



RIO BLANCO: 2.3 Mw Quizarrá, Costa Rica

May 18, 2014



River Run Hydro seeks Rio Blanco investment partner for \$1.15 million cash and guarantee of a \$2.9 million construction loan for a 40% stake or full capitalization of \$4,050,000 for a 515 stake. This project includes the purchase of the land, 90 hectares, for a speculated price of \$400,000. The valuation numbers below include the hydro plant as well as the land cost. The hydro model for Platanares is summarized below.

Parameter	units	Value
Available Head	feet	625
Pipeline Diameter	inches	30
Flow velocity	feet per second	5
Penstock Flow	cubic feet per second	25
Flow Rate	gallons per minute	11010
Pipeline Length	feet	6000
Head Loss	feet per 100 feet	0.2
Total Head loss	feet	12
Effective head	feet	613
Turbine efficiency	percentage	85%
Hydroelectric Potential	kilowatts	1033
Annual operation period	months	9
Sell rate	\$/ kilowatt hour	\$0.11
Annual Revenues	dollars	\$736,024
Capital Cost	dollars	\$4,050,000
Payback period	years	5.5
Return on Investment	percentage	18.2%

Challenges

- 1) Must purchase property to do installation
- 2) Remote installation
- 3) Does not require secondary land use for economics to work.

Advantages

- 1) Multiple use land opportunities: reforestation, agriculture, and tourism.
- 2) Land is owned on both sides of the river.
- 3) Extensively deforested making internal distribution environmentally non-sensitive

Property: 90 hectare privately owned finca that bounds both sides of the Rio Blanco River, Herradura, Chirripó region, South central Costa Rica.

Access: Reliable 4WD access but fairly remote. Easy internal road improvements and access.

Grid: Single-phase passes less than two km from the target turbine location

Mode: Land purchase for \$400,000 and joint venture: distribution depends on whether investor underwrites construction or guarantees bank loan.

Profits: 5.5 year payback including the land, 18.2% ROI on a \$4.1 million capital investment

Flow Measurement: Flows are large but no measurement station yet installed.

