

350 MW ATHMUQAM HYDROPOWER PROJECT

PROJECT PROFILE



**PRIVATE POWER & INFRASTRUCTURE BOARD
MINISTRY OF WATER & POWER
GOVERNMENT OF PAKISTAN**

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PROJECT PROFILE

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ABBREVIATIONS:

GOP	Government of Pakistan
PPIB	Private Power and Infrastructure Board
MW	Mega Watt
GWh	Giga Watt Hours
masl	Meters Above Sea Level
mm	Millimeter
m	meter
ft	feet
km	kilo Meter
km ²	Square kilometer
m ³ /s	Cubic Meter per Second
°C	Degree Celsius
BOOT	Build-Own-Operate-Transfer
%	Percentage

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1. INTRODUCTION

Pakistan is presently facing acute shortages of electricity while the Government of Pakistan (GoP) is targeting for substantial economic growth in the medium to long term. To combat the electricity shortage and to achieve high targets of growth all possible resources for power generation are to be used to sustain the economy. It is estimated that Pakistan would require around 2000-3000 MW annual addition for the next few years. The international geopolitical situation and unstable fuel oil and gas prices in the world have compelled Pakistan to look for additional resources for diversity and energy security of the country.

Pakistan is a water-rich country and is endowed with hydropower potential of more than **60000 MW**. The GoP is trying to facilitate and encourage private investors for promoting hydro power generation in the country and has allowed private sector to develop hydropower projects on Build-Own-Operate-Transfer (BOOT) basis. First private sector hydropower project – 84 MW New Bong Escape has been commissioned in March 2013 whereas second & third private sector hydropower projects -147 MW Patrind & 102 MW Gulpur have entered into construction phase after achieving respective financial close in December 2012 & October 2015 respectively. Other private sector hydropower projects with accumulative capacity of about 5000 MW are at advance stages of development. 350 MW Athmuqam Hydropower Project is one of the projects ready to enter into development phase in private sector under Power Generation Policy 2015.

2. LOCATION & ACCESS TO SITE

Neelum Valley is a 200 km long bow-shaped deeply forested region in Azad Kashmir. The project is located near Athmuqam town, in District. Athmuqam Town is headquarters of Neelum District located about 84 km from Muzaffarabad, in Azad Kashmir, Pakistan.



The Proposed Project Site is located on River Neelum near Athmuqam town at a distance of about 210 km from Islamabad via Murree-Muzaffarabad-Neelum Road. Further, the Proposed Project Site is about 310 km from Islamabad via Abbottabad-Balakot-Muzaffarabad-Neelum Road.

The Project area is accessible throughout the year via truck able metaled road. All the basic necessities of life are available in the Project area.

3. GENERAL TERRAIN

The Neelum Valley is situated at the North & North-East of Muzaffarabad, running parallel to neighboring Kaghan Valley. The two valleys are only separated by snow-covered peaks, some over 4,000 meters (13,000 ft) above sea level. The valley possesses scenic beauty, panoramic views, and towering hills on both sides of the noisy Neelum River, lush green forests, enchanting streams and attractive surroundings. The valley tops the best natural places in Pakistan.



The famous Neelum Valley is a V – shaped gorge through which the Neelum River flows. Neelum River also known as Kishan-Ganga River in occupied Kashmir. It enters Neelum Valley near Taobutt and continues its journey through narrow gorge between high mountains. It originates from glacial melts of surrounding mountain peaks. Different streams in the way add to its strength and the river finally tributes into river Jhelum at Domail in Muzaffarabad.

