

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

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Ningxia Shapotou Hydropower Project of Yellow River (hereinafter referred to as the project) is a run-of- river hydro power project located in Ningxia of western China. The Project Owner is Ningxia Shapotou Water Control Co., Ltd. Ningxia is a poverty-stricken minority region with a total population of 5.78 million in 2004, 819,000 of which are living in poverty. Ningxia is droughty and rainless, and its annual average precipitation is only 200mm.

The project is located in Yellow River, Zhongwei City, Ningxia. The total installed capacity is 120.3MW and the electricity supplied to the power grid is 578.022GWh/yr¹. The power density is 29.48W/m². The electricity is connected to the Northwest Power Grid (NWPG) via Ningxia Power Grid.

The hydropower station of the project consists of riverbed power station, two canal head power stations on the north and south main canal respectively.

The riverbed power station uses four bulb tubular turbine units. The unit capacity of the turbines which lie in riverbed is 29MW.

The canal head power station on the north main canal adopts bulb tubular turbine units and the power station on the south main canal adopts tube type water turbine-generator units, and the total installed capacity of these two stations is 4.3MW (i.e. 3.1MW+1.2MW).

The project is could replace partial electricity of NWPG and reduce GHG emission of NWPG which is dominated by fossil fuel power generation. The estimated annual emission reductions of the project are 334,010 tCO₂e.

The project makes use of clean and renewable energy for power generation, which is beneficial to both the environment and society. Especially, it reduces poverty in Ningxia, and contributes to the local sustainable development in following aspects:

- The electricity generated by the project replaces a part of the electricity originally generated by coal-fired generating units and thus the local environmental pollutions is mitigated;
- About 2,800 jobs are provided due to the project construction and 120 due to the project operation;
- Harmonious development of the population, resources, environment and economy in the project area is achieved;
- The project is a pilot CDM project aiming at reducing poverty, which is very important in Ningxia, a poverty-stricken minority region. Thus it fully tallies with the Millennium Development Goals (MDGs).