SPEER

The South-central Partnership for Energy Efficiency as a Resource

Examining the History of Texas Energy Efficiency Programs

Introduction

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About the South-central Partnership for Energy Efficiency as a Resource (SPEER)

SPEER is a regional non-profit organization dedicated to increasing and accelerating the adoption of energy efficient products, technologies, and services in Texas and Oklahoma. Much of SPEER's work focuses on finding the best market-based approaches to increase energy efficiency and overcoming persistent market barriers. The views expressed in this paper do not necessarily reflect the views of all of SPEER's members, funders, or supporters. For more information about SPEER, please visit: www.eepartnership.org

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I. INTRODUCTION

The South-central Partnership for Energy Efficiency as a Resource (SPEER) has undertaken an historical review and examination of the utility energy efficiency programs since 1999. Over the next two months, SPEER will release a series of succinct briefs related to various aspects of the implementation, cost, and effectiveness of utility administered efficiency programs in Texas. These briefs will present objective examinations of with a focus on lessons learned. Ultimately, SPEER is seeking to expand awareness and understanding of the impacts of energy efficiency programs, the regulations and rules shaping those programs, and the effects of the changes that have been made to regulate these programs over the years.

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History shows that utility administered energy efficiency programs can succeed in meeting modest goals, cost-effectively. Although Texas was the first state to adopt an "energy efficiency resource standard", many other states have since succeeded in making much larger investments and achieving significantly higher energy savings. Achieving much more energy efficiency may require revisions to the current regulations.

II. DEREGULATION

The passage of SB 7 in 1999 unleashed a torrent of changes to the Texas electricity sector. No longer would generation, transmission, and retail electric services be handled by one company, as it had been for the century prior. With the enactment of SB 7, codified as Public Utility Regulatory Act Sections 39 through 41, Texas would join the tide of so many states at the time and begin the transition to a restructured electricity sector. But as with all things Texas, the state was not content with just following the lead of other states; its attempt to deregulate its electricity sector would be distinct, in two ways in particular. First, Texas was the first state in the nation to enact a renewable portfolio standard (RPS) and an energy efficiency resource standard (EERS), requiring the Investor Owned Utilities (IOUs) to achieve a specified amount of efficiency annually. Second, Texas ensured there was a clear, distinct severance between the companies responsible for electricity generation, electricity transmission and distribution, and retail electric service. In other deregulating states, the separation between these utility functions was not nearly as distinct.

Many formerly regulated functions of the traditional, vertically integrated IOUs were stripped away and placed into free market competition. Texas IOUs were limited to the responsibility for the

transmission and distribution of electricity, and were prohibited from generating or taking ownership of electricity. As the legacy element of the regulated utility, these "wires" utilities were also delegated the responsibility for administering the new era of energy efficiency programs. Even here the legislature directed that:

> "…electric utilities will administer energy efficiency incentive programs in a market-neutral, nondiscriminatory manner but will not offer underlying competitive services "[1]

In addition, the law directs that to achieve the EERS:

> "…each electric utility annually will provide, through market-based standard offer programs or through targeted market-transformation programs, incentives sufficient for retail electric providers and competitive energy service providers to acquire additional cost-effective energy efficiency"[2]

The rest of the market, including provision of efficiency services, was to remain open to competition.

III. PROGRAM DESIGN

It is important to note the distinct nature of Texas's electricity deregulation process, as that affected the structure and design of the energy efficiency programs which could be implemented in Texas. Because the IOUs have restrictions on the relationship with customers, all efficiency program incentive payments are made directly to energy services companies or retail electric providers (who interact directly with customers) to encourage the competitive market and achieve cost-effective savings.[3] In fact, the section of the restructuring legislation on "unbundling" states specifically:

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> "On or before September 1, 2000, each electric utility shall separate from its regulated utility activities its customer energy services business activities that are otherwise also already widely available in the competitive market."[4]

All the marketing of programs and consumer education is therefore left up to service providers. The IOU programs were required to reach all customer classes, although in subsequent sessions, industrial

[1] PURA Section 39.905 (a)(1)
[2] Ibid Section 39.905 (a)(3)
[3] This was modified by the PUCT which determined that large customers could serve as their own ESCO, but did not liberalize the delivery of services by utilities directly.
[4] PURA Section 39.051 (a)

customers were exempted from contribution to or participation in the programs, and cost-caps were established to limit the impact to customer bills.

Technology-neutral Standard Offer Programs were developed both to allow normal competition among providers to take place, and to pay service providers a standardized incentive based on actual performance, following the general format of the International Performance Monitoring and Verification Protocols. Over time, based on actual field experience and engineering studies, "deemed savings" or stipulated savings values were adopted to cover a wide range of products and measures. Market Transformation Programs were designed to overcome specific market challenges or introduce new technologies. The EERS goal was increased or altered several times by the legislature and the PUCT, within the bounds the law provides. Utilities were given the ability to request research and development funding up to 10 percent of their budgets to stay abreast of best practices. To assure their ability to continually meet their goals, they were given simplified ability to pilot new programs. And, importantly, the utilities were allowed a performance bonus in later years, for exceeding their EERS goals cost effectively.

