

ELECTRICITY DEREGULATION

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INTRODUCTION

May 1, 2002 is the target deadline for deregulation of the electricity market in Ontario. As a result, Ontario farms will have the opportunity to choose their electricity supplier in much the same way natural gas and even long distance phone plans can be purchased from various retailers (ON, 2002). As always, there is a “buyer beware” consideration to this open market.

The problems seen in California and to a lesser extent, Alberta, under a deregulated electricity market largely were due to rapid growth, no incentives to add generation or distribution capacity and a cap on electricity prices (Vogel, 2000). Ontario appears to be well prepared for the near future with adequate capacity and a reasonably good distribution system in place that is connected to other US and Canadian suppliers.

Going from an electricity market largely monopolized by Ontario Hydro to an open market place with a variety of retailers/suppliers all offering different pricing plans might be daunting. This discussion will attempt to shed some light on what deregulation is and its effect upon your swine operation.

MARKET STRUCTURE: PAST AND FUTURE

Deregulation will not affect the regulatory component of the electricity industry; in fact, electricity retailers will be faced with more regulations regarding the sale of electricity in Ontario than ever before. The market structure, however, will change.

Under the old system (Figure 1), Ontario Hydro was almost exclusively the only supplier/retailer of electricity to farm customers in Ontario. The amount of energy used was billed at a fixed rate per kWh. This fixed rate included other costs such as generation, transmission and billing to name a few.

Under the new deregulated system (Figure 2), the only charge that is deregulated is the energy or kWh charge. All other costs are regulated and will be priced separately and added to the monthly bill based on consumption and other local delivery costs which have yet to be determined.

Figure 1: Old System

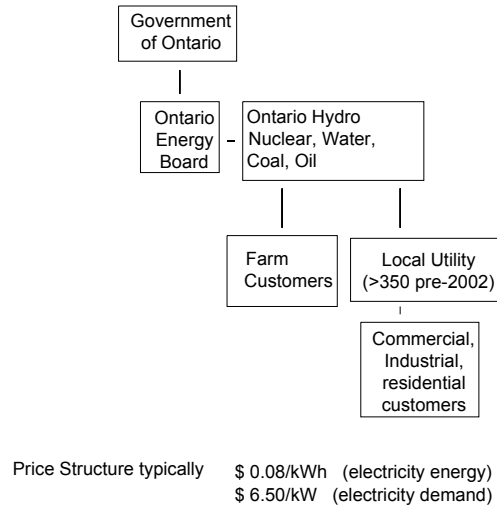
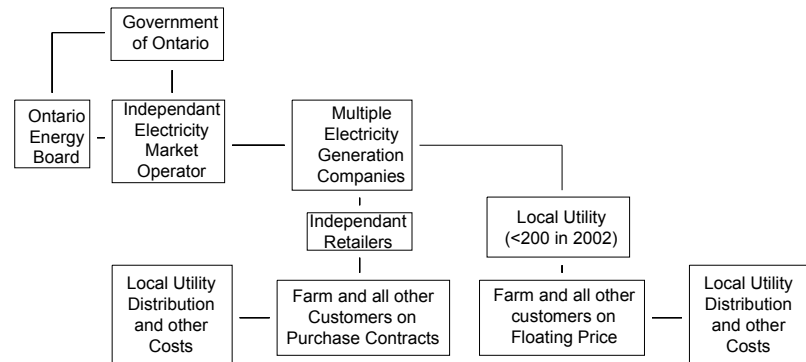


Fig 2: New System



Demand (kW) = \$9.00/kW

\$ 0.0430/kWh (1) (electricity) from utility on Retailer

\$ 0.0100/kWh (2) (transmission)

\$ 0.0300/kWh (2) (distribution access)

\$??? (2) (Utility access charges T.B.D.)

\$ 0.009/kWh (stranded debt)

0.092/kWh Total

(1) Contracts price from retailers currently are \$ 0.0545/kWh - 3 years

\$ 0.0595/kWh - 5 years

(2) Note: Prices shown will vary by utility

How will deregulation affect most Ontario farms?

