

Pakistan's Major Petroleum Plays - An overview of Dwindling Reserves

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The existing oil and gas reserves of Pakistan are on a very steep decline. Pakistan has already consumed more than 66.5% of its 934 million barrels discovered oil and about 45 % of its 54 TCF gas reserves. Most of the oilfields are at their mature stage of producing life where the production could drop even more rapidly. About 50% of Pakistan's reserves were discovered during first 10-15 years of history of exploration, while the remaining 50% reserves have been added during the last 40-50 years. Despite having a vast sedimentary area, world-class exploration success rate, the size of the new discoveries has gone down to their commercial thresholds. Analysis of exploration data suggests that we have already explored most of conspicuous structural features and remaining potential of some of the plays seems to be marginal.

Major plays (almost all structural), which have contributed significantly toward the discovered oil/gas reserves include: Sui Main Limestone (54%), Lower Goru Formation (14%), Habib Rahi Limestone (13%) and Pab Formation (13%). Basin-wise success rate has been the highest for lower Indus Basin (due to strings of discoveries in quick succession in relatively small tilted fault blocks in Lower Goru reservoir). The paper will give an assessment of creaming curve analyses of different plays and their remaining petroleum potential.

There is no quick fix for issues related to the oil and gas exploration in Pakistan. Major challenges facing Pakistan's E & P industry are: (1) a negative reserves growth, (2) decreasing trend in size of oil/gas field (s), (3) resolution of security-related issues, (4) development of an integrated exploration strategy for accelerating exploration efforts in under-explored/frontier areas, (5) establishment and strengthening of R & D activities, and (6) training of geoscientists and engineers in the latest exploration/production skills.