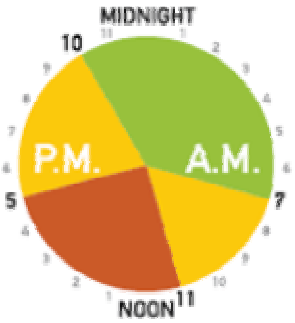
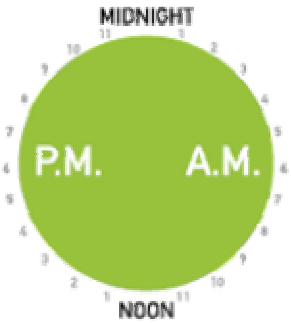
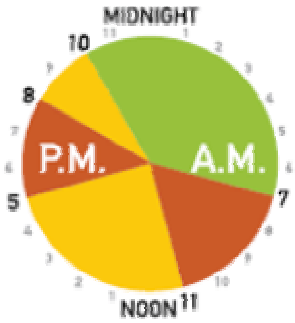
Smart Meter Impact

In 2010, all residences and small business will be equipped with smart meters. The pricing will be determined as follows:

Time-of-Use pricing diagrams







The Summer weekdays	Weekends and Holidays	The Winter weekdays
The highest energy prices occur over the afternoon, largely due to greater air-conditioning use. That's why the on-peak rate is from 11 a.m. to 5 p.m.	Demand and electricity prices are lower on weekends and holidays – as well as overnight – so these periods are all off-peak.	Energy prices peak twice – in the early morning and in the evening – mainly due to space heating, plus increased lighting and appliance use.

There are 3 time-of-use periods:

On-peak	Mid-peak	Off-peak
demand is highest	demand is moderate	demand is lowest
9.3 ¢ per kWh	7.3 ¢ per kWh	2.7 ¢ per kWh
8.8 cents/kWh	7.2 cents/kWh	4.0 cents/kWh