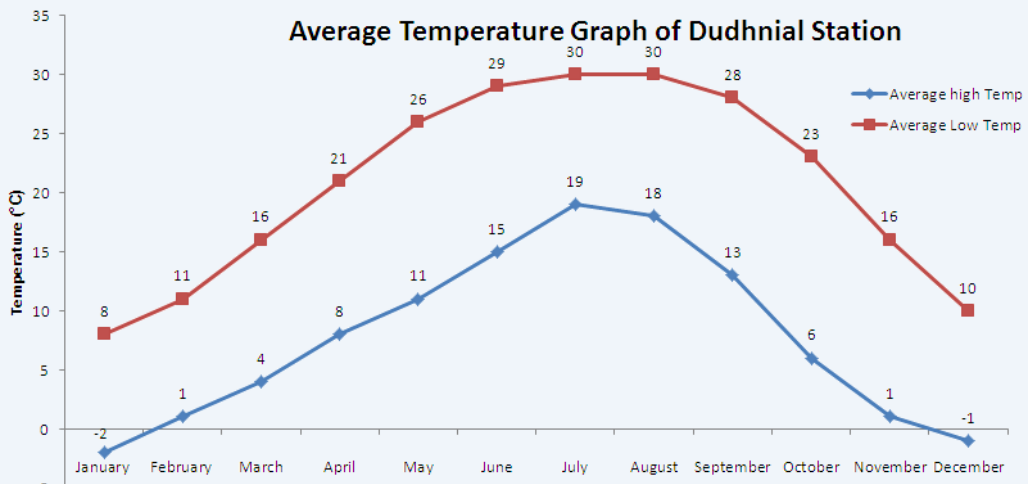
The Neelum River is the largest tributary in Jhelum River Basin having high specific discharge and steep gradient which offer promising sites for hydropower development. Of particular interest are those spots where the river bed drops by 5-20 meter in level over a short length forming rapids. These rapids offer opportunities of hydropower development by damming the flow in order to further raise the natural head.

4. CLIMATE & HYDROLOGY

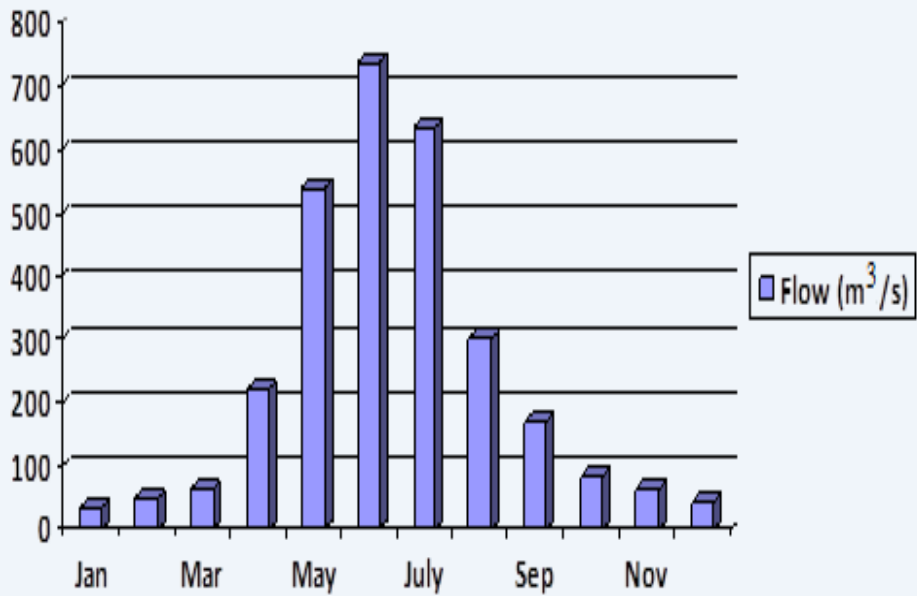
The project area falls in the lower non- monsoon zone having altitudes in the range of 1200 to 1350 masl. The annual rainfall in this region is between 1500-1800 mm most of which falls during winters.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max(Temp°C)	8	11	16	21	26	29	30	30	28	23	16	10
Min (Temp°C)	-2	1	4	8	11	15	19	18	13	6	1	-1

The Average maximum and Minimum Temperature at nearby Dudhnial Station is indicated below:



