TEXAS PUBLIC POLICY FOUNDATION

A Tale of Two Markets: Telecommunications and Electricity

A Sunset Report on the Texas Public Utility Commission

May 2010
By BILL PEACOCK
Center for Economic Freedom

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WWW.TEXASPOLICY.COM

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Table of Contents

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Executive Summary

Texas has the most competitive electricity market in the world. Its telecommunications market is equally successful. Both have brought tremendous economic benefit to the state through billions of dollars of investment, lower prices, increased efficiencies, and by making Texas the best state in the country for living and doing business.

It has been almost 15 years since Texas began the process of restructuring its regulatory system of these markets. The direction was laid out in the Texas Utilities Code:

> "The legislature finds that … electric services and their prices should be determined by customer choices and the normal forces of competition." *Public Utility Regulatory Act (PURA), Chap. 39*

> "[T]he policy of this state … [is] best achieved by … fostering free market competition in the telecommunications industry." *PURA, Chap. 51*

Texas policymakers made the decision to let these markets work and not manipulate prices or access policies—unlike policymakers in other states where the move to electricity competition almost universally failed. Bucking the national trend, they did not "design" a market in any meaningful sense; instead they set general rules for market participants and allowed them to compete as they wished within those rules.

While the details of the transitions to competition for these two markets differ, the timeline and the results are remarkably similar. Both took a little over a decade to reach today's level of competition and have resulted in exceptional increases in consumer choice and similar decreases in consumer prices.

These similar results are viewed quite differently by some, as seen in the Sunset Advisory Commission's *Staff Report on the Public Utility Commission of Texas*. Yet there are no functional, economic, or political reasons to treat these markets differently.

Texas should continue down this tremendously successful policy path for both of these markets.

ISSUE 1: Regulatory Efforts to Micro-manage Competition in the Electricity Market Reduce Competition, Raise Prices, and Increase Budgets, Harming Consumers and Taxpayers

Recommendations

- **1.1** Eliminate Price Caps and Market-share Caps in the Wholesale Market
- **1.2** Allow Retail Electric Providers to Properly Assess the Creditworthiness of Potential Customers
- **1.3** Streamline the Regulation of Rates, Operations, and Services at the PUCT

Key Findings

- Introducing competition into Texas' retail and wholesale electricity markets has made Texas the greatest success story in the United States.
- Texas did not "design" a market in any meaningful sense—it instead set general rules for market participants and allowed them to compete.
- Recent proposals to protect against anti-competitive behavior are solutions in search of a problem. The data clearly shows that Texas retail and wholesale electricity markets are the most competitive in the world.
- The *Staff Report's* recommendations would likely interfere with the existing robust monitoring and enforcement activities of the Market Monitor and the PUCT enforcement staff that currently serve as further deterrents to anti-competitive behavior.

ISSUE 2: Fuel and Energy Efficiency Mandates Increase Costs and Reduce Consumer Welfare

Recommendations

- **2.1** Eliminate statutory requirement that 50 percent of new generation come from natural gas
- **2.2** Eliminate the Renewable Portfolio Standard
- **2.3** Require wind, solar, and other renewable generators to meet the same standards as other generators
- **2.4** Eliminate Texas' expensive and inefficient energy efficiency program

Key Findings

- Most recent increases in consumer electricity costs resulted from fuel and energy efficiency mandates.
- To date, the CREZ lines are the most expensive subsidy adopted for renewable energy.
- Energy experts report that industrial wind power is proving to be exceptionally expensive to consumers once required backup and additional infrastructure are factored in.
- Government-mandated energy efficiency programs today are designed to increase the cost of energy which results in a decrease in economic growth.

ISSUE 3: High and/or Inequitable Taxes and Fees Assessed in the Electricity and Telecommunications Markets Increase Consumer Prices and Reduce Consumer Welfare

Recommendations

- **3.1** Reduce consumer costs and maximize the availability of cost-effective services available to consumers by levying local franchise fees on the basis of the marginal costs of managing the public right-of-way
- **3.2** Eliminate or modify discriminatory and excessive telecommunications taxes and fees

Key Findings

- Consumers in Texas face some of the highest telecommunications taxes in the U.S., while local franchise fees cost consumers of telecommunications services, electricity, and natural gas hundreds of millions of dollars annually.

- Retail telecommunications service providers operate on an unlevel playing field in terms of taxes and fees.

- The *Staff Report's* recommendation to impose an occupational licensing scheme—along with new fees—on the telecommunications and electricity markets misses the mark and serves as a tax increase on already heavily taxed consumers.

ISSUE 4: Current Statute Governing the Texas Telecommunications Market Restricts Competition, Increases Consumer Prices, and Reduces Consumer Welfare

Recommendations

- **4.1** Remove the authority of the PUCT to regulate rates, tariffs, terms, and conditions of service

- **4.2** Require the PUCT to Sunset all of its telecommunications rules

- **4.3** Introduce competition in telecommunications markets with a population between 30,000 and 100,000 and at least two providers

- **4.4** Adopt *Staff Report* recommendations 2.2, 2.3, and 2.4

Key Findings

- The *Staff Report* correctly identifies that it has been the "State's policy to move telecommunications from a regulated to a less restricted, competitive industry."

- Even though more than 15 million Texans live in areas where telephone service has been significantly deregulated, there are still price controls in effect in those areas.

- Many mid-sized Texas telecom markets are ready for competition.

Two Markets, One Result: Competition

Texas has the most competitive electricity market in the world. Its telecommunications market is equally successful. Both have brought tremendous economic benefit to the state through billions of dollars in investment, lower prices, increased efficiencies, and by making Texas the best state in the country for living, working, and doing business.

It has been almost 15 years since Texas began the process of restructuring its regulatory system of the telecommunications and electricity markets. In the dual efforts to restructure or deregulate these markets in 1995, Texas was taking part in the move to deregulation that came of age in the United States in the 1970s. By that time, it had become obvious to almost everyone that consumers were demanding products and services that regulated industries couldn't deliver—a perfect example of the problem being the seemingly unending life of the rotary dial telephone. So the country began to move into a new era of competition in the trucking, airline, and telecommunications industries. Electricity was the last and most difficult of the great deregulations, thanks to technology, economics, and politics. The direction was laid out in the Texas Utilities Code:

> "The legislature finds that the production and sale of electricity is not a monopoly warranting regulation of rates, operations, and services and that the public interest in competitive electric markets requires that, except for transmission and distribution services and for the recovery of stranded costs, electric services and their prices should be determined by customer choices and the normal forces of competition." *Public Utility Regulatory Act (PURA), Chap. 39*

> "[T]he policy of this state to (1) promote diversity of telecommunications providers and interconnectivity; (2) encourage a fully competitive telecommunications marketplace; and (3) maintain a wide availability of high quality, interoperable, standards-based telecommunications services at affordable rates … [is] best achieved by legislation that modernizes telecommunications regulation

> by (1) guaranteeing the affordability of basic telephone service in a competitively neutral manner; and (2) fostering free market competition in the telecommunications industry." *PURA, Chap. 51*

Texas policymakers made a decision to let these markets work and not manipulate prices or access policies—unlike policymakers in other states where the move to electricity competition almost universally failed. Bucking the national trend, they did not "design" a market in any meaningful sense; instead they set general rules for market participants and allowed them to compete as they wished within those rules.

While the details of the transitions to competition for these two markets differ, the timeline and the results are remarkably similar. Both took a little over a decade to reach today's level of competition. Both have resulted in exceptional increases in consumer choice and similar decreases in consumer prices.

Yet the similar results are viewed quite differently by some.

Perhaps the best way to summarize the disparate views of these two markets is to quote from the recent *Sunset Advisory Commission's Staff Report on the Public Utility Commission of Texas*. On the one hand, the *Staff Report* makes this observation on the regulation of the telecommunications market:

> The State has established a policy to provide for full competition in the telecommunications market so that customers can benefit from innovations in service quality and market-based pricing. … A key Sunset review criterion is to determine whether less restrictive or alternative methods of performing any of the agency's functions could adequately protect or serve the public. This criterion is particularly important in reviewing PUC's telecommunications requirements, given the State's policy to move telecommunications from a regulated to a less restricted, competitive industry.[1]

On the other hand, this review criterion is notably absent from the *Staff Report's* analysis and recommendations related to the Texas electricity market. Rather, the *Staff Report* recommends the imposition of significant new regulations on the electricity market, which are a reversal of 15 years of Texas policy direction. Even as it acknowledges, "Starting in 1995, the Legislature began enacting laws restructuring major aspects of monopolistic electric and telecommunications industries to allow competition and market forces to take the place of traditional rate regulation."[2]

Despite this bifurcated view of the two markets, there are no functional, economic, or political reasons to treat them differently.

As detailed below, both markets are highly competitive. Over 15 million Texans receive phone service that can be switched at the click of a mouse or a single phone call. They can purchase phone, Internet, and cable service from a single provider, or pick different products from different providers. Most can even get all of these products through the air without having one cable come into their house.

Much the same thing is true for electricity customers. While electricity isn't being delivered wirelessly, yet, the average electricity customer in Texas' competitive areas can choose from 138 plans offered by 29 providers. Furthermore, consumers can often get these plans at prices cheaper than they could a decade ago—prior to deregulation. The wholesale market is competitive as well. The Public Utility Commission of Texas (PUCT) and the Independent Market Monitor* have found no instances of market power abuse or any other anti-competitive behaviors in the wholesale market for over four years. In fact, the wholesale market has become even more competitive over that time.