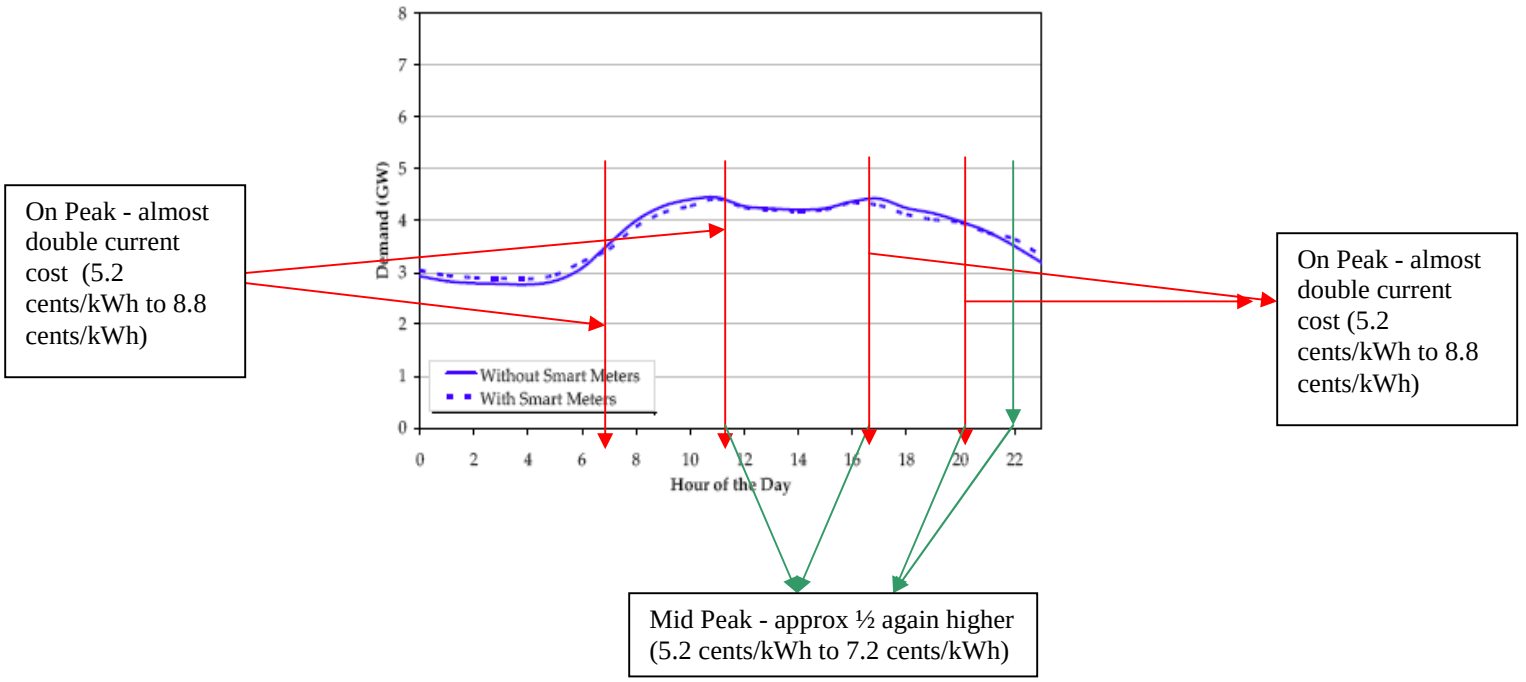
Projected price as of May, 2008

Projected price as of October, 2008

Notice the significant increase of the projected price of off peak usage since May, 2008
Current cost of electricity is approximately 5.2 cents/kWh
Electricity cost was 4.5 cents/kWh when smart meters were first introduced

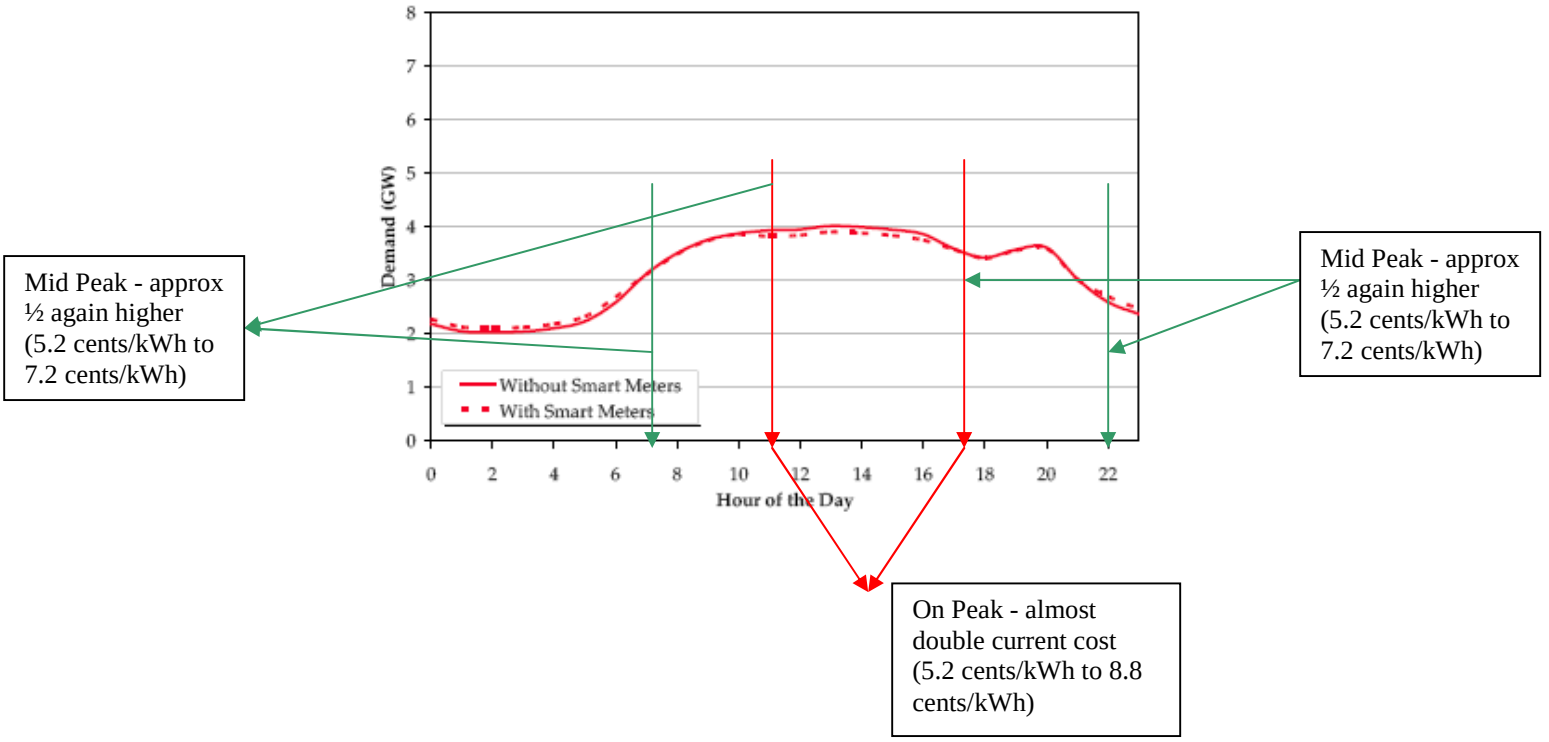
IMPACT OF SMART METER USE ON BUSINESSES

Figure 25: January Commercial Profile with and without Smart Meters and TOU Rates



Normal small business operating hours are totally within mid and on peak hours of the day. Electricity prices for these businesses will increase by 50%-100%.