- Electricity rates will change. In the short term however, they will not change by much, one way or the other.
- Billing will be more confusing. Instead of the basic kWh (energy) or kW (energy demand) charge (note, only large farms of 400 amp service or more pay a demand charge), there will be charges for kWh, kW, transmission, distribution and fees associated with the privatization of Ontario's electricity system.
- Most businesses that are large users of electricity will get an "Interval meter" that will provide hour-hour billing based on the spot price. This meter will gather information on lows and highs and load profiles, demand and power factor. At the present, it is unknown how all the data will be collected and made available to the end user.
- You will be able to choose your electricity supplier. Farms can choose to buy from a retailer on a "fixed term and price contract" or choose to remain with the "Default" supplier. See the section following for more details on these choices.

Electricity Retailers and Default Supplier

Retailers

The main retailers so far are:

- Ontario Hydro Energy Co.: retails electricity throughout Ontario
- Toronto Hydro Energy Services: retails electricity mainly in the GTA
- Ontario Power Generation (OPG): retails to large customers only
- Direct Energy: retails electricity throughout Ontario

Information about these and other retailers, and gas and electricity prices is available at www.energyshop.com. You can sign up with retailers on line via this site. You also can go to a retailer's site and get contract copies.

If you sign a contract, the current fixed contract price for energy is 5.95 cents/kWh for 5 years or 5.45 cents/kWh for 3 years. As of May 1, the anticipated energy price will be about 4.0 cents/kWh and is expected to remain at this limit for at least 2 years.

Default Supplier

The "Default" supplier for most consumers is their current supplier. For most farms, Hydro One Networks (the equivalent of the old "Ontario Hydro") will be the regulated distribution utility. It is the "default supplier" and cannot offer contracts. The cost for electricity is a floating price; therefore, Hydro One will bill on its cost to buy on the spot market. As a result, your bill will vary throughout the year.

For most locations where a PUC has supplied power, it will be the default supplier; for example, Listowel PUC (unless you have signed on with another retailer). In the case of the PUC, it can either build up a “variance account” (not likely as it is very expensive) where it credits or debits the individual customers regularly; or spot price pass through (more likely).

Understanding Your Farm’s Energy Use

One of the mysteries of deregulation is its impact on what you will have to pay for the electricity you use. Three components come into play. The first is your farm’s load profile. The second is your supplier’s load profile. The final component, what you are charged, depends on whether or not you have a fixed or a floating rate.

Figure 3 shows a typical electrical load profile for a fan ventilated finisher facility over 11 days. There is very little variation on a diurnal (24 hour) basis. The number of amps increases early in the day as loads are added, then decreases at night as equipment turns off.

