

## Project Proposal <sup>1</sup>10

<b>Project title:</b>	<b>BULGAN SMALL HYDRO POWER PLANT, 150 KW</b>
<b>Project background, project outline</b>	<ul style="list-style-type: none"> <li>~ In the “National Program for Renewable Energy /2005-2020/” approved by the State Great Khural’s Resolution No 32 June 9, 2005, it was pointed out to perform feasibility studies of hydropower plant construction for electrification of selected 16 soum centers by using hydro energy resource.</li> <li>~ The proposed project for construction of Bulgan small HPP is one of the project reflected in the “National Program for Renewable Energy.</li> <li>~ A pre-feasibility study of the Bulgan SHPP project was done by the Ministry of Fuel and Energy of Mongolia in 2005.</li> </ul>
<b>Market orientation and market analyses, market survey:</b>	According to the National Program for Renewable Energy, same approach could be applied to the electrification of 15 soum centers in Mongolia.
<b>Cooperation mode:</b>	Loan
<b>Total investment:</b>	Estimated 0.61 million US\$ (2005)
<b>Requested Investment from foreign partners:</b>	Loan/private investment BOT Interest rate of 2 % and term of 15 years
<b>Project venue, construction venue:</b>	Bulgan soum, Bayan-Olgii aimag, Mongolia The Bulgan SHPP is located a 5 km from Bulgan soum center and too far from the aimag center, thus extension of energy system is economically not feasible. The aimag center is located 1,666 km west of the capital and highway and railway haven’t developed.
<b>Occupation area and construction area:</b>	150 kW SHPP with a 4.7 km long 10 kV transmission line and 5 km improved access road
<b>Estimated economic benefit</b>	Estimated annual electricity production – 0.8 GWh; Estimated annual revenue - 56 thousand US\$ (based on 7 US¢/kWh); Estimated annual O&M cost - 4.5 thousand US\$; NPV@8% - 0.62 million US\$ (taxes excluded); NPV@8% - 0.48 million US\$ (taxes included); IRR - 8.2% (taxes excluded); IRR - 6.1% (taxes included).