The winters are cold and summers are mild with low humidity. Mean annual flows at nearby Dudhnial gauging station are highlighted below:



5. SALIENT FEATURES

The tentative salient features of the Project are as under: -

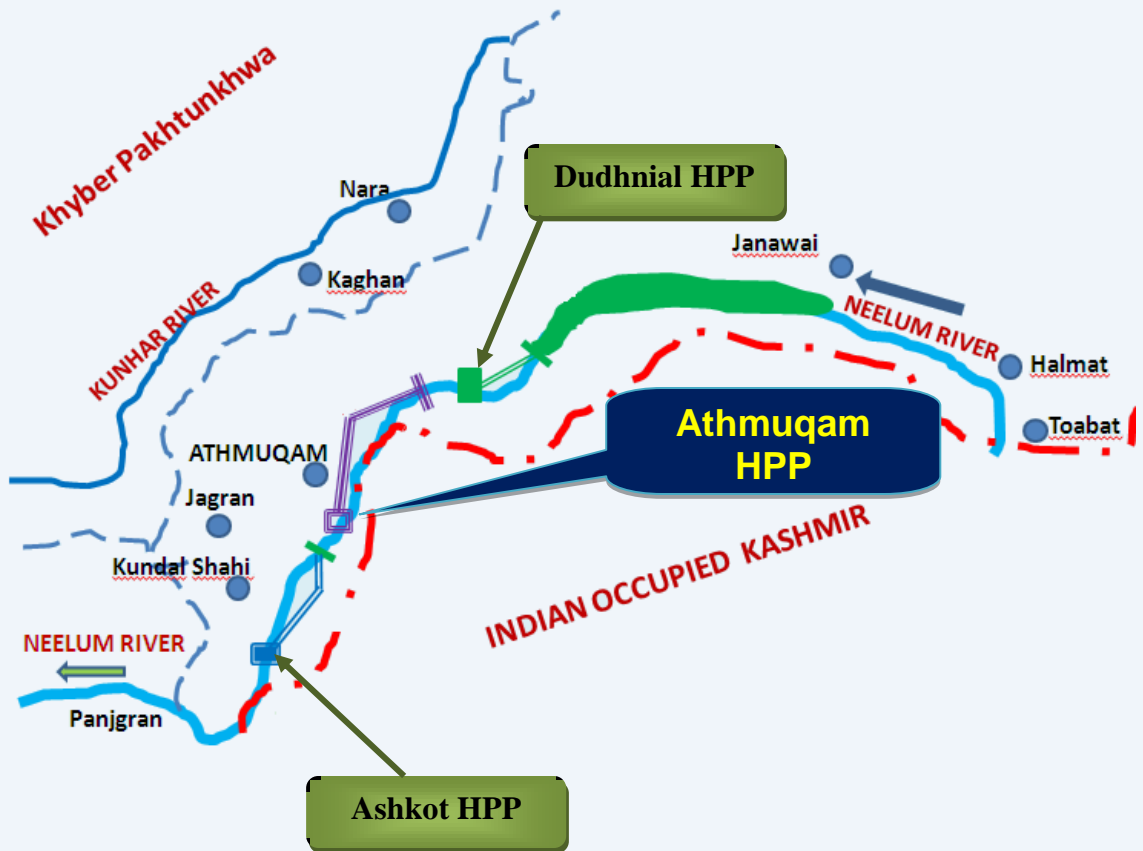
General

- Project Name : Athmuqam Hydropower Project
- River : Neelum
- Location : District Neelum (Upstream of Ashkot HPP & Downstream of Dudhnial HPP)
- Distance : 84-100 km from Muzaffarabad
210 km from Islamabad

Technical/Financial

- Capacity : 350 MW (Estimated)
- Project Type : Run-of-River
- Mean Annual River Flow : 250 m³/s (estimated)
- Status : Raw Site

6. LOCATION MAP





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