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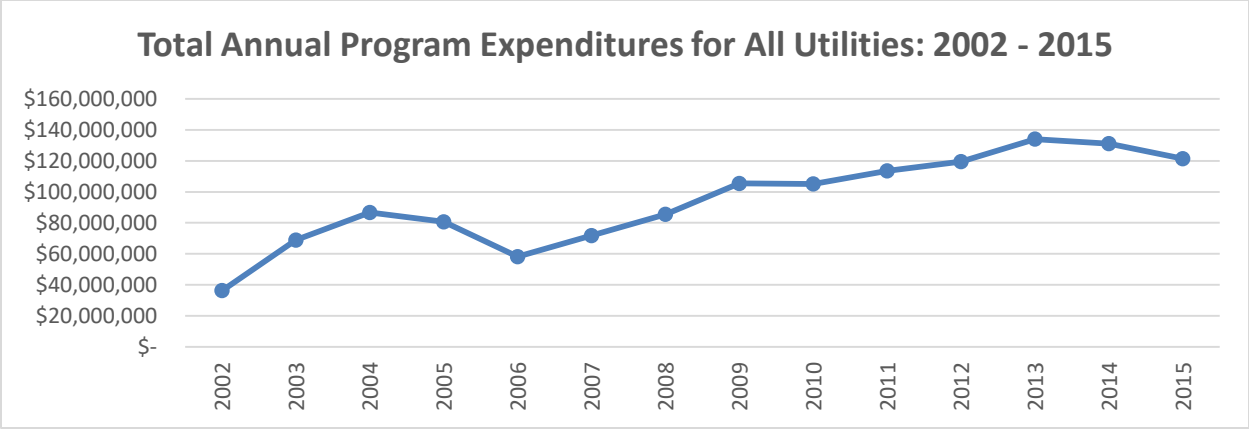
IV. Program Spending and Savings

Utility administered energy efficiency programs acquire some of the lowest cost energy resources in Texas, and save Texan consumers over $50 million per year on their energy bills. In addition, the reduced energy demand has contributed to grid reliability and reduced transmission and distribution costs, reduced investment in generation, reduced associated emissions despite significant population and economic growth, and reduced the cost of power to all customers in ERCOT.

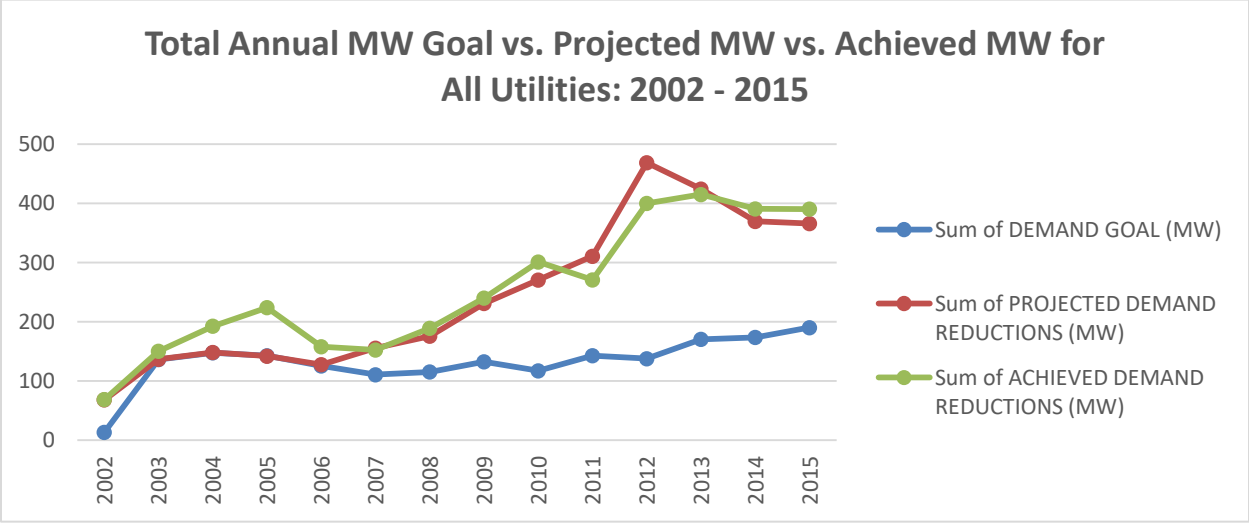
In 2015, total annual energy efficiency program expenditures for all utilities were $120 million.[5] Since 2009, utilities have consistently spent over $100 million dollars to implement energy efficiency programs, a three-fold increase from the under $ 40 million spent in 2002, when the programs were just getting started.