Figure 26 - July Commercial Profile with and without Smart Meters and TOU rates



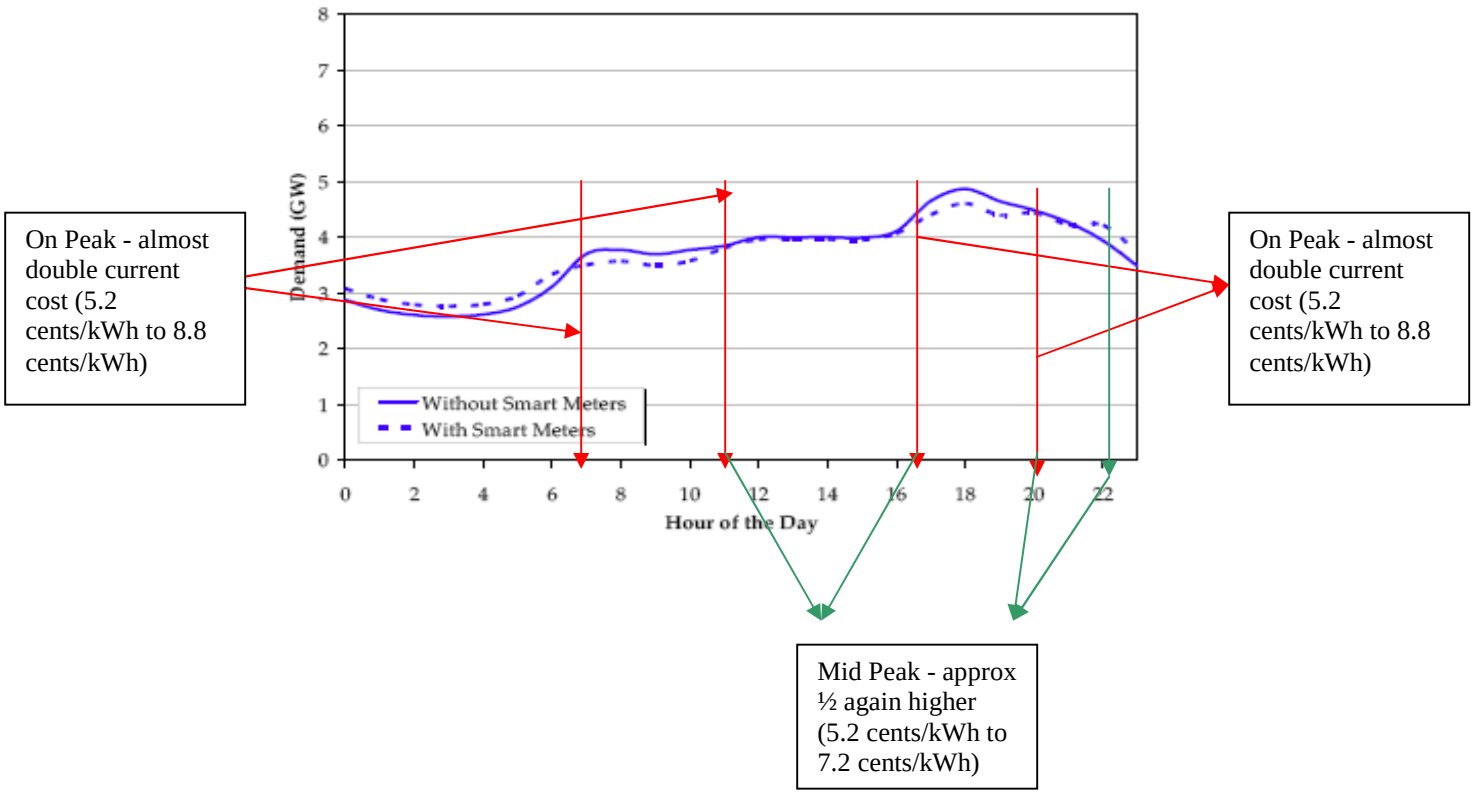
The cost impact on the commercial consumer is evident from these charts. The time of use metering system which will be implemented will cause marginal reduction in power consumption but at almost double the cost, as commercial/small business use is primarily during the highest pricing time.

"Commercial customers report that peak usage is harder to curtail when critical business activity and electric use coincide with high price times. Also, businesses with high electricity intensity are less responsive than other customers. These findings seem to indicate that some businesses have less capacity to shift load simply due to the nature of their operations." (Navigant Consulting)

Likewise, the farming community, with little ability to load shift, will pay much higher costs. This will impact consumer goods, food, and all consumer spending.