Figure 3: Finisher Unit Load Profile

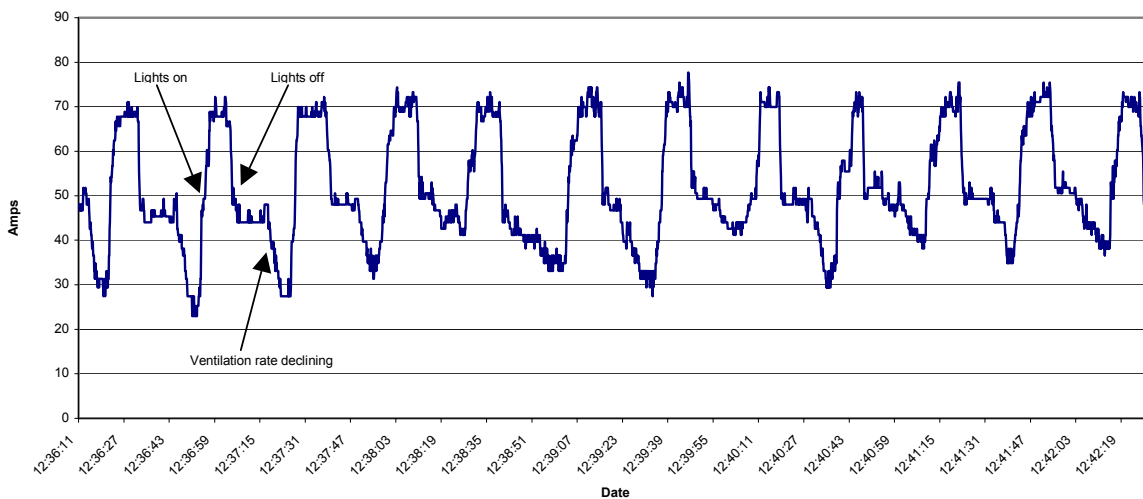


Figure 4 compares the supplier’s electrical load on a 24 hour basis to a swine finisher barn. A finisher barn’s load profile is very similar to the supplier’s load. If the supplier’s load peaks remained constant every day of the year, then the pricing structure would be very consistent as well. However, the increases in peak demand due to weather (cooling on the hottest days in summer, heating on the coldest days in winter), often require additional suppliers to meet these peaks. These short term suppliers need to cover large costs over a very short duration; hence, the peak price changes, as shown in Figure 5.

Figure 4: System Demand vs Finisher

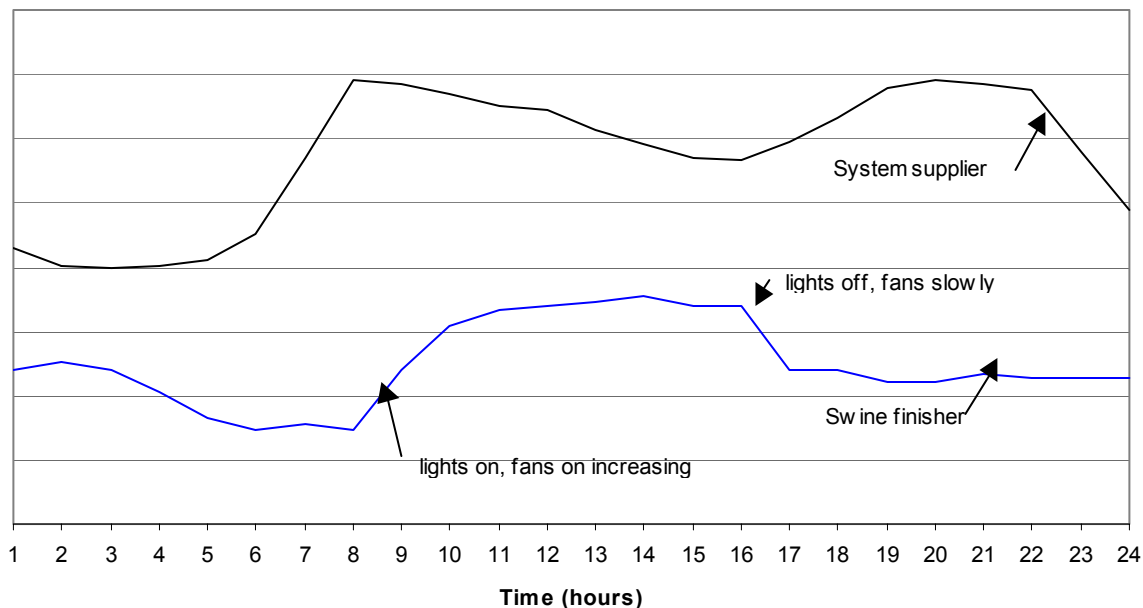
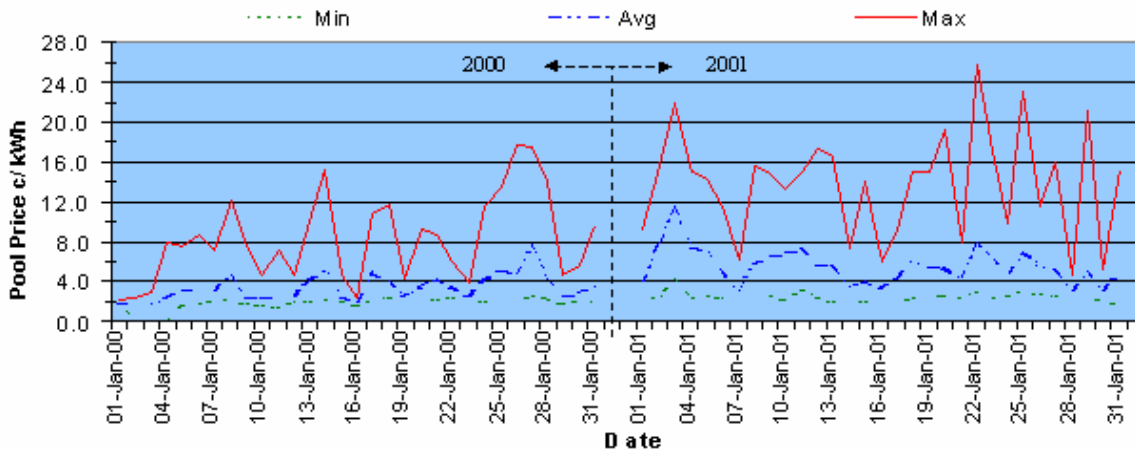


