

Hydro Power from the Colliery Dams

(Steve Hill SH Scientific Systems Ltd. 250 900 5793)

- Two proposed installations: 100 kW on the upper dam, 325 kW on the lower dam.
- Each will include intake structure, penstock, powerhouse, and transmission lines.
- These facilities could be installed either as part of new dams or as add-ons to seismically upgraded dams.
- Project parameters estimated using RETSCREEN, from Natural Resources Canada
- Project assumptions: 30 year period, debt ratio 90%, inflation rate 2.1%, debt interest rate 6.5%, debt period 10 years, annual operating costs 1% of initial capital cost.

Dam	Capital (\$K)	Annual Income (\$)	IRR (%)	PCF (Year)	30 yr Cash Balance (\$K)
Upper	775	44,461	3.4	22.5	424
Lower	943	92,938	13.4	13	2,250
Totals	1,718	137,399	8.9	16.5	2,774

- Capital cost is an OVERESTIMATE
- Annual gross income is an UNDERESTIMATE
- End of project cash on hand: close to \$3 million, facilities are fully paid for and will continue to generate income into the future.
- This green energy project reduces City of Nanaimo greenhouse gases by 480 tonnes of CO₂ per year.
- Regional District just spent \$2.95M to generate \$100K of annual income from co-generation at the landfill
- Metro Vancouver plans to put turbines on their water reservoirs to generate green power.
- Let's go!!