

Stud Muffins & Kilowatt-Hours

They Ought to Call Them Sherpa Weeks

James R. Udall

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One barrier to thinking and caring about energy is jargon — the cryptic units by which energy is bought and sold.

A gallon of gasoline is easy to visualize, but what, pray tell, is a therm of natural gas or kilowatt-hour of electricity? Beats me, right? Unfortunately, until we understand how much work such terms represent, we can't hope to understand whether energy is a rip-off or bargain, or appreciate how much energy it takes to power our lives.

Consider the Kilowatt-Hour or Kwh

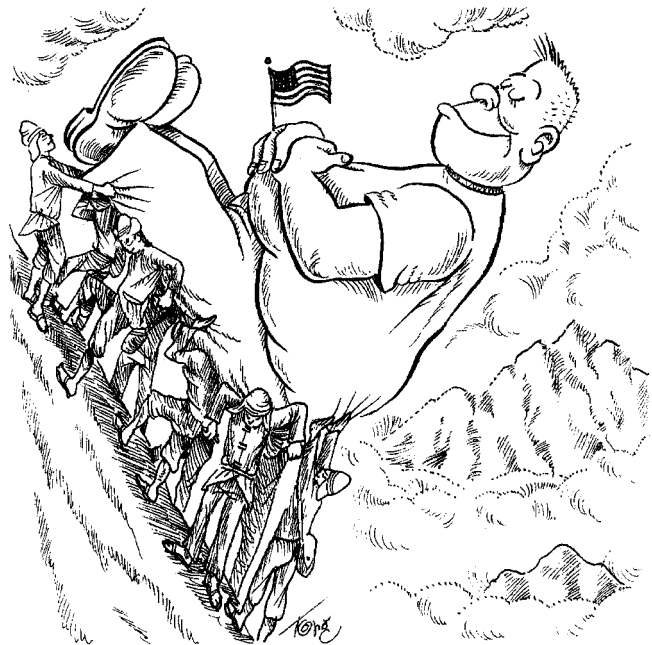
The standard definition of a Kwh, whose cost hereabouts is 7.5¢, is enough juice to run ten 100 watt light bulbs for an hour. But this tells us next to nothing about how much effort, in human terms, the unit represents.

With some math and head scratching it is possible, however, to convert kwh into more useful measures. It turns out that one Kwh is equal to about 2,600,000 foot-pounds; that's enough work to lift 2,000 pounds a distance of 1,300 feet. If that sounds like a lot, it is. Hire a strapping young man, a real stud muffin, to carry nine 94 pound bags of cement up a 3,000 foot-high mountain. You've bought a kilowatt-hour of work. Of course, the stud muffin would charge much, much more for it than your electric utility does.

Here's another analogy, carry (or hire a Nepalese Sherpa to carry) a 90 pound pack from sea level to the 29,000 foot summit of Mount Everest. In carrying the pack upwards, you or he would do about a kilo-watt hour of work.

Kilowatt-Hours? Or Sherpa Weeks?

Once we grasp that a kilowatt-hour represents a great deal of work, we can begin to appreciate how much energy it takes to keep American farms and factories, shops and schools, homes and hospitals, government and industry running.



If you divide total US energy use by the number of Americans, you discover that each American uses, in diesel, gasoline, jet fuel, natural gas, and electricity the equivalent of 240 kilowatt-hours — or 240 Sherpa weeks — per day.

Again, that's 240 pack loads up Everest — per person, per day. Hard to believe, but true.

Access

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Learn Micro-Hydro in British Columbia

Have you ever wondered about the energy available in falling water? This course will tell you how to determine the feasibility and cost-effectiveness of a low maintenance waterpower option (not necessarily nearby). Neither solar PV nor windpower can come close to competing with this technology.

These two day, fourteen hour micro-hydro courses are suitable for everyone, regardless of technical background. AC systems (see Home Power #33) to 50 kilowatt are included, as well as battery-based hydro. Upon completion, you will be able to assess the capability of a stream to meet your electrical needs, how to size system components, estimate costs, and have some basic installation guidelines. Each two day course is approx \$90 Cdn (approx \$65 US).

To Register Contact Either:

Course Date: Mar 25 & 26, 1995	or Course Date: May 13 & 14, 1995
Selkirk College	University College of the Cariboo
Nelson, BC V1L 1C8	Williams Lake, BC V2G 3P7
604-352-6601	604-392-8010

For more course information contact:

Bob Mathews, course instructor, at 604-679-8589.

Field trips and other course dates will be scheduled as demand requires.