

Project Description

The Afghanistan Energy Study aims to provide a comprehensive understanding of the country's energy sector to inform future investments and support the Government of Afghanistan plans to increase access to affordable and sustainable energy. Hence, the government of Afghanistan has been epitomizing on Developing Hydro Power Plants as a potential to increase the supply of electricity along with access. Qala-e- Mamai Hydro Power Plant is one of the high priority HPP potential projects in the energy sector along with other six potential hydropower sites (Sooch, Robot, Shurabak, Kuchi, Ghalawak, and Gurda Gaw) which all lie along Kokcha river have been selected to be constructed. Out of these seven sites, Qala-e-Mamai is the most promising site to generate the optimum level of power. The reservoir Level of Qala-e-Mamai Dam is 667 meter and the height of the dam is 161 meters, and the Catchment area is 20183 (km). Qala-e-Mami site is located near the villages of Qal'a-e- Mamay, in Yangi Qala district of Takhar Province. The average flow is 6040 M cubic meter and the Maximum and Minimum Head available are calculated 147.3 m and 142.3 m respectively with generation ranging from 430 MW to 460 MW. So, the proposed capacity of the project to the private sector is 445 MW and delivers 1756 GWH annually energy generation. The Project has is proposed to be constructed in seven years from the date of the award.

Scope of the project

It is proposed to have a Dam toe power house at distance of about 340 m from the axis of Dam. Kokcha River with the intake and steel penstocks located in the Non overflow section of the dam. The power house has an installed capacity of 445 MW having 5 Francis turbines driven generating units, each of 89 MW installed Capacity.



Qala-i-Mamay Dam

Project Summary



PPP Model
Design Build Finance Operate
Maintain (DBFOM)



Project location
Takhar Province



Lead Agency
Energy Sector Regulatory
Authority (ESRA)



Capex:
US \$ 1483.61M



Sector
Energy



IRR:
11.48%



Contract Period
25 Years



NPV:
US\$ 263.48M