



The Evolution of Electricity Rates

Jim Clarkson

Initially electric utility rates were designed to provide financial security for the utility. Rates consisted of a fixed cost recovery component and a variable cost component. For residential users both costs are still collected on a volumetric basis. For larger users the fixed cost was collected through a “demand” charge, which was paid monthly without regard to the volume of energy used. The volumetric charge covering variable costs was shown separately on most bills. This way the utility was assured the monthly fixed cost revenues to make its loan payments even if the larger customers used less volume in some months. We now know with the existence of energy marketers and the way they price their competitive sales that the old utility rate design could only exist in a protected market.

With the increased use of air conditioning, utilities found they had to make sizable investments for peaking generation equipment that was only used a few hours per year. Hence, where the air conditioning electricity demand was high, utilities began to put more weight on summertime demand charges. In the two decades after World War II, electrical demand grew at an increasing rate; and the utility industry was focused on building ever more facilities. In the late 1960s, volatility in coal prices led the industry to develop automatic surcharges to pass through fuel costs in a way that shifted risk to customers. Under market conditions, the responsibility for managing these costs would be on the supplier, as it is where energy marketers have access to the retail customers.

Utilities underwent another shock in the late 1970s and early 1980s. They built unexpectedly high-cost nuclear plants and found that electricity prices reached a point when high prices discouraged new demand in the commercial and industrial sector. Hence, it made sense to offer time-of-use rates whereby customers could shift usage outside the utility’s peak hours, save money and reduce the need for new peak generating capacity.

Advances in metering, price volatility and the increased use of marginal cost pricing on the wholesale electricity market between utilities made the concept of hourly customer prices possible. Such marginal cost pricing is common in non-regulated markets, so it would have evolved in the electricity business if it were not regulated. Marginal costs based Real Time Pricing is another way for the utility to shift volatile price risk to the customer. This time it is the proper thing to do. Customers can indeed control the times and amounts of energy they use and should bear these risks within their control. With the increased assumption of risk, the customer also receives increased opportunity to manage their facility’s electric costs. Unlike the other changes in ratemaking, the use of RTP is, serendipitously, consistent with market conditions, as well as a measure to protect the utility.

Regulated utility rates are political manifestations designed primarily to assure revenues to the monopoly utility. Rate features that evolve in the market are legitimate. The current state of rates is a mix of regulatory hold-overs and innovations developed in the competitive wholesale market and the independent retail energy market.

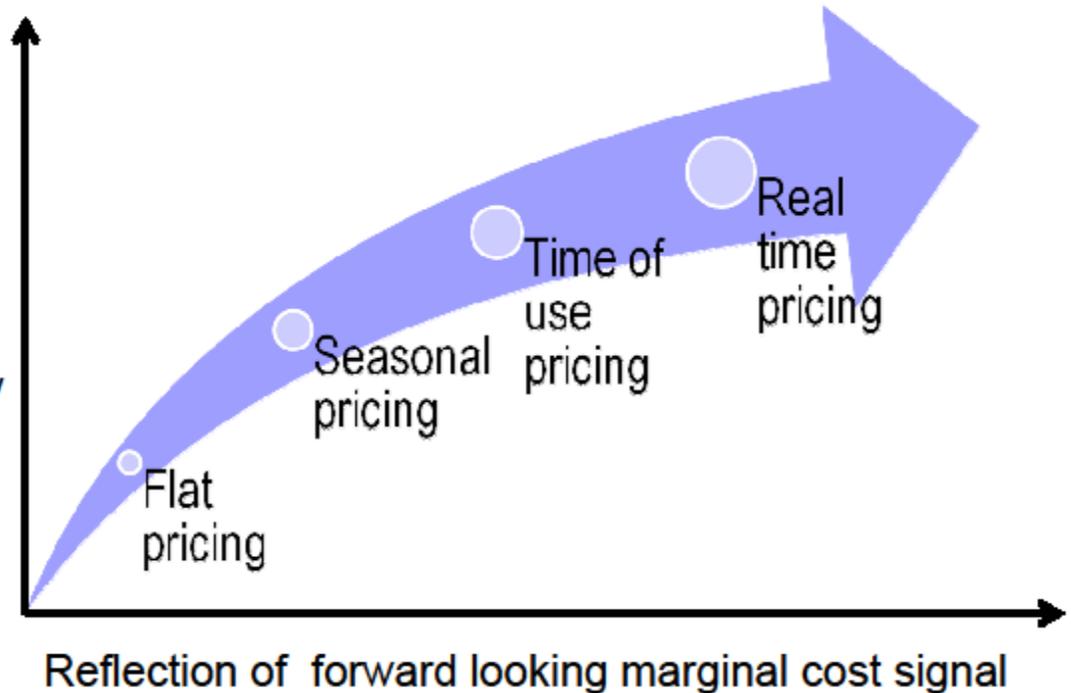
Price signals and benefits

▲ Customer control over energy costs

▲ Encourages peak reduction

▲ Promotes energy efficiency

▲ Closer assignment of cost to cost causers



Pricing structures and recovery of system costs