* The Texas Legislature created the Independent Market Monitor in 2005 to help ensure competitiveness in the ERCOT wholesale market. It monitors, or polices, activities in the wholesale market and provides an annual report to the PUCT on its findings. The Market Monitor investigates market activities and makes proposals for market rule changes.

The functional similarities of the wholesale and retail portions of these two markets provide no reason to differentiate them economically—perhaps other than in transmission. Both are highly competitive with no recent instances of anti-competitive behavior. There are some physical differences in the two markets—notably that electricity is transmitted exclusively through regulated lines and that the demand in the electricity market has to be perfectly balanced with supply—that lead some economists to treat electricity differently in theory. However, such theoretical constructs about electricity aren't fairing well in the highly competitive Texas market place. In fact, the main barriers to competition in the Texas electricity market stem from the regulatory design of the market by the Texas government.

The similarity of these two markets has also been evident in the political process. Though the restructuring of electricity markets has generated more controversy, the end result of 15 years of political debate over the two markets has been almost identical. It is the well-deliberated policy of the state of Texas that these two markets are to be mostly free of regulation.

Texas should continue down this tremendously successful policy path for both of these markets.

ISSUE 1: Regulatory Efforts to Micro-manage Competition in the Electricity Market Reduce Competition, Raise Prices, and Increase Budgets, Harming Consumers and Taxpayers

TPPF Recommendations

- **1.1** Eliminate Price Caps and Market-share Caps in the Wholesale Market
- **1.2** Allow Retail Electric Providers to Properly Assess the Creditworthiness of Potential Customers
- **1.3** Streamline the Regulation of Rates, Operations, and Services at the PUCT

Key Findings

- Introducing competition into Texas' retail and wholesale electricity markets has made Texas the greatest success story in the United States.
- Texas did not "design" a market in any meaningful sense—it instead set general rules for market participants and allowed them to compete.
- Recent proposals to protect against anti-competitive behavior are solutions in search of a problem. The data clearly shows that Texas retail and wholesale electricity markets are the most competitive in the world.
- The *Staff Report's* recommendations would likely interfere with the existing robust monitoring and enforcement activities of the Market Monitor and the PUCT enforcement staff that currently serve as further deterrents to anti-competitive behavior.

Analysis

Introducing competition into Texas' retail and wholesale electricity markets has made Texas the greatest success story in the United States—if not the world—by moving away from the model of heavily regulated public utilities, i.e., government-mandated monopolies. That success is largely due to policymakers' willingness to let markets work and not manipulate prices or other policies for political reasons.

The transformation of American electricity markets was dominated elsewhere by a political competition to "design" markets. However, Texas did not "design" a market in any meaningful sense—it instead set general rules for market participants and allowed them to compete.

The resulting predictability of Texas markets helps explain why ERCOT territory has seen investment in new generation to a level that continues to maintain reserve margins adequate for powering Texas' future economic growth. Furthermore, this is why retailers have continued to invest at a level that offers the average ERCOT customer a choice of 138 different plans offered by 29 different providers.

Yet, even as the restructuring continues with the next major step of implementing a nodal transmission market, there have been a significant number of proposed statutory or regulatory changes—some of which have been adopted—that would harm competition and consumers in Texas' uniquely structured and uniquely successful electricity market. (See Table 1)

All of these proposals are solutions in search of a problem. The data clearly shows that Texas retail and wholesale electricity markets are the most competitive in the world.

Retail Competition

While other states have competitive wholesale markets, no state comes close to the competition found in Texas' retail market. Three measures detail the high level of competition.

First, the percentage of electricity sold by incumbent REPs has plummeted. None of them has even a 40 percent share in the market where each used to have 100 percent before competition. (See Figure 1)

Second, almost 82 percent of consumers have actively chosen competitive rate plans, while the other 18 percent have benefitted from competition through lowered rates on old plans or getting competitive rates through move-ins. (See Figure 2)

Finally, the average Texan in ERCOT can choose from about 138 different plans offered by 29 different providers. This is up from five providers offering eight plans in 2002.

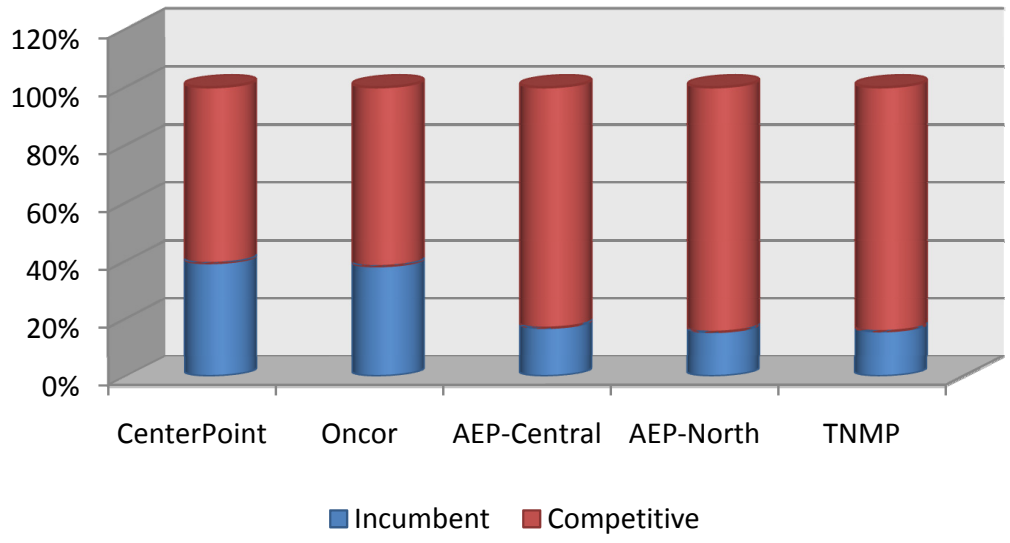
Wholesale Competition

Potomac Economics is the independent market monitor for the ERCOT wholesale market. It provides an annual *State of the Market Report for the ERCOT Wholesale Electricity Markets*. The 2008 report, the most recent available, explains the state of wholesale competition in the Texas market.

Table 1: Recent Proposals that Would Reduce Competition in the Texas Electricity Market

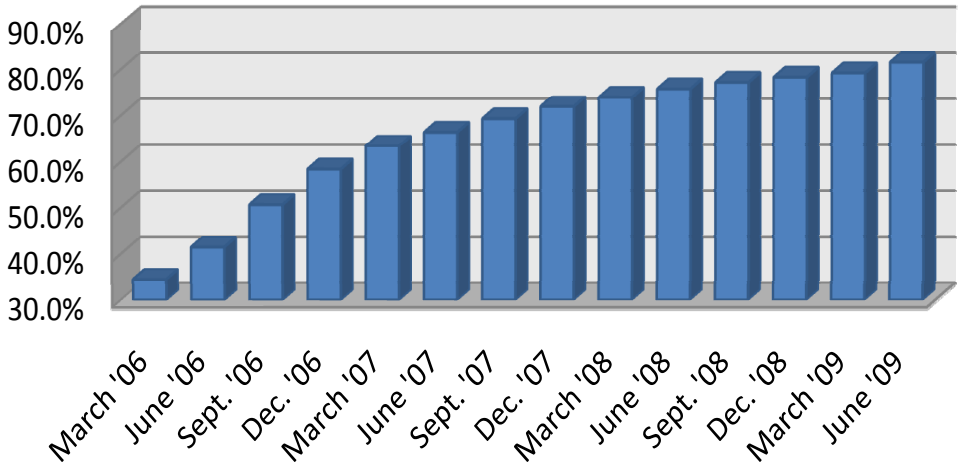
Proposal	Year	Status
Require PUCT approval of mergers and acquisitions	2007	Current Law
Require certain REPs to share customer information with competitors	2007	Failed to pass
Fine incumbent REPs unless they increase their market share outside of their home service areas and/or decrease their market share within their home service areas	2007	Failed to pass
Allow the PUC to use customer slamming to force residential customers to switch REPs	2007	Failed to pass
Allow the PUC to reduce rates found to be unreasonable.	2007	Failed to pass
Increase requirements for REP certification	2009	Current Law
Require common terms on electricity bill	2009	Current law
Institute a retail electric market monitor	2009	Failed to pass
Reduce defenses against allegations of market power abuse	2009	Failed to pass
Tie the price of electricity to natural gas	2009	Failed to pass
Increase the state's energy efficiency goals	2009/10	Pending PUC
Mandate which technologies are subsidized through the Renewable Portfolio Standard	2009/10	Pending PUC
Require REPs to offer deferred payment plans to customers based on income or age	2009/10	Pending PUC
Authorize PUC to order restitution to market participants harmed by market power abuse	2009/10	Pending Sunset
Increase PUC's administrative penalty authority to $100,000 per violation per day	2010	Pending Sunset
Authorize PUC to issue emergency cease-and-desist orders	2010	Pending Sunset
Authorize PUC to require, by rule, renewal of registrations, certifications, and permits as it deems appropriate	2010	Pending Sunset

