

The Frieda River Hydroelectric Project

Frieda River Limited proposes to construct a world-leading green mine, with a low carbon footprint, enabled by a hydro power facility that will provide zero emissions electricity to the Project and local communities.



FRIEDA RIVER



The Frieda River site at night

The Frieda River Hydroelectric Project is located on the Frieda River, approximately 16-kilometres downstream of the Frieda River Copper-Gold Project.

The Frieda River Hydroelectric Project will have an installed capacity of 600 megawatts, configured to generate up to 490 megawatts, making it Papua New Guinea's largest single renewable power generation facility.

The Project aligns with the Government of Papua New Guinea's Development Strategic Plan 2010-2030 focused on providing energy, transport and infrastructure integrated with a major resource development.

The Project will store water to generate reliable low-cost hydroelectric power capable of providing clean, sustainable and reliable energy for more than 100 years.

The hydro power solution produces lower emissions than fossil fuel alternatives and creates the opportunity for us to electrify our mining fleet and vehicles.

Importantly, the Frieda River Hydroelectric Project will permanently contain processed tailings and mine waste rock. The Frieda Project will not practice riverine tailings disposal.

Frieda River Limited's strategy for limiting the impact on the downstream environment for the Sepik Development Project is to store and contain all potentially acid forming material underwater (also known as sub-aqueously) within the dam reservoir and to complete active treatment of water that encounters mining activities (contact water).

This solution is more expensive to build as compared to a conventional tailings dam, but is the most environmentally responsible solution, and offers the best long-term outcome for all stakeholders.

Underwater disposal limits exposure to air, which prevents contained sulphide minerals from becoming detached from the waste (leaching) and minimises downstream pollution.

The Project is designed as a safe, stable and non-polluting landform to address the high rainfall and seismic conditions in the area. The Project will comprise a 191-meter-high embankment, spillway, the hydroelectric power facility and the associated supporting facilities including buildings, roads and accommodation village.

The embankment was designed as a water retaining dam to safeguard downstream water quality and sediment loading in the Frieda and Sepik Rivers. A system of diversion tunnels, inlets and outlets, a diversion dam and upstream and downstream



cofferdams will provide flood protection during the construction of the embankment and powerhouse.

A quarry will be developed to supplement the rock material supply from the spillway excavations to construct the embankment. The Project has a gated spillway that safely removes excess water from the reservoir away from the embankment.

When completed and operating, the embankment will create a reservoir covering a surface area of 123 square kilometres at the maximum operating level. At this level, the embankment will store up to 9.6 billion cubic metres of water including a maximum mine waste rock and tailings storage capacity of 3.3 billion cubic metres.

Frieda River Limited recognises the importance of the Sepik River, both from an environmental perspective and the valuable contribution it makes to people's lives and livelihoods. The Frieda River Copper-Gold Project will adopt world best practices to safeguard the river systems for future generations.