

SMART METERS AND candle-lit dinners

BY PAUL WILSON



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The other day, I got a phone call from an electricity retailer, one of those companies that offer you stable electricity prices for a period of three or five years. Such offers seem to make sense, because every April and November, the Ontario Energy Board “adjusts” the price we pay for hydro, usually upward.

It wasn't the first time they'd called, yet in the past, I've always turned them down, and for two reasons. First, the price the retailers offered per kilowatt hour was always more than we were paying at the time. And second, because the cost

of the electricity itself is only a fraction of the total monthly power bill, the savings have never seemed that significant. The rest of the bill – up to 60 per cent most months – is made up of annoying extras like cost of delivery, debt retirement, something called “regulatory charges,” the new HST, plus an additional 1.1 per cent to make up for “losses in transmission.” Nobody is offering us savings on that part of it.

In the meantime, however, a lot has changed, or is about to, in how we are billed for electricity. Most of us will soon have activated “smart meters” that can record not only how much we use, but what time of the day we use it. It's called Time of Use (TOU) metering and as the system is rolled out across the province, the utilities will charge us higher rates during peak periods – midday in the summer, mornings and evenings in the winter – when the cost of producing electricity goes up. Parts of Ontario, notably Toronto, already have TOU billing, and since May 1st of this year, they've been paying 9.9 cents per kWh at peak, 8.0 at mid-peak, and 5.3 from 9 p.m. to 7 a.m. on weekdays, and all weekend. These prices will probably go up again.

The new system makes a lot of sense. During the daily peaks, the nuclear power plants that are the main providers can't keep up with demand, so the coal and gas-powered plants are brought on line to make up the difference. Peak power is both more expensive and dirtier than nuclear (at least in the short run). Reducing demand at peak, the argument goes, will lower costs and benefit the environment. This is where the smart meters, and TOU billing, come into their own.

To take full advantage of smart metering, it helps to understand a little more about how the system as a whole works. Dave Watts, a communications officer for Hydro One, which services 1,200,000 customers in Ontario, explained it to me this way: every smart meter has a small, 2.4 gigahertz radio inside that can link to other meters in what he

calls a “self-healing mesh network.” This means that your smart meter is in radio communication with other nearby meters. Our meter, say, talks to our neighbour's meter across the road, and theirs, in turn, connects with their neighbours until they're all joined up in a daisy-chain of smart meters busily passing their tiny digital bundles of information up to a regional collector, where it is sorted and passed on to a central data warehouse. (The network is self-healing because if one smart meter breaks down, for whatever reason, the meter immediately before it in the chain will automatically look for the next available meter and link to it.)

The information from the data warehouse will be posted each day at 5 a.m. on your utility's website. When your meter is activated for TOU billing, you will be able to register and then access your individual account. This will give you a snapshot of your daily electricity usage, the times you use it, how much it's costing you, and how your current usage compares with yesterday, last week or last month. It will also post outside temperatures at time of use, and show you what you'd be paying to a retailer for the same usage.

If we did nothing to change our daily patterns, our electricity bills would obviously go up. But the power to monitor our usage is a great incentive to shift certain activities, like dishwashing, hot water heating, laundry, air conditioning and so on, into off-peak hours.

How much will we be able to save? Dave Watts told me that in a survey of users already connected to TOU metering, 76 per cent saved an average of around \$5.00 a month, while the rest spent an average of \$1.75 more. It doesn't sound like much, but if you remember that most of those savings come from shifting electricity use to off-peak hours, the social benefits – less dirty power generation at peak hours – are enormous.

The energy retailers are still in business, but with the imminent arrival of TOU billing, their pitch has changed. Now, instead of offering to protect me from rising prices, they are offering, in essence, to protect me from my own laziness. Without ever saying it in so many words, the agent suggested that TOU would be a colossal and expensive pain in the butt. What were we going to do? Have candle-lit dinners every night? Wash our dirty shirts at midnight? Get up dark and early for breakfast? Instead of this hassle, he was offering me a fixed rate of about seven cents per kWh for three years, bypassing the TOU system altogether.

It sounds attractive, but you know what? I like the idea of being able to take more control of our consumption of electricity. I like the idea of saving a few bucks a month while helping to reduce our carbon footprint. So I told the retailer I'd take a pass, for now. Once my smart meter is operating, I'll be able to compare my options. But it's not just about savings. Who knows, maybe the occasional candle-lit dinner might turn out to have some wonderful side effects, the kind that can't be measured in mere dollars and cents. **OH**

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