Figure 1: Market Share of Incumbent REPS, 2009



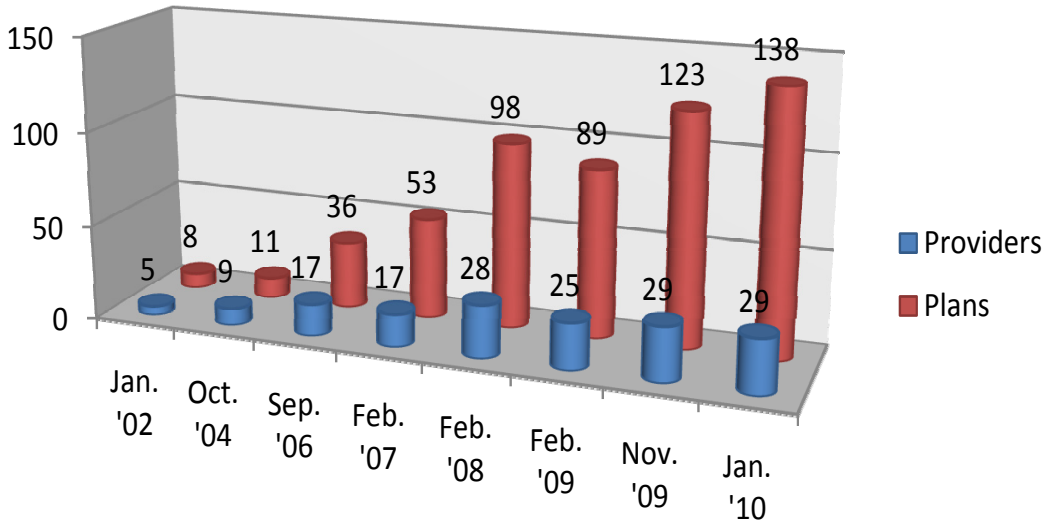
Source: Public Utility Commission, Summary of Retail Competition Market Share Data

Figure 2: Observable Customer Retail Choice



Source: Bret J. Slocum, "Second Quarter Data Concerning Customers Exercising Choice" (Aug. 5, 2009)

Figure 3: Retail Consumer Choice



Source: Powertochoose.com

The report begins by stating, "Our analysis indicates that the market performed competitively in 2008."[3] When looking at price spikes, the good news was even more pronounced. Potomac found the data showed "very competitive market outcomes in 2008."[4] Additionally, the competitiveness of the wholesale market has been improving. The report states that market competition in 2008 showed "significant improvement over 2005 and 2006."[5] In addition, an examination of real-time load indicates that "the competitiveness of supplier offers improved considerably in 2006 compared to 2005, followed by even more substantial improvement in 2007 and 2008."[6]

This shouldn't be a surprise. Market participants learn over time how to function efficiently in a competitive market. For instance, whereas in 2005 only one market participant had a quick start unit qualified to provide balancing energy (about 330 MW), by 2008 several market participants had well over 1,000 MW of quick start capability.[7]

Many of the proposed regulatory measures listed above are based on the assumption that the exercise of market power by market participants has harmed competition in ERCOT's wholesale electricity market. Yet this is simply not the case. Today's wholesale market in ERCOT is competitive, more so than it has ever been.

In fact, the Market Monitor's report makes it clear that the main problem with wholesale competition today is caused by the design of the market. In other words, it is the market structure prescribed in law—not the practices of market participants—that is hindering competition: "[T]he report generally confirms prior findings that the *current market rules and procedures are resulting in systemic inefficiencies.* Many of these findings can be found in six previous reports we have issued regarding the ERCOT electricity markets." (emphasis added)

This is nothing new. It is widely known that today's "zonal market structure is an inherently inefficient model for managing transmission congestion."[8] ERCOT's balancing energy auction uses Scheduling, Pricing, and Dispatch (SPD) software "that dispatches energy in each zone to serve load and manage congestion between [the four] zones."[9]

Potomac's analysis of this system, particularly the flows through the transmission interfaces, or Commercially Significant Constraints (CSCs), indicates that:

- The simplifying assumptions made in the SPD model can result in modeled flows that are considerably different from actual flows.

- A considerable quantity of flows between zones occurs over transmission facilities that are not defined as part of a CSC. When these flows cause congestion, it is beneficial to create a new CSC to better manage congestion over that path.

- The differences between SPD-modeled flows and actual flows on CSCs create operational challenges for ERCOT that result in the inefficient use of scarce transmission resources.[10]

Another problem in the design of the market was identified in 2008, when a "sharp increase in the frequency of occurrence of unresolved congestion on the North to Houston and North to South CSCs."[11] An "investigation quickly revealed that ERCOT rules permitted certain transmission elements to be managed with zonal balancing energy deployments when, in actuality, the congestion on these elements was neither effectively nor efficiently resolvable with zonal balancing energy deployments."[12] All told, the inefficient design of the market in the North to Houston and North to South CSCs increased consumer cost by $87 to $175 million in 2008.[13]

Thus, rather than adopt any of the proposed changes detailed above—which, in fact, will decrease efficiency and increase consumer costs—the most important thing policymakers can do to increase wholesale competition is ensure that ERCOT completes the transition to the new nodal market:

> The wholesale market should function more efficiently under the nodal market design by providing better incentives to market participants, facilitating more efficient commitment and dispatch of generation, and improving ERCOT's operational control of the system. The congestion on all transmission paths and facilities will be managed through market-based mechanisms in the nodal market. In contrast, under the current zonal market design, transmission congestion is most frequently resolved through non-transparent, non-market-based procedures.[14]

The switch to the nodal system will provide the transparency that is significantly lacking in today's zonal market. Not only will this translate into a more efficient system, but it will provide a substantially increased ability to track individual market transactions that are now hidden from view. It is the transparency of the nodal market, rather than any of the *Staff Report's* recommendations, that will promote and ensure legal market behavior by market participants—and save consumers money. "In the long-term, these enhancements [of the nodal design] to overall market efficiency should translate into substantial savings for consumers."[15]

TPPF Recommendation 1.1: Eliminate the Price Cap and Market-share Cap in the Wholesale Market Once the Transition to Nodal Is Complete

Two more design features of today's wholesale market that inhibit competition and decrease efficiency are the price cap and the market share cap.

The engineering requirement that load always equal generation creates a difficulty for electricity markets. Base-load generation with low operating costs will generally run whenever it is available, but power plants needed to equate demand and supply at the system peak will only run for a few hours in a year. A peaking plant must receive prices that cover both its operating and capital costs.

Other regions have introduced administered capacity markets to ensure adequate payments to seldom-used generators. However, Texas has chosen to encourage investment in peaking capacity by allowing on-peak energy prices to reach extremely high levels. This is known as an "energy-only" market. In its deliberations on capacity vs. energy-only markets, PUCT staff reported that costs were higher in RTOs with capacity payment requirements and there were few, if any, concrete benefits in return for the larger bills. To facilitate ERCOT's energy-only market, the PUCT has raised its bid ceiling over time from $1,000 per MWh to the current $2,250 to eventually $3,000 once the nodal system is fully operational. Along with raising the price cap, the PUCT has required the release of more data on loads and resources in order to facilitate better investment decisions.[16]

In an energy-only market, new capacity will only be built when investors believe that the risk-adjusted returns on it are high enough. A price cap makes this investment much riskier, particularly for plants that only run at peak usage levels. While Texas has certainly been blessed with an abundance of new generation since competition was introduced, the future is less certain. In particular, inefficiencies and distortions being introduced into the system by mandated and subsidized wind-generated electricity are making investment in peaking generation looking less attractive. A price cap exacerbates this problem by limiting the ability of generators to earn sufficient returns in the limited runs that are typical of peaking plants. Efficient shortage pricing is a critical element in an energy-only market. Removing the price cap will help ensure that Texas' long-term resource adequacy requirements are achieved.

Sec. 39.154, Texas Public Utility Code, states "a power generation company may not own and control more than 20 percent of the installed generation capacity located in, or capable of delivering electricity to, a power region." Some exceptions in the code have allowed certain grand-fathered generators to exceed this level. Whatever the level of ownership is limited to, it will interfere with the efficient operation of the Texas energy-only market.

Texas invites efficient operation of the market by removing most regulatory barriers to entry found in other markets. Market participants are generally able to act quickly on perceived profit opportunities. This efficient entry provides sufficient supply to meet demand and keep prices low. However, once a generator reaches a certain size, the cap on market share within a power region stops this efficient entry in its tracks. In fact, it may often be the case that the generator that is prohibited from new investment, i.e., the generator that is growing by best meeting market demand, is the most efficient generator.

The current 20 percent cap on market share is arbitrary, has no support in sound economic theory, and should be repealed.

TPPF Recommendation 1.2: Allow Retail Electric Providers to Properly Assess the Creditworthiness of Potential Customers

When a consumer applies for an auto loan, the finance company checks on that consumer's credit history on all types of transactions, including those that have nothing to do with a car. The decision of whether to make the loan, and the rate at which it is offered, may be based on the customer's past history of credit card and mortgage payments. Yet, Texas REPs are restricted in their ability to similarly assess the creditworthiness of their potential customers.

PUCT Substantive Rule Sec. 25.23(c)(1) states that the "failure to pay for merchandise or charges for non-regulated services, including but not limited to insurance policies, Internet service, or home security services, purchased from the electric utility" are "[i]nsufficient grounds for refusal to serve."[17]

Instead, the REPs are allowed to refuse service on a credit-related basis for only these reasons:

- **Failure to pay guarantee.** The applicant has acted as a guarantor for another customer and failed to pay the guaranteed amount, where such guarantee was made in writing to the electric utility and was a condition of service.