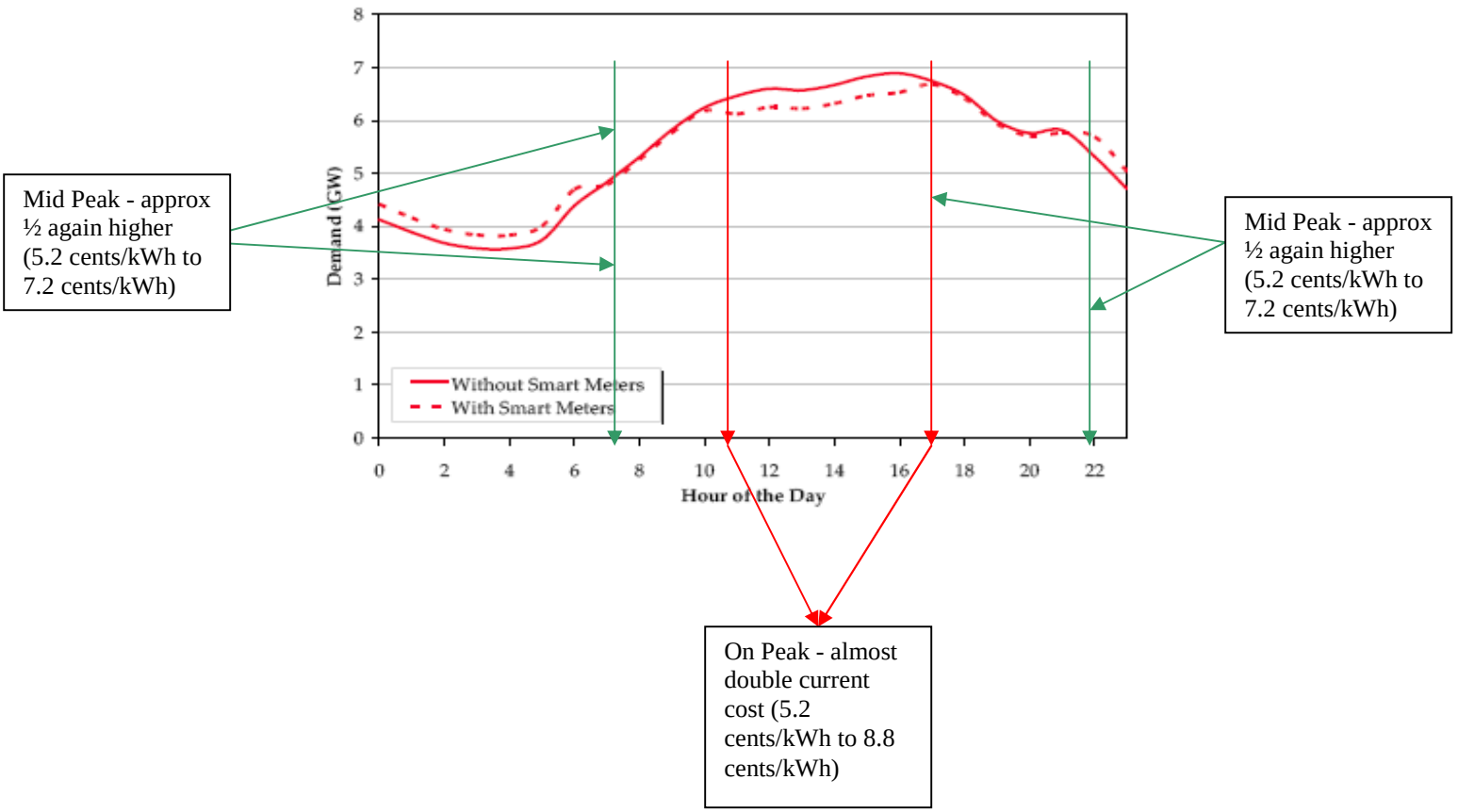
Smart Meter Impact - Residential Use

Figure 23: January Residential Profile with and without Smart Meters and TOU Rates



As this chart demonstrates, the highest TOU pricing coincides with increased demand in residential use due to normal activities during waking and pre-work/school preparation, etc. in the morning and arrival home, meal preparation, etc. during early evening hours. Much of this energy use cannot be shifted.

Figure 24: July Residential Profile with and without Smart Meters and TOU Rates



The results of the OEB's Smart Meter Pilot Project in 2006-2007 revealed there was no applicable statistically significant load shifting from On-Peak periods as a result of the Time of Use (TOU) price structure alone. Minimal savings of an average of $1.44/month were identified as a result of load shifting. During the study participants achieved far greater savings of $2.73/month by simply reducing consumption of electricity.

These savings will likely not even offset the monthly smart meter fee.