Eocene age rocks.

In Khyber Pakhtunkhwa (KPK) coal is found in Hangu, Karak and Cherat areas. Recently coal mining in Darra Adam Khail and near Abbottabad and Balakot areas of Hazara, have been reported but those deposits have not been geologically investigated.

Coal is found in Kohat and Hangu districts as well as in tribal Orakzai agency. The majority of coal mines are in tribal area, in survey of Pakistan topo sheets 38 0/2 and 38 K/10. Coal deposits of Hangu-Orakzai agency are found in upper part of early Paleocene Hangu Formation, which is predominantly sandstone with some carbonaceous clay-siltstone. In this area only one coal seam has been observed. The proximate analyses show that this coal is high in ash and sulphur. The high ash seems to be due to presence of these coal near margin of swamps and probably the paralic nature of these swamps give rise to high sulphur, according to calorific value the rank of these coal ranges for subbituminous B to medium volatile bituminous, highest rank in Pakistan coals. Petrographically these coals are rich in vitrinite and conspicuously deficient in liptinite macerals. The average intertinite content is 11.2%. The estimated reserves of this area are 80 million tons.

Cherat coalfield occurs in Cherat range, in Nowshera District. The coal is found in Hangu Formation. This is a small coalfield. The rank of coal is lignite with calorific value of 6400 Btu/lb. GSP has calculated a total of 9.0 million tons reserves.

Coal can play a vital and significant role in reducing Pakistan's dependence on its useful but limited supply of natural gas and reducing burden on foreign exchange being spent on import of oil. Initiative has to be taken for increased utilization of coal in following fields; coal fired electricity generation plants, in cement and sugar industries as fuel and coal briquetting's fuel for house hold consumption.

The huge coal resources of Pakistan can play significant role in meeting the energy demand of our country for a long time, but unfortunately this has been neglected so far.