- **For indebtedness.** The applicant owes a debt to any electric utility for the same kind of service as that being requested. In the event an applicant's indebtedness is in dispute, the applicant shall be provided service upon paying a deposit pursuant to §25.24 of this title (relating to Credit Requirements and Deposits).

- **Refusal to pay a deposit.** Refusing to pay a deposit if applicant is required to do so under §25.24 of this title.[18]

While these assist in identifying the ability and willingness of potential customers to pay, they are short of the criteria available to most businesses for this purpose. The results in the market show them to be insufficient.

Uncollectible debt is a problem that continues to grow. The amount of uncollectible debt created by delinquent customers for a group of REPs between January 2008 and July 2009 was over $229 million.[19] During that time period, 344,624 customers either moved or switched away with a delinquent balance 30 days old or older. In addition, 756,502 of the 1,467,284 customers that were in payment plans or payment arrangements defaulted on their payments.[20] In other words, 52 percent of all payment arrangements resulted in default.

Not all electric retail providers are equal in terms of their invested capital. Some companies may be better equipped to deal with a short-term increase in their debt burdens. Others may experience significant financial stress. Encumbering REPs with this kind of debt burden threatens to decrease competition in the electric market by destabilizing smaller retailers. As noted previously, bad debts will ultimately be passed down to the consumer in the form of higher rates or charges.

Texas REPs should be able to use the entire range of information available regarding creditworthiness when evaluating applications for service. To further reduce their bad debt, they should also use this information when setting rates for customers.

TPPF Recommendation 1.3: Streamline the Regulation of Rates, Operations, and Services at the PUCT

The PUCT has done a remarkable job of keeping its budget in check for the last decade. Helped by the restructuring of the telecommunications and electricity market, it's spending—absent the system benefit fund—has remained essentially flat.

Given the PUCT's current structure, determining how much of this has been due to decreased workload in telecommunications regulation versus electricity is difficult. Yet, the available evidence points toward greater reductions in telecommunications regulations than for electricity. Several current rulemaking procedures at the PUCT provide evidence that this is the case:

Texas invites efficient operation of the market by removing most regulatory barriers to entry found in other markets.

Table 2: Selected Current PUCT Rulemaking Proceedings

37623	Proceeding to Amend Energy Efficiency Rules
35792	Rulemaking Relating to the Goal for Renewable Energy
36131	Rulemaking Relating to Disconnection of Electric Service and Deferred Payment Plans

As noted above, these PUC proposals are similar to other recent legislative and Sunset proposals that run contrary to the legislative finding that "electric services and their prices should be determined by customer choices and the normal forces of competition." By eliminating these and related rulemaking proceedings, the PUCT should be able to reduce its staff dedicated to regulation of the electricity market.

The Foundation recommends that the PUCT's full time employee (FTE) maximum of 188.6 be reduced to 165. While this is a 14 percent reduction from its maximum potential staffing, it is only a 5 percent reduction from the PUCT's staff level as of August 2008. In its letter to the Legislative Budget Board, the PUCT estimated it could reduce its General Revenue appropriations by $530,000 by remaining at its current staffing levels. The reduction to 165 FTEs could provide an additional savings of about $325,000, for a total reduction in funding of at least $855,000.

The PUCT would be best suited to determine where to make these reductions, but the Market Competition program should be the first place considered. Other options would include Consumer Education and Investigations and Enforcement.

Sunset Advisory Commission *Staff Report* Recommendations

Issue 1 in the *Staff Report* is, "PUC Lacks Regulatory Tools Needed to Provide Effective Oversight and Prevent Harm to the Public." Several of the recommendations in this section are directed toward the Texas electricity market. Three common themes run throughout these recommendations. First, the recommendations are based on theoretical, rather than actual, problems in the competitive market. Second, the recommendations are based on the invalid premise that regulating electric markets is somehow analogous to occupational licensing. Third, these regulation-laden recommendations stand in sharp contrast to the market-oriented recommendations in Issue 2 on telecommunications.

The recommendations are based on theoretical rather than actual problems in the competitive market.

Sunset Recommendation 1.1: Authorize PUC to order restitution to market participants harmed by market power abuse

Sunset Recommendation 1.2: Increase PUC's administrative penalty authority to $100,000 per violation per day for violations of ERCOT's reliability protocols or PUC's wholesale reliability rules

Sunset Recommendation 1.3: Authorize PUC to issue emergency cease-and-desist orders

The *Staff Report* begins its discussion of restitution saying, "Regulatory agencies should have the authority to restore harmed parties' losses as part of an enforcement action, especially in situations where substantial damage can occur." [21] It goes on to note, "Restitution would be limited to actual amounts overpaid by market participants."[22] However, nowhere does the report detail any instances of "harmed parties," "substantial damage," or "actual amounts overpaid" as a result of market power abuse.

The reason for this shortcoming in the *Staff Report* is simple: there are no actual examples of market power abuse in the Texas wholesale market. This is obvious from even a cursory review of Potomac's *2008 Independent Market Monitor* report. The Foundation has already noted Potomac's finding that "the competitiveness of supplier offers improved considerably in 2006 compared to 2005, followed by even more substantial improvement in 2007 and 2008."[23] This finding was based on extensive review and analysis of the competitive performance of the market conducted by Potomac and reported in Section IV of the report.

First, Potomac indicated that it looked at structural market power indicators. The key indicator they used was the pivotal supplier. Potomac postulated that only when a supplier is pivotal can it have the ability to exercise market power.

Potomac employs a structural indicator to identify whether the potential of illegally abusing market power exists. This indicator "does not illuminate actual supplier behavior" or "indicate whether it would have been profitable for a pivotal supplier to exercise market power." However, "it does identify conditions under which a supplier would have the ability to raise prices significantly by withholding resources." [24]

Potomac's findings attest to the structural maturation and increasing competitiveness of the wholesale market:

> The frequency with which at least one supplier was pivotal in the balancing energy auction … has fallen consistently from 29 percent of the hours in 2005, to 21 percent of the hours in 2006, and to less than 11 percent of the hours in 2007 and 2008. These results indicate that the structural competitiveness of the balancing energy auction in 2008 maintained the improvement exhibited in 2007 compared to prior years.

After Potomac confirmed the increasing structural health of the market, it turned to an evaluation of supplier conduct. This analysis encompassed an evaluation of "actual participant conduct to assess whether market participants have attempted to exercise market power through

Table 3: Evaluation of Supplier Conduct

Market Test	Market Monitor Finding
Balancing energy auction offer patterns	We do not find that the un-offered capacity raises potential competitive concerns.
Potential physical withholding	The patterns do not indicate physical withholding by the large suppliers
Potential economic withholding	The results indicate very competitive market outcomes in 2008

Source: Potomac Economics, LTD, ERCOT 2008 State of the Market Report

physical or economic withholding."[25] In this analysis, Potomac evaluated 1) balancing energy auction offer patterns, 2) potential physical withholding, and 3) potential economic withholding. **Table 3** shows the results of their findings.

"Overall," writes Potomac, "we find that the ERCOT wholesale market performed competitively in 2008."[26] While the report for 2009 has not yet been completed, there are no indications of any problems in 2009—or in 2010. ERCOT's wholesale market is as competitive as any in the world. There are no instances of illegal use of market power that could be used to justify the *Staff Report's* recommendations for the electricity market, including authorizing the PUC to order restitution.

A rapidly improving system that has not provided even a single, debatable example of market power abuse for over four years isn't likely to provide enough in the future to justify the *Staff Report's* recommendations 1.1, 1.2, and 1.3. All of these are significant departures from the policy of the Texas Legislature for the last 15 years. Additionally, all of them would contradict the Legislature's edict that "electric services and their prices should be determined by customer choices and the normal forces of competition."

The *Staff Report's* recommendations would likely interfere with the existing robust monitoring and enforcement activities of the Market Monitor and the PUCT enforcement staff that currently serve as further deterrents to anti-competitive behavior.

The current system is well focused on identifying and correcting any instances of market power abuse. The *Staff Report's* recommendations, however, would turn the process away from enforcement to dispute resolution between market participants. In particular, businesses would have the incentive to ask the PUCT to find market power abuse where none existed, as well as attempting to intervene in enforcement disputes.

Additionally, the nature of ERCOT's wholesale market would make it virtually impossible to determine the amount of restitution in any particular case. The best case scenario would involve highly theoretical claims for restitution. The end result would often be electricity purchasers engaged in rent seeking. In other words, they would seek to reduce their electricity bills through the regulatory process instead of in the marketplace.

Given the highly competitive nature of the market, the future shift to nodal that will improve efficiency and competition, the existing regulatory oversight within the parameters of legislative policy, and the likely interference of the *Staff Report's* recommendations with regulatory oversight, the *Staff Report's* recommendations should not be adopted. The addition of unneeded restitution and penalty provisions would not improve the competitive market, but would discourage investment—which ultimately *diminishes* competition.

Nonetheless, some critics of market competition may use the alleged market power abuse of TXU in 2005 as justification for these recommendations. There are three responses to this.

First, the theory of market power used to support the allegations was flawed. Market power is a concept that flows from the theory of perfect competition. In the model of perfect competition, producers have no control over prices. They can sell as little or as much as they want and the price never changes.

For the exercise of market power to be illegal, it must be done in conjunction with some other undesirable activity.