[5] Costs or expenditures and savings reported here come directly from annual reports of the utilities to the PUCT.

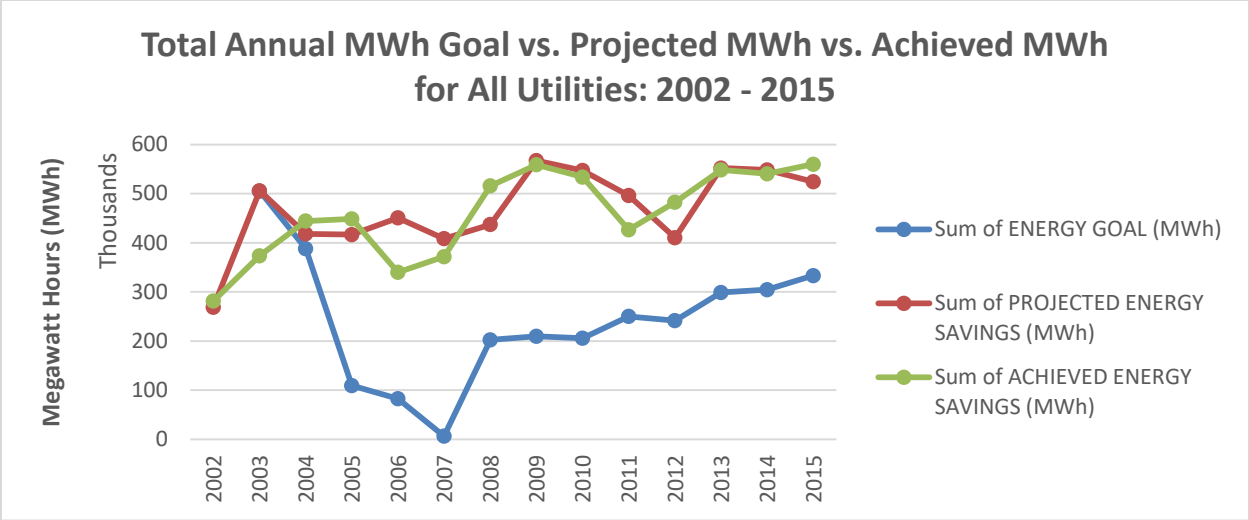


While the total spending numbers seem impressive, ACEEE's 2016 State Scorecard reported that Texas only spends 0.5% of its total energy revenue on energy efficiency programs, while the national average for percentage of total energy revenue spent is 1.3%.6 Looking at these numbers in a different way, Texas utilities spent $6.50 per capita on energy efficiency programs and, the national average for per capita spending is $16.

Since 2012, utility energy efficiency programs have achieved around 400 MW of peak demand savings. In addition to saving energy during times of peak demand, energy efficiency programs delivered over 500,000,000 kWh of total energy savings. As the tables below demonstrate, peak demand savings and overall energy savings stemming from energy efficiency programs have increased somewhat over time, and overall, the utilities routinely exceed their goals.



[6] American Council for an Energy-Efficiency Economy, 2016 State Energy Efficiency Scorecard, Spending and Savings Table, http://database.aceee.org/sites/default/files/docs/spending-savings-tables.pdf



V. Source Availability of Energy Efficiency Data

Regulations require utilities to file annual reports with the Public Utilities Commission of Texas that contain detailed information about the administration of the energy efficiency programs. The data contained in these reports includes, but is not limited to: program descriptions, demand and energy savings, and information concerning funds spent on energy efficiency programs. SPEER staff reviewed the annual energy efficiency program reports filed by utilities and compiled select information from each report. This collection of energy efficiency program data will be maintained and updated annually by SPEER staff as new energy efficiency program reports become available. The resulting dataset may be useful to others interested in the IOU energy efficiency programs in Texas and SPEER will share this data with other stakeholders who would like to study it further.

VI. Preview of Energy Efficiency Brief Topics

The series of policy briefs that SPEER has compiled should provide policymakers, academics, and other energy efficiency stakeholders with a clear, objective look at significant aspects of the utility administered energy efficiency programs in Texas. These briefs will examine:

- The costs and benefits of the energy efficiency programs which have been implemented in Texas since deregulation began.
- The effect of changes in the EERS goal on utility energy efficiency spending and savings.
- The growth and impacts of load management programs.
- The utility spending and outcomes related to research and development.
- Finally, we will take a step back and consider patterns and lessons to be learned from this examination of energy efficiency programs and policies in Texas.

It is SPEER's hope that our research will provide state leadership and other interested parties a foundation of information for evaluating the policy, performance and potential associated with these utility programs in Texas.