

## **Hydrocarbon Prospects in the Khyber Pakhtunkhwa: Future strategies**

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Recently, the Khyber Pakhtunkhwa (KPK) has emerged as a significant contributor in the energy sector of Pakistan following major Oil and Gas discoveries in the Province. In addition to hydro energy supply, this Province is now contributing significant amount of hydrocarbons (18.32% oil and 2.14% gas) in the primary energy supply of Pakistan. Most of the area of KPK is still lying unexplored and therefore, there is a potential of future hydrocarbon prospects in the Province. This study, while providing an overview of the Oil and Gas prospects of the KPK, is aimed to suggest future exploration strategies and target areas.

The Indus Basin, a major hydrocarbon-bearing, sedimentary basin of Pakistan, is having all the major discoveries so far. The Kohat sub-basin, a northwest extension of the Indus Basin in KPK, is the main hydrocarbon producing Basin of the Province.

Despite the fact that the first hydrocarbon discovery was made in the adjacent Potwar sub-basin in 1915, the discovery of hydrocarbon in the Kohat sub-basin is relatively recent and started with a breakthrough discovery from Chanda-1 by Oil and Gas Development Company Limited in 1999. Following this discovery, around 10 hydrocarbon fields have been discovered in the Kohat sub basin since then. The year wise hydrocarbon production has increased from 1.2 to 7.8 million US barrels of crude oil and 20161 to ~125259 MCF of natural gas over the time span of about 05-06 years from 2005-6 to 2010-11. The balance recoverable known reserves are 82 million US barrels of crude oil (31% of the country's total) and 2.3 TCF of natural gas (8.5% of the country's total). Worldwide, discovery ratio amounts to one success per ten wells drilled, however, the discovery ratio in Kohat sub-basin is better than international standards. The high success ratio and the increasing trend in the hydrocarbon production are positive indicators of the future potential of this province.

It is proposed that the hydrocarbon contribution of this province may considerably be improved to meet the growing energy demand of the country by adopting the latest available techniques for conventional hydrocarbon exploration, by selecting new target areas, and by considering the unconventional hydrocarbon resources, such as tight gas.

Now that the provinces have been declared as equal and joint owners of the natural resources after the 18<sup>th</sup> amendment to the constitution of Pakistan, the responsibility on KPK has increased many folds to be able to further develop and manage its natural resources. It is time to streamline policies involving all the stakeholders. It is emphasized that all policy matters must involve full participation in the decision-making process, of the highly qualified, geoscientists of the academic institutions of the Province.