Of course, no such market has ever existed. And we know that sellers in fact do have control over the prices they charge at some point in time. So a key factor in understanding this issue is that the exercise of market power in and of itself is neither illegal nor undesirable. It is the abuse of market power that is at question.

Texas law puts it this way:

> market power abuses are practices by persons possessing market power that are unreasonably discriminatory or tend to unreasonably restrict, impair, or reduce the level of competition, including practices that tie unregulated products or services to regulated products or services or unreasonably discriminate in the provision of regulated services. For purposes of this section, "market power abuses" include predatory pricing, withholding of production, precluding entry, and collusion.[27]

One way of restating this is that for the exercise of market power to be illegal, it must be done in conjunction with some other undesirable activity. In the case of TXU in 2005, the alleged undesirable activity was the withholding of production.

The PUCT's current rule explains withholding of production as follows:

> Prices offered by a generation entity with market power may be a factor in determining whether the entity has withheld production. A generation entity with market power that prices its services substantially above its marginal cost may be found to be withholding production; offering prices that are not substantially above marginal cost does not constitute withholding of production.[28]

This takes us back to the model of perfect competition, which economist Art Laffer explains is "the source of the belief that it is inefficient when firms have market power."[29] Under a model of perfect competition, where a producer can sell as much or as little at it desires without impacting prices, it will sell every unit it can sell until its costs exceed the selling price.

However, in the real world, the obsession with marginal costs fails. Increases in output in a competitive market inevitably lead to lower prices. And these lower prices become the price for all output. Eventually, a producer is selling a substantial portion of its output at marginal cost with no hope of recovering its capital investment. That is a good model for going broke.

Laffer explains what happens with these theoretically attractive but empirically deadly theories like the efficiency of selling at marginal cost:

> It would be one thing if the strange fascination with the perfectly competitive model were confined to abstruse journals of high theory. However, the bad habits of thought have trickled into other areas, including policy analysis. For example, when deciding whether to allow a proposed merger, a standard practice is to check for the amount of market power the new firm would possess. This mentality comes straight from the textbook model of perfect competition.[30]

An examination of the charges against TXU reveals this is exactly what happened when it comes to marginal cost pricing.

Potomac's report on the situation states that "it is incongruous with competition" to sell electricity at a price reflecting "the full costs of owning, operating, and maintaining the generating units expected to be needed to satisfy forecast load."[31] They say that "the costs are 'sunk' and should have no effect on the offers to produce energy from a resource." Potomac goes on to say:

> Therefore, when devising a profit-maximizing strategy for operating those units for a given period of time, there is no basis for an entity that is act-

> ing competitively to take into account sunk costs. Rather, a profit-maximizing strategy should be the same regardless of whether TXU won the units in a lottery or TXU paid a large sum to buy the units. Investment is inherently risky and not all investors recoup their initial sunk costs, but a profit-maximizing strategy is the same in the short-run regardless of whether the investment is profitable in the long-run. Thus, the sunk and other fixed costs are not relevant to the determination of a competitive offer.[32]

This, too, is a recipe for a lousy return on investment and an economic disaster for a market.

Potomac offers a final glimpse at the influence of the model of perfect competition when it says, "Hence, offering at marginal cost is profit-maximizing for a supplier in a perfectly competitive, well-functioning market."[33]

Sound economic theory, based on real-world observations, rejects determining the withholding of production, and thus, market power abuse, based on the pricing of goods "substantially above" marginal costs.

The second response to market critics' use of TXU's 2005 market pricing is that since the electricity market itself is designed by the state, Texas government—specifically the PUCT—had substantial influence over the behavior of market participants and market prices in 2005. As Potomac has been saying for years, the zonal system's "market rules and procedures are resulting in systemic inefficiencies."

The state's substantial influence over the Texas wholesale market does not mean it is responsible for all the prices or acts of market participants. However, when these are being analyzed to see if they are inefficient to the point of being illegal, the inefficiencies introduced into the system by the state must also be identified and isolated. But this didn't appear to be the case in 2005, when actions by market participants were analyzed under the theory that "offering at marginal cost is profit-maximizing for a supplier in a perfectly competitive, well-functioning market," when in fact the regulatory design of the market was not functioning so well.

Finally, proponents for increased regulation should note that it is no longer 2005. While this point is obvious, it does not appear that it was taken into account when these recommendations were developed.

The substantial improvement in the competitiveness in the wholesale market since 2005 is why this is important. Once again, we quote Potomac as noting that "the competitiveness of supplier offers improved considerably in 2006 compared to 2005, followed by even more substantial improvement in 2007 and 2008."[34] The competitiveness of the wholesale market today is substantially better today than it was in 2005, and will be even more substantially improved once the nodal system is in place.

ISSUE 2: Fuel and Energy Efficiency Mandates Increase Costs and Reduce Consumer Welfare

TPPF Recommendations

- **2.1** Eliminate statutory requirement that 50 percent of new generation be generated by natural gas
- **2.2** Eliminate the Renewable Portfolio Standard
- **2.3** Require wind, solar, and other renewable generators to meet the same standards as other generators
- **2.4** Eliminate Texas' expensive and inefficient energy efficiency program

Key Findings

- Most recent increases in consumer electricity costs resulted from fuel and energy efficiency mandates.
- To date, the CREZ lines are the most expensive subsidy adopted for renewable energy.
- Energy experts report that industrial wind power is proving to be exceptionally expensive to consumers once required backup and additional infrastructure are factored in.

- Government-mandated energy efficiency programs today are designed to increase the cost of energy which results in a decrease in economic growth.

Analysis

While much of the criticism of the restructuring of the electricity market over the last few years has focused on its alleged role in increasing prices, most of the actual increases in consumer costs have been brought about by fuel and energy efficiency mandates. For instance, subsidies for Texas wind energy through the federal Production Tax Credit should cost taxpayers about $300 million in 2010—though this is a tax subsidy, not an add-on to the electric bill.[35] The cost of wind Renewable Energy Credits—perhaps $41 million this year—are passed on to consumers through the price of electricity.[36] Finally, Competitive Renewable Energy Zone transmission lines—being built to transmit electricity from wind in West Texas—will add as much as $1.3 billion annually to electricity bills once the lines have been completed.[37] The extra annual cost to consumers and taxpayers for wind energy could reach $2 billion by 2020.[38] Likewise, government-mandated energy efficiency programs today generally work by increasing the cost of electricity in order to reduce electricity consumption. In all of these cases, consumers or taxpayers pay more for electricity. The result is reduced economic growth and decreased wealth for most Texans.

A common defense of subsidies for renewable energies is that traditional energy sources receive subsidies, so why shouldn't wind, solar, biomass, and other renewable energy sources? While it is true that most energy sources get some sort of government subsidy, this argument ignores the fact that subsidies for certain renewable energy sources are far higher on a per unit of production basis than traditional sources of energy.

Texas subsidies today also favor renewable fuels, certainly on a per unit of production basis, and probably on an absolute basis. The Texas Comptroller noted that $6.2 million of Texas subsidies went toward renewable energy sources in 2006—much less than subsidies to conventional energy sources.[39] But that was quite early in Texas' rapidly growing commitment to renewable energy.

For 2008, the Electric Reliability Council of Texas (ERCOT) estimated that renewable energy credits (RECs) cost between $13 and $65 million.[40] The Foundation estimated the 2008 costs at $28 million, and 2009 costs at $41 million.[41] Through 2025, the cost of RECs could total as much as $1.4 billion.

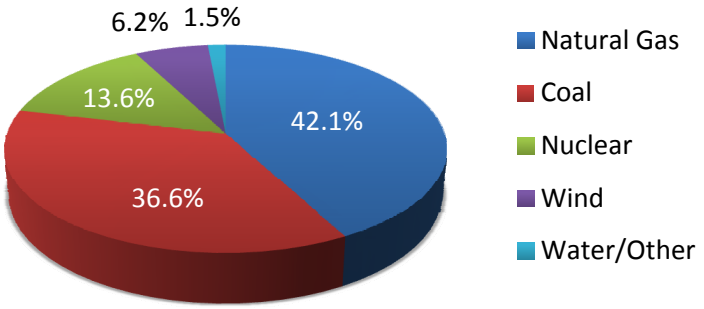
The most significant renewable energy subsidies are yet to come. The Foundation has not yet examined the costs of current and proposed subsidies such as tax credits for these technologies—including clean coal and carbon-

Table 4: Federal Financial Interventions and Subsidies in Energy Markets, 2007

Fuel	FY 2007 Net Generation (billion kWh)	Subsidy & Support Value (million dollars)	Subsidy & Support Per Unit of Production (dollars/MWh)
Solar	1	$14	$24.34
Wind	31	$724	$23.37
Nuclear	794	$1,267	$1.59
Geothermal	15	$14	$0.92
Biomass (and biofuels)	40	$36	$0.89
Hydroelectric	258	$174	$0.67
Coal	1,946	$854	$0.44
Natural Gas and Petroleum Liquids	919	$227	$0.25

Source: Energy Information Administration

Figure 4: 2009 ERCOT Generation by Fuel Type



Source: Barry Smitherman, PUC chairman, April 29, 2010 presentation

capture, but we did look at the costs of transmission lines being built in response to the Legislature's mandate to collect wind-generated electricity from designated Competitive Renewable Energy Zones (CREZ).

