

ABSTRACTA STATE REGULATORY PERSPECTIVE; NEW BUILDINGS, OLD MOTORS,  
AND MARGINAL ELECTRICITY GENERATIONNAT TREADWAY  
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Electricity consumption in Texas is expected to grow at 3.2 percent annually for the next ten years. Utility demand management activities, if effective, may reduce that expected rate of growth. Residential cooling, commercial lighting and cooling, and industrial drive power represent large and growing end uses of electricity in Texas. Designing effective conservation programs requires cooperation among a variety of groups with varying perspectives.

This paper examines the existing demand management activities of electric utilities in Texas and, in a general way, the economic perspectives of builders, industrial engineers, and utility system planners. Several reasons for vastly different perspectives among these three groups are widely known, yet it is difficult to overcome them. Architects, builders, and property developers may not occupy the structures they construct. Industrial engineers respond to the economics of the corporation, not those of the electric system. The discount rates of the groups differ, as do their expectations of future energy prices. The electricity consumers who occupy buildings and run Texas industries have many other costs, aside from electric bills, to measure, manage and control. Utility system planners respond to regulatory incentives and disincentives. Finally, the rates approved by the Public Utility Commission of Texas are based on average embedded costs, not marginal costs. Choice of an efficient path in the regulated electric utility industry is a complex task which necessarily balances the desires of all parties.

Existing demand management activities in Texas address some of these concerns in an attempt to lower the cost of providing electric services to all customers. There are serious gaps in the utilities' activities however. Data on commercial and industrial end uses is seriously lacking. Engineering and architectural design decisions are based on average, not marginal, cost per kilowatt-hour. Existing commercial and industrial programs provide information; however, utilities assume that conservation savings based on existing rate schedules encourage adequate investment in end uses.

This paper does not offer definitive answers to the complicated questions it raises. Rather, where data are lacking, a program for further study is presented. Responsibilities for collecting data and for addressing identifiable disincentives to efficiency are suggested.