



“Innovative Renewable Energy Systems Since 1980”

Postal Address:

P.O. Box 4557
Sussex, NB
E4E 5L7 CANADA

Physical Address:

745 Waterford Rd
Waterford, NB.
E4E 5B4 CANADA

Email, Internet, Tel/Fax Particulars:

hydropow@nbnet.nb.ca
www.microhydropower.com
T: + 506 433-3151; / F: + 506 433-6151

Dear potential grid connected customer,

Many people contact us concerning the possibility of using a power source that is either connected to the commercial power grid or feeding power to a house that is. While this may be possible, it is not likely to make economic sense. Over 99% of our customers are off-grid and there are reasons for this. The question is then more like: 'Can I put in a small hydro system or should I spend \$100,000 to bring in commercial power?'

Most grid customers use rivers of energy and think they are using a trickle. A hydro system producing 300 watts of continuous power can operate a house using lights, refrigerator, freezer, washing machine, well pump, and entertainment—for a family of four using energy efficient appliances. This would be with a battery/inverter system. Since there are about 720 hours in a month (24 x 30), this would be $720 \times 300 = 216,000$ watt-hours or 216 kilowatt hours (KWH). If you are paying ten cents per KWH, this would be worth \$21.60 each month.

You will notice that no heating loads were mentioned for our renewable energy (RE) house. This is because the usual heating loads (hot water, space heat, electric stoves) use very large amounts of power. Heat is the lowest grade of energy and electricity is the highest. Heat can be provided other ways—typically by the combustion of fuels or solar.

A typical hydro system producing a few hundred watts might cost between \$5,000 and 20,000 or more. Special equipment is often required to interface with the grid. If you are using words like 'payback', then this is likely not for you. Unless you are philosophically dedicated to such a project, it will likely not make sense for you to do this.

It is not realistic to expect a small hydro system to supply the same level of power as the grid can. This could cost well into six digits IF you had a suitable water source. As always, the first order of business is to reduce your needs—conserve, conserve.

Paul Cunningham
CEO of ES & D