To date, the CREZ lines are the most expensive subsidy adopted for renewable energy. Unlike RECs, the cost to build the CREZ transmission lines will be added to the bill of every electricity consumer in ERCOT. While this same process is true of all transmission built in Texas, it is proper to characterize these costs as subsidies for renewable energy—particularly wind—because these lines are being built to where there is little other generation except wind. And that is likely to remain the case.

As discussed more below, the characteristics of wind energy—particularly in light of the federal production tax credits (PTC)—will make it difficult for other fuels to economically compete for transmission space on CREZ lines. The CREZ lines were built because the Texas Legislature mandated a system for the collection of electricity generated by wind. Combined with the economics of wind energy and the fact that consumers—rather than producers—have to pay for the CREZ lines, the vast majority of the costs of building the CREZ lines will be of direct benefit of wind producers at no cost. These lines would not have been built in a marketplace free of mandates and subsidies.

The process for building the CREZ lines is just getting underway. It is likely that the lines will not begin to come on line until 2011. The cost of each line won't be known until it is completed, and only after that point will the charges be added to consumers' bills.

The overnight cost of building the CREZ transmission lines was originally estimated to be $4.93 billion.[42] However, this amount does not include costs such as financing and escalation in construction costs. Adding these would raise the price to an estimated $7.8 billion.[43] This price still does not include profit or costs to transmission companies such as operations, depreciation, interest, and maintenance over the life of the project. The Foundation has used a conservative recovery factor of 17 percent to calculate the annual impact of all of these costs on Texas consumers.

Using this formula, the Foundation estimates that the CREZ lines will cost Texas consumers up to $17.9 billion through 2025. Depending on when the transmission begins and the builders of the CREZ lines can begin to recover their costs, consumers could begin paying as much as $300 million by 2011. Costs should top out at about $1.3 billion annually toward the middle of this decade.

These high levels of subsidies for renewable do far more to distort the market and introduce inefficiencies into the system than the minimal subsidies for traditional fuels. Other distortions and inefficiencies come from regulatory mandates and restrictions on different fuel sources. These often come in the form of mandates for certain levels of production—renewables and natural gas currently have

such mandates in Texas. They also come through restrictions on production from fuels such as coal and nuclear material.

While it is impossible to know exactly what the generation mix would be today if not for the interventions in the market, it is safe to say that the environmental restrictions on nuclear and coal have at least partially accomplished their purpose and reduced generation from these sources, that natural gas has benefitted from the absence of these fuels and has a higher market share that it would otherwise, and that wind—which has received the bulk of renewable energy subsidies in Texas—has substantially increased its production levels above where they'd be in an unfettered and subsidized market.

TPPF Recommendation 2.1: Eliminate statutory requirement that 50 percent of new generation be generated by natural gas

In the 1990s, natural gas' low price and lower emissions made it an attractive fuel source for generating electricity. In 1999, the 76th Texas Legislature passed Senate Bill 7 to deregulate the retail electricity market in Texas. One provision in SB 7 attempted to take advantage of the attributes of natural gas by mandating that 50 percent of all new generation be produced by natural gas. According to its bill analysis, SB 7 mandated that "50 percent of the megawatts of generating capacity installed in this state after January 1, 2000, use natural gas." The law enforces this generation mandate through the natural gas energy credits (NGEC) trading program. According to Sec. 25.172, Title 16, Texas Administrative Code, an NGEC will be issued to a power generation company for each megawatt of new generation capacity fueled by natural gas.

Natural gas prices did not cooperate with the intent of SB 7. The wellhead cost of natural gas per thousand cubic feet (Mcf) increased from an average of $2.17 in 1999 when SB 7 was passed to $10.33 in 2005 after Hurricanes Katrina and Rita, and hit its peak in July 2008 at around $11.32.[44] Spot prices rose even higher, to over 13 cents. At these higher prices, electricity produced by natural gas was no longer a bargain when compared to coal- and nuclear-generated electricity. Of course, natural gas prices are much lower today than they were during the last decade's peak. The average wellhead price in February was $4.89—still twice as high as the 1999 price.[45]

SB 7 also required the Public Utility Commission of Texas to "establish a program to encourage utilities to comply with this section by using natural gas produced in this state as the preferential fuel." So not only was SB 7 designed to give a preference for natural gas as the best fuel for generating electricity, it was also designed to increase the market share of Texas producers of natural gas.

There are other examples of well-intentioned but ultimately harmful government mandates to secure energy supplies. The oil crisis in 1973 inspired a campaign for conservation among environmental activists and regulators who were afraid that oil and natural gas resources would run out. As a result, in 1978 the Power Plant and Industrial Fuel Use Act (FUA) restricted construction of power plants using oil or natural gas as a primary fuel source. At the same time, the FUA also encouraged the construction of coal and nuclear power as "alternative" energy.

By the mid-1980s it was obvious that we were not going to run out of natural gas for a while, as prices declined and supplies increased. And coal soon became an unpopular fuel source among environmental activists. In 1987, the Natural Gas Utilization Act repealed some of the FUA restrictions on natural gas use. Although some restrictions remained in place (certain operating conditions needed to be met), all power plants built after 1987 were unrestricted and free to use oil and natural gas as a fuel source.

It is not clear that today's mandate has led to Texas' heavy reliance on natural gas for new generation. Regulatory restrictions on coal and nuclear plants, the high price of renewables, and the rapid growth of demand in ERCOT has made natural gas the natural choice for most of the new generation since restructuring began. Yet, low prices or these other factors don't make a mandate for natural gas—or any other fuel—an efficient means of producing electricity.

TPPF Recommendation 2.2: Eliminate the Renewable Portfolio Standard

Despite reports to the contrary, wind, water, biomass, and the sun are about the oldest energy sources put to use by mankind. Over time, the inherent limitations in each of these sources has motivated people to seek out better, more efficient fuels to power society.

The challenges of renewable energy sources are well documented throughout history. For instance, in 1865, W. Stanley Jevons wrote:

> "No possible concentration of windmills … would supply the force required in large factories or iron works. An ordinary windmill has the power of about thirty-four men, or at most seven horses. Many ordinary factories would therefore require ten windmills to drive them, and the great Dowlais Ironworks, employing a total engine power of 7,308 horses, would require no less than 1,000 large windmills!"

More recently, the Texas Comptroller's office acknowledged, "[T]he peak use of farm windmills was in the 1930s and 1940s when over 6 million were in operation. …"[46] Why did farmers turn away from windmills? Because the electrification of the country brought farmers a power source that was more reliable and less expensive than wind.

Of course, modern technology allows renewable energy fuels to be used more efficiently today than they were 150 years ago, or even 50 years ago. But the same is true for fossil fuels—not to mention our most modern of energy resources—nuclear energy. Absent a significant, expensively-gained technological breakthrough, fossil and nuclear fuels will remain more efficient and less expensive than renewable fuels.

There are many who dispute this. Even the PUCT has said, "[R]enewable generation has reduced wholesale and retail energy prices during some periods. … Wind generation has had the impact of reducing wholesale and retail prices of electricity."[47] Yet this analysis looks only at prices, and ignores the numerous other costs of renewable such as subsidies, tax breaks, and inefficiencies introduced into the market.

Absent a significant, expensively-gained technological breakthrough, fossil and nuclear fuels will remain more efficient and less expensive than renewable fuels.

For instance, one reason wind energy can bring down prices is because wind producers sometimes pay consumers to "buy" it from them. They can do this because of the federal PTC, which pays producers for every kilowatt generated. Thus, if the wind is blowing and a producer cannot find a buyer for its electricity, it can actually pay the "buyer" a portion of the subsidy to take delivery of the electricity and still turn a profit, at least based on marginal costs.

So while the price may be lower in some instances, the total costs of renewable energy are higher than fossil and nuclear fuels. Consumers will always bear these higher costs, either in the form of prices or taxes. Thus, unlike fossil fuels where the risks of bringing new generation online are borne mainly by investors, the cost of developing renewable fuels are increasingly being paid for by consumers.

Eliminating the renewable portfolio standard (RPS) would save Texas consumers as much as $41 million this year and over $1 billion through 2025. However, if the RPS is not repealed, consumer costs could grow much greater as pressure mounts on the Legislature to increase the subsidies for renewable energy, particularly for solar and biomass. One bill proposed last session would have increased the residential cost of the RPS as much as $220 million annually—without factoring in the cost of the bill to businesses which eventually pass those costs through to consumers.[48]

These high levels of subsidies for renewable do far more to distort the market and introduce inefficiencies into the system than the minimal subsidies for traditional fuels.

TPPF Recommendation 2.3: Require wind, solar, and other renewable generators to meet the same standards as other generators

Wind is free—there is currently no property right to wind—but wind energy is expensive. In fact, it has been called "the most expensive form of generation we have in Texas."

According to Richard Baxter:

> Wind is not a typical energy source. It is variable, and the best wind resources generally require longer- distance transmission of the power than for other forms of generation. These considerations raise the cost of utilizing this resource. Even relatively recent estimates put the cost of integrating wind energy into the grid at 5 percent to 30 percent of the cost of generation.[49]

In a report compiled for Ontario (Canada) electricity consumers, Keith Stelling writes, "Energy experts report that industrial wind power is proving to be exceptionally expensive to consumers once required backup and additional infrastructure are factored in."[50]

Stelling attributes the high cost to (1) the need to maintain backup generating reserve to cover times when the wind does not blow, (2) the need to stabilize the grid when wind produces power that is not needed by current demand, and (3) government subsidization and tax benefits for the wind industry.

