

Exploring the opportunities of renewable energies in the Khyber Pukhtunkhwa: A case study of FATA

Attaullah Shah¹, Sharifullah¹ and Irfan U.Jan²

¹ *Allama Iqbal Open University, Islamabad, Pakistan*

² *National Centre of Excellence in Geology, University of Peshawar*

Email: pd@aiou.edu.pk

The extensive exploitation of the fossil fuels has led to severe shortage of these resources on one hand and many environmental issues like global warming, climate changes and ozone layer depletion on the other hand. The high cost of energy and lack of law and order has severely affected the socio-economic conditions of the country in general and Khyber Pukhtunkhwa as well FATA in particular. The continued power outages have further worsened the situations in the region. At the other side the potentials of many renewal energy resources such as solar energy, hydel power etc have not been harnessed in these areas. In this study the solar energy resources for solar heating and solar PV systems for power generation have been considered for potential utilization. The availability of long and continued solar energy in the KP and FATA regions in summer and winter provides ample opportunities for its utilization and conversion for solar heating and solar power supply. The cost benefits analysis of such systems has showed that solar energy can be used effectively and efficiently in the KPK and FATA in solar heating and power systems.