Figure 5 shows the effect on prices in a deregulated market in the US as of January 2001. The maximum and average prices increased after deregulation; however, the minimum price remained the same. January 22 2001's electricity prices ranged from about \$0.24 kWh to \$0.03/kWh with an average of about \$0.08/kWh (US\$). The average and maximum prices were short term only and dropped over the next two days.

Figure 5: Price Structure in a Deregulated North East USA Market Place, 2000-2001



If you stay with your current ‘default’ supplier, the rates will vary year round according to demand and pricing. They can be expected to rise in very hot and very cold weather, while remaining lowest during fall and spring. On average, your rates should be close to what they currently are in the short term.

Opportunities Under Deregulation

For most farms, the opportunities are limited. Unless electricity requirements are very large (over 5 Megawatts) and very steady, not much can be done in terms of purchasing agreements or contracts. Hydro One Networks will be the “default supplier” for most farms and cannot offer contracts. The cost for electricity is a floating price; therefore, it will bill on its cost to purchase on the spot market.

If you investigate a fixed duration and price contract, be aware that many other costs are excluded as stated earlier. These costs might include kW, power factor, stranded debt surcharge, distribution, transmission, as well as other local charges that have yet to be determined.

Distribution charges are set by the Ontario Energy Board and vary by area. For example, recent estimates were about \$0.014/kWh in Mississauga and as much as \$0.028/kWh for rural areas.

Check the web site www.oeb.gov.on.ca for these charges by location. They are not yet all settled. Be aware that this web site is not easy to navigate.

In the future, retailers may offer an option whereby they negotiate a rate with a large group of energy users, if it is beneficial. Under this rate structure, one bill will be sent to the entire group. This option appears unlikely right now.

A supplier/retailer might offer a good deal for a steady load that is on for 24 hours/day, 7 days/week. However, all farms are profile loads (Figure 4); in other words, they follow the supplier’s daily/seasonal load profile. Profile loads tend to be costly and not well suited to this form of rate structure.

While the opportunity to obtain savings through a contract with a retailer appears minimal, a farm energy audit may reveal potential for savings. The three main energy consumers on the farm include heating (particularly creep heating in farrow units), ventilation fans and lighting. On-farm feed generally is not as big a power consumer as many think, but should still be evaluated, particularly when motors can be scheduled to operate in off-peak times to keep the demand (kW) charge down. By conducting an energy audit, the opportunity for savings might be realized.

SUMMARY

In summary, the rate for electricity in Ontario is expected to be lower than retailers are currently offering and to remain fairly stable into the near future. However, where it goes after the first year or two depends on which forecast you believe.

Be aware that the final price for electricity billed to the farm may be much higher than the contract appears to indicate. Farms are advised to make no movement to sign any contracts until a clearer picture emerges of all the prices. All contracts should clearly indicate all the prices that can and will be included to preclude surprises.

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