The backup generation and grid-related costs of wind energy will be passed on to ERCOT ratepayers. Adding over 11,000 MW of wind generating capacity to take advantage of the CREZ transmission capacity could increase ERCOT's system production costs by $1.82 billion per year.[51]

One problem in ERCOT with these costs of wind is that they are not paid for by wind generators. When a conventional generator doesn't provide the electricity promised, the costs to the system are paid for by that generator. That is not the case with wind. When the wind unexpectedly stops blowing and new generation has to be brought immediately online, the costs are socialized. In other words, consumers rather than generators pay for the unreliability of wind.

Wind subsidies, especially the PTC, exacerbate this problem. The below market cost of wind floods the system with more wind than it would otherwise have, increasing the challenge of maintaining system reliability and the costs of ancillary services. Additionally, the below market prices tend to suppress prices system wide. There is growing evidence that this is dampening investment in peaking generation. Not only could this have a detrimental impact on system reliability at peak loads, it could also threaten the success of Texas' energy-only market. The market relies on market incentives to provide the right mix of generation capacity, particularly peaking capacity. If the right signals are not sent, resource adequacy will be a problem, and may lead to political action modifying the energy-only market.

ERCOT has for over a year been working on the development of a Wind Cost Allocation Proposal. The PUCT recently instructed its staff to open a project on this issue. Either ERCOT, the PUCT, or the Legislature should take action resulting in the allocation of wind costs to wind generators.

TPPF Recommendation 2.4: Eliminate Texas' expensive and inefficient energy efficiency program

The Texas Legislature has mandated the state's current energy efficiency program that calls for "each electric utility [to] provide … incentives sufficient for retail electric providers and competitive energy service providers to acquire additional cost-effective energy efficiency for residential and commercial customers equivalent to at

least … 20 percent of the electric utility's annual growth in demand of residential and commercial customers by December 31, 2009."

Energy efficiency has greatly benefitted society and has been a key part of America's and Texas' economic growth. Energy intensity, the amount of energy it takes to produce a unit of output—or a unit GDP, has been decreasing steadily. Since at least the Industrial Revolution, the world has been increasingly energy efficient. Yet, at the same time, the world has used more energy.

Ultimately, energy efficiency makes energy less expensive so we can use more energy. The public benefit of energy efficiency is that we are able to use more energy that produces more economic growth that makes society wealthier and healthier.

However, government-mandated energy efficiency programs today are designed to *decrease* energy use. And, as described below, they generally do this by *increasing* the cost of energy which results in a decrease in the economic growth.

Within the last year, there have been several proposals to expand the state's energy efficiency program. These included several bills during the Texas Legislature's 2009 regular session, and more recently the ongoing rulemaking at the Texas Public Utility Commission.

The costs of the program are significant. We estimate that the program cost consumers approximately $108.4 million in 2009. Since 2002, the total cost of the program has been $591 million. And the cost increases as the program expands. One proposal last session would have added as much as $426 million in annual costs to the program.

The Foundation will be publishing a more complete report on Texas' energy efficiency program in the near future, but here is a brief discussion of the problems and costs of the current program:

- ***The PUCT currently uses a cost-benefit method that does not accurately measure the program.*** Texas is almost alone among the states in using a "Program Administrator Cost Test" (PACT) to evaluate its efficiency programs. Costs under a PACT are only the administrative costs incurred by the administrator (again, the utility), incentives paid to the customers, and possible increased supply costs for periods in which load is increased. "By defining device costs exclusively in terms of costs incurred by the administrator, the [PACT] results reflect only a portion of the full costs of the resource."[52] That is, the PACT ignores the expenses consumers incur in achieving the reduced energy consumption, understating the total costs of the programs and thus overstating the cost savings, i.e., efficiency, of the programs. For instance, an investment whose actual cost is $110 might save future power costs of $100, and allow the utility to give the user $50 (the incentive percentage allowed for residential and small commercial customers). The user happily pays the remaining $60 to save $110 on its power costs. The utility reports that its $50 investment has passed a PACT test by saving $100 of power. Society, however, has spent $110 in order to buy only $100 of power savings.

- ***Absent information that has yet to be produced, the state's energy efficiency program cannot be justified.*** In its current rulemaking, the PUCT said it has determined that for the first five years of the amendment "the public benefit anticipated as a result of enforcing the amendment will be an increase in energy efficiency services available to Texas consumers and a decrease in overall energy consumption." As previously noted, there is insufficient supporting documentation for this claim. Additionally, it demonstrates a fundamental economic misunderstanding. An uncompensated decrease in a person's consumption of any economic good is a cost, not a benefit. The fact that the person has chosen not to purchase the "energy efficiency services" and chosen instead to consume electricity is an indication that a program to mandate this change makes her worse off, not better. Additionally, it is claimed is that "[t]here is an anticipated economic cost to persons who are required to comply with the section as proposed, however the public benefit outweighs the anticipated costs." However, the PUC has collected no data from which one could even conjecture the "anticipated costs" of its program to any entities other than utilities, and the

proposal does not attempt to identify "persons who are required to comply."

- ***Increases in the energy efficiency program's goals make it less efficient***. Because of the nature of the energy efficiency program, increased gains in efficiency come at progressively higher costs. In other words, each unit of decreased electrical use comes at a higher monetary cost. The PUC's own rules state that "An energy efficiency program is deemed to be cost-effective if the cost of the program to the utility is less than or equal to the benefits of the program." Yet, as noted above, the agency cannot accurately determine at this point whether or not the programs under this rule are actually cost effective. As the goals are increased, it will be increasingly difficult for utilities to implement programs that are not burdensome and inconsistent with the statute. This is particularly true when it comes to the reduced load served by the utilities as the result of the increased goals. While the utilities are mostly compensated for the expenses of these programs, they are necessarily reducing their overall demand, and thus their revenues. As regulated entities, they have no other means for increasing demand and the associated revenues except through the PUC.

ISSUE 3: High and/or Inequitable Taxes and Fees Assessed in the Electricity and Telecommunications Markets Increase Consumer Prices and Reduce Consumer Welfare

TPPF Recommendations

- **3.1** Reduce consumer costs and maximize the availability of cost-effective services available to consumers by levying local franchise fees on the basis of the marginal costs of managing the public right-of-way

- **3.2** Eliminate or modify discriminatory and excessive telecommunications taxes and fees

Key Findings

- Consumers in Texas face some of the highest telecommunications taxes in the U.S., while local franchise fees cost consumers of telecommunications services, electricity, and natural gas hundreds of millions of dollars annually.

- Retail telecommunications service providers operate on an unlevel playing field in terms of taxes and fees.

- The *Staff Report's* recommendation to impose an occupational licensing scheme—along with new fees—on the telecommunications and electricity markets misses the mark and serves as tax increase on already heavily taxed consumers.

Analysis

Telecommunications services continue to diversify and expand due to the recent developments in wireless, satellite, and Internet technologies. Voice service consumers, for example, can choose between traditional wireline, cellular, or voice-over-internet protocol (VoIP) platforms. Further regulatory improvements were made in Texas with the passage of Senate Bill 5 in 2005. Senate Bill 5 was a step in the right direction towards promoting regulatory reforms and competition, but it left mostly untouched the monopoly-based taxes and fees levied on telecommunications providers and consumers.

Retail telecommunications service providers operate on an unlevel playing field in terms of taxes and fees. Often times, traditional providers utilize technologies that are subject to many more fees and tax rates than modern competitors. Discriminatory taxes based on technology could negatively impact consumer decision making and therefore promote unfair favoritism in the market.

Consumers in Texas face some of the highest telecommunications taxes in the U.S., while local franchise fees cost consumers of telecommunications services, electricity, and natural gas hundreds of millions of dollars annually. While significant progress has been made recently through the repeal of the Telecommunications Infrastructure Fee (TIF tax) and a reduction in Universal Service Fund fees, much remains to be done. The municipal franchise fee is one place for policymakers to reduce consumers' tax burden, along with the sales tax, which is applied to telecommunications equipment and fees in ways that amount to double taxation for Texas consumers.

Table 5: Annual Franchise Fees Paid Per Household

Municipality	Annual Franchise Fees per Household
Brownsville	$56.38
San Antonio	$56.94
Abilene	$67.75
Lubbock	$67.77
Laredo	$75.55
Garland	$91.69
Austin	$105.70
Mesquite	$126.33
Pasadena	$132.83
Beaumont	$133.75
Corpus Christi	$146.96
Irving	$195.19
Houston	$206.89
Arlington	$209.38
Grand Prairie	$221.10
Dallas	$226.70
Plano	$233.17
Fort Worth	$236.24
Amarillo	$238.08
El Paso	$261.79
Average	***$154.51***

Source: Sarah Glassman, Paul Bachman, and David Tuerck, "Franchise Fees in Texas: Out of Line," Beacon Hill Institute at Suffolk University (Dec. 2008)

TPPF Recommendation 3.1: Reduce consumer costs and maximize the availability of cost-effective services available to consumers by levying local franchise fees on the basis of the marginal costs of managing the public right-of-way

Since 1999, municipal franchise fees have cost Texas consumers over $5 billion. Municipal franchise fees are levied on a variety of consumer services for the use of the public right-of-way (ROW) including telephone, cable, gas, and electricity. Franchise fees in FY 2009 in the 10 largest Texas cities alone cost consumers over $500 million.

