

When 1 + 2 Doesn't Equal 3

March 1, 2016

If you look at lists of the things that folks in our space think are important, if not essential, to unlocking the benefits of cleantech and smart grid technology, you will likely see one thing near the top of all of them - time-varying pricing.

You all know the story, and probably like me, have explained it to your friends and relatives at family gatherings and backyard barbeques. While the vast majority of electricity customers in the U.S. pay the same price per kWh no matter when they consume it, the cost of producing and delivering that kWh varies over the course of a day and over other time periods as well. The story continues with the example that, as demand for electricity increases during the day on its way towards peak demand, less efficient and usually higher polluting generation sources are brought online to meet that demand. Of course none of this really matters to the customer, because they are paying the same price. They receive no price signal as to what is happening on the electricity system.

So the question has been asked for several decades now - why don't we give customers a price signal and try to use their response to help manage electricity supply and demand?

That question has been answered in part by the rise of demand response, which relies on a price signal to motivate customers to reduce their peak usage or shift it to another time. But the type of demand response that for the most part lies dormant is time-varying rates and pricing. Why is that?

Well, the reason given in the 90's and the 00's was that demand response was too impractical and too costly because it required special meters. After all, you can't price electricity on a time-varying basis if you can't measure it that way. But that was then, and this is now. Based on reports by FERC, DOE, EEI and my own monitoring of new smart grid contracts and deployments, we have passed the 70% mark in terms of smart meter penetration when we include those already installed, under contract and soon to be installed. Wow... that is a lot of smart meters. So time-varying pricing ought to be in place or on its way in all the places where those meters are, right?

Well, no...

The other argument against time-varying pricing includes a bundle of perceptions about electricity customers: customers will never sign-up for such pricing, customers will not respond even if they sign-up because the benefits will be too small for them, etc.

The problem is that these perceptions are not backed by any research results or findings. In fact, the opposite is the case. First of all, some places like Arizona have had hundreds of thousands of customers on time-based rates for many years now, and things there continue to hum along. Second of all, the results of many other

new programs and pilots show that, overwhelmingly, customers like the idea of time-varying pricing, will choose it, will respond to price signals in a meaningful way for them and for the electricity system, and will continue to do so from year to year. These are not just high-end customers that fall into this category. Research shows that low-income customers and all other types of customers in all parts of the U.S. like the idea of, and like to be on, time-varying pricing.

So 1) the meters are in, and 2) it has been proven that customers like time-varying rates and will respond to price signals. Therefore, efforts to put time-varying pricing in place should now be unconstrained and such pricing is starting to bloom across the land.

Well, no...

Time-varying pricing seems to be suffering from a widespread epidemic of cognitive dissonance. State policymakers seem to still have a fear of moving on it, regardless of the stage being set for it. Unfortunately, this is not out of place with what is happening on other issues in our national dialogue on politics and policy. Take climate change, for example. The evidence is overwhelming, the threat is serious and ominous, but yet for many policymakers, politicians and citizens, agreeing to that and doing something about it doesn't fit the narrative they are already most comfortable with. The truth about customers and their opinions about time-based pricing may be inconvenient, but it is now established truth.

The other thing that seems to be going on is the long-standing tenet of electricity policy that the customer needs to be protected. This obviously stems from the potential adverse effects of a monopoly system, and thus the customer needs representation and protection - to some extent. But the customer should not be protected from having choices, whether those choices come from within a traditional, regulated environment, or in a competitive marketplace like Texas.

Finally, a thought about utilities and time-varying pricing. Utilities have a lot of challenges these days, and it is easy to see why there is fear that time-varying pricing somehow may somehow lead to their situation being worse. But giving their customers more choices is exactly the type of thing they should be pursuing as they re-tool their business models and look to remain not only vital companies but modern ones as well.

So back to our equation. 1 (meters) and 2 (evidence) are in place, and with leadership from state policymakers and utilities, we can add 3 and have the complete equation that leads to the real answer: new customer benefits and new abilities to optimize electricity and manage emissions.

You may call that old math, or new math, but in my opinion it is good math.