

Nam Lik 1 Dam image below:



Nam Lik 1 project site below:



Nam Lik 1 Hydropower Project is located 90 km north of Vientiane in Hinheup district , downstream from the Nam Lik 1-2 dam and 9.6 km downstream of the Hin Heup Bridge on National Road 13.

The Nam Lik 1 hydropower project is developed by a four-member consortium consisting of Nam Lik 1 Power Company Ltd, PTT International Company Ltd, Hydro Engineering Company Ltd. and POSCO Engineering and Construction Company Ltd. .

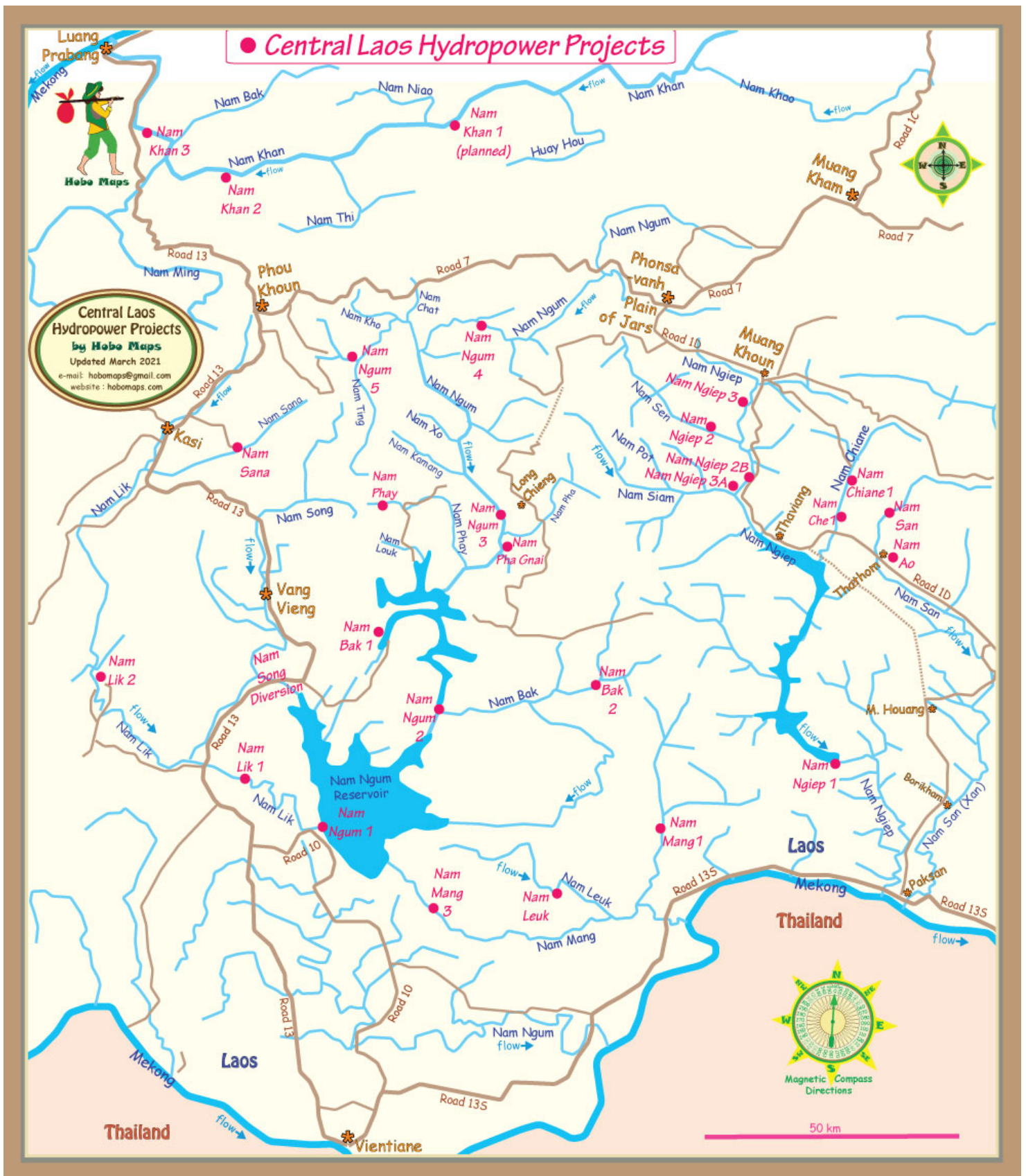
Estimated cost is US \$124 million.

The project is under a 25 year Build-Own-Operate and Transfer (BOOT) concession agreement and a Power Purchase Agreement with EDL that will be valid until the end of the Concession period.

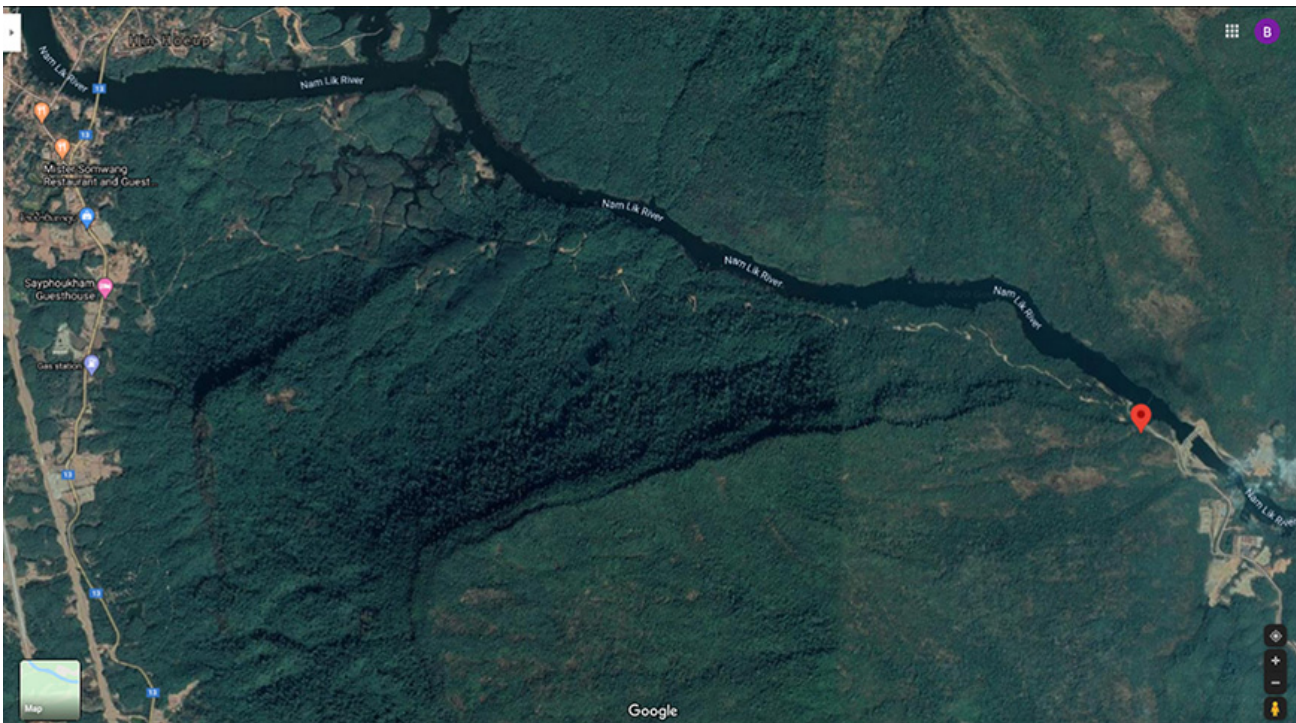
The two bulb turbine units of Nam Lik 1 have a total installed capacity of 64.5 MW and will meet the electrical energy demands of approximately 200,000 people in Laos. Average annual energy production may reach 248 GWh.

Although the maximum surface area of the reservoir will be 11.5 sq km, this is only about 7 sq km more than the area flooded by the regular natural high water level of the river. Motorists pass over this reservoir when they cross one of the Hin Heup bridges over the Nam Lik river on Highway 13. The reservoir surface is now almost up to the bridges all year long whereas in the past the river surface was far below the bridges in the dry season. The river has been in effect converted into a narrow reservoir.

On the map below the red line is the narrow reservoir while the orange line is the Nam Lik river below the dam.



Nam Lik 1 project is at far right of image below - Highway 13 is on the far left side.



Nam Lik 1 Power Company Limited

Turbines

Output: 2 x 32.25 MW/39.3 MVA

Head: 22.31 m

Speed: 166.7 rpm

Runner diameter: 4,500 mm

The layout of the project is comprised of three parts: headworks, diversion works and power station structures.

The headworks consist of the retaining dam and water intakes;

Diversion works consist of headrace tunnel, surge chamber and penstock;

The power station structures are main and auxiliary powerhouses and switch yard.

The project has a Surface Powerhouse located on the right side. The layout includes a tunnel diversion and a four gate spillway that will discharge an extreme flood without endangering the dam.

The powerhouse has a concrete offset scroll case and two generating Kaplan turbine units with total installed capacity of 60.4 MW. Assuming that the existing Nam Song Diversion operation rules remain unchanged, the derived average energy production is 248 GWh and the plant capacity factor is 48%.

The switchyard is located beside the powerhouse. It includes equipment for 115 kV transmission lines to the existing Hin Heup substation.

The Nam Lik 1 hydropower project is intended to qualify as a Clean Development Mechanism (CDM) project under the Kyoto Protocol and be eligible to receive carbon reduction credits. Annual average CO₂ reductions over the crediting period are estimated to be 122,145 tons. See the CDM application PDF document [HERE](#).