Local governments have an obligation to maintain and protect public rights-of-way (ROWs). The way to fund this work is by levying municipal franchise fees, a form of payment from companies that use or occupy the public ROW. However, there is a vast disparity between the costs of maintaining public ROWs and the volume of revenues taken in from franchise fee collections. Cities divert much of this revenue into their general funds. This redirection of surplus franchise fees is an indicator that cities are imposing too high of a franchise fee for its intended purpose.

Because local governments control the ROW, they have long been able to use franchise fees to grow their general revenues. The Texas Legislature has taken notice of this situation and has repeatedly stepped in to change the way in which cities manage the ROW and collect revenue from franchise fees. While the Legislature has improved

Rather than trying to extract the maximum rent from consumers for the use of the public right-of-way (ROW), cities should price ROW fees based on their marginal costs.

the franchise process, it has unfortunately left franchise fees at high levels. The collection process has become more efficient, yet Texas consumers are still burdened by these fees that continue to rise each year.

Though some courts (and local governments) have said that franchise fees are "essentially a form of rent: the price paid to rent use of public right[s] of way," it is wrong to think of them in this way. Governments are not private landlords seeking to extract maximum profits from private property, but guardians of the public interest. As such, governments should not seek to extract maximum rents from the public for the public's use of the ROW. High rates cost consumers money, disrupt the most efficient use of the ROW, and reduce the quality and availability of services to the public.

Rather than trying to extract the maximum rent from consumers for the use of the public right-of-way, cities should price ROW fees based on their marginal costs. In other words, while the cities' costs of managing the ROW shouldn't exceed their revenues, neither should cities turn a profit. Transparency is a key factor here. Fees levied for the use of the ROW should be used for management of the ROW, rather than being used for general revenue.

Applying the following principles to franchise fees would make them appropriate and transparent:

- To maximize the availability of cost-effective services available to consumers, franchise fees should be levied on the basis of the marginal costs of managing the public ROW.
- Franchise fees should generally be levied only on the entity that owns the poles or conduits that occupy the ROW.
- Entities that use poles or conduits owned by other entities should pay for the use of the ROW through pole connection charges and associated fees rather than through franchise fees.
- Any reduction in franchise fees under the marginal cost model should be phased in over a period of several years in order to give cities time to adjust their budgets.
- In return for the reduction of franchise fees, entities that occupy the public ROW should bear responsibility for relocation costs associated with municipal projects.

The Foundation estimates that these principles would reduce franchise fees by 50 to 90 percent, depending on the city.

TPPF Recommendation 3.2.1: Promote healthy competition within the telecommunications industry by having a uniform method for determining property values

Texas' 21st century telecommunications tax structure is still based on a 20th century telecommunications regulatory model. Certain companies are treated as though they are still the "utilities" of old, while other, newer firms are not defined by such frameworks.[53]

Early telecommunications policy grew out of the fact that there was a monopoly telephone service provider. The government can collect high taxes on such a business without creating additional significant economic distortions. In a competitive market, however, the same high taxes distort prices and therefore change consumer behavior and investments. Tax structures that treat the industry as though there is still only one hardwired telephone provider are harmful to competition and consumers.

One example of this is that certain telecommunications providers are appraised differently for the purposes of property taxes. In particular, wireline telephone companies are treated as "utility" companies, while others voice service companies are not. This creates a discrepancy in how different telecommunications properties are appraised for property taxes. Utility property is valued using "unit appraisal method," which has historically been used for utilities that operate in highly-regulated industries or across various taxing districts.[54]

Most new companies entering the telecommunications market are not taxed in the same fashion as traditional companies. Their property is typically appraised using a summation approach rather than the unit appraisal method. As a result, lower tax assessments on certain companies can give them an unfair competitive advantage over pre-existing, or older companies. Because this violates the principle of "tax neutrality" within a certain industry, the state should look at ending discriminatory assessments on telecommunications properties.

TPPF Recommendation 3.2.2: Eliminate taxes on production goods that are used to deliver consumer telecommunications service

The Texas sales tax is levied on certain non-retail, or higher-order, telecommunications equipment that is not a consumer product. Examples are machinery, equipment, and software purchased by telecommunications companies that are used in delivering consumer-based products and services. Taxing this equipment at various stages along the production process places a hidden tax on consumers.

Examples of such equipment are as follows 1) antennas, 2) amplifiers, 3) poles, 4) wires and cables, 5) rectifiers, 6) duplexers and multiplexers, 7) receivers, 8) repeaters, 9) transmitters, modems, and routers, and 10) power equipment and storage devices.[55] Telecommunications companies could not deliver retail consumer services without these items, though they are currently being taxed as though these were themselves retail goods. All in all, consumers are fronting the bill for almost $400 million per year for equipment taxes. Over a five year period this will cost consumers almost $2 billion; no small sum.[56]

TPPF Recommendation 3.2.3: Eliminate the "tax on a tax" application of the sales tax to taxes and fees on a telephone bill

Sales taxes levied on telecommunications services function in part as a "tax on a tax" since they are levied on other taxes, including the Federal USF charge, the Texas USF charge, the Utility Gross Receipts Assessment, and the Municipal Franchise Fee. This double-tax costs Texas consumers over $90 million per year.[57]

Just as consumers are paying a double tax on telecommunications equipment at the time of retail purchase, so too are they paying taxes on charges and fees imposed on telecommunications companies by federal, state, and local governments.[58] Upon payment for consumer retail services, the sales tax is being levied on charges such as utility gross receipts, the Texas USF, the Federal USF, and municipal franchise fees. Simply put, consumers are paying taxes on taxes and fees which were already built-in and passed down. Over a five year period from FY 2008 through 2012, consumers could have saved an average of $113 million per year, or, $500 million.[59]

TPPF Recommendation 3.2.4: Reduce the 9-1-1 charge on telephone bills to provide only the revenue necessary to maintain and support the 9-1-1 emergency infrastructure

The FCC has imposed emergency 9-1-1 obligations on "interconnected" VoIP service providers where "interconnected" means any VoIP service that uses public switched telephone networks, including wireless, to initiate or terminate voice calls. By federal law, VoIP providers must 1) deliver all 9-1-1 calls to the local emergency call center, 2) deliver the caller's call-back number and location when the call center is capable of receiving it, and 3) inform their customers of any limitations of 9-1-1 services.[60]

The growing market penetration of cellular, wireless, and VoIP devices has prompted the USDOT to reassess the limitations of the current 9-1-1 emergency system. Their proposed goal is to implement a "next-generation" system which will enable 9-1-1 calls from any networked telecommunication device. The USDOT is currently con-

ducting analysis relating to the implementation of such a system.[61]

The USDOT information on next-gen 9-1-1 service states that the current financing system for 9-1-1 operations will likely be inadequate to fulfill next-generation 9-1-1 infrastructure goals. With an expected increase in federally mandated fees looming on the horizon, Texas should do what it can to decrease the in-state burden to local consumers and prevent the state from raiding surplus 9-1-1 funds.

In recent years, a $90 million surplus of 9-1-1 fee revenues has been accumulating and has been allocated to help balance the general state budget. These 9-1-1 fees are imposed specifically for the use of supporting and maintaining emergency services, not balancing out budget shortfalls in other areas. If 9-1-1 fees are generating excess revenues that are not being used for their intended purposes, then it might be prudent to determine a new, more appropriate fee imposed on consumers.

Sunset Advisory Commission *Staff Report* Recommendations

Sunset Recommendation 1.4: Authorize PUC to require, by rule, renewal of registrations, certifications, and permits as it deems appropriate

Sunset Recommendation 1.5: Give PUC the authority to set reasonable fees in rule for its licensing-related activities related to certifications, registrations, and permits

The *Staff Report* attempts to link the regulation of the Texas electricity and telecommunications markets with occupational licensing programs:

> Sunset has a long history of evaluating regulatory agencies. Ineffective occupational licensing programs served as an impetus behind the creation of Sunset in 1977. Sunset now has completed more than 90 certification and licensing agency reviews. These licensing programs share many of the same regulatory concepts as those used in oversight of PUC's industry-specific licensing functions.

Yet this linkage is tenuous.

In its Sunset Occupational Licensing Model, the Sunset Commission says, that occupational licensing "[r]egulation should protect the public from a potentially serious threat to its health, safety, and welfare."[62]

For the majority of the entities registered with the PUCT—like REPs, power aggregators, and telecommunications providers—there is no connection to health and safety. These entities simply sell electrons to end users. Health and safety issues are mostly limited to the handful of electrical transmission and distribution companies that are responsible for reliability and therefore health and safety. These are heavily regulated companies—monopolies, in fact. There are also safety issues associated with generators, but these also are regulated and have no direct contact with consumers, another criteria usually applied to occupational licensing. A license renewal process would not add anything to the safety to consumers over the current system. They are also few in number, and presumably well known by the PUCT.

Likewise, occupational licensing programs are designed to regulate the provision of personal services by individuals with contact with consumers, not the sale of products by corporations. Haircutters, interior designers, plumbers, and nurses are examples of those who traditionally regulated via occupational licensing.

These individuals are licensed for two basic reasons: to make sure they are qualified to engage in the service—we don't want a high school dropout performing brain surgery—and to ensure that people with certain criminal records do not harm the health of consumers.

Requiring occupational licensing for REPs would be like requiring occupational licenses for T-Mobile, Sears, and Barnes and Noble.

The *Staff Report* recommendation to give the PUC "the authority to set reasonable fees" ignores the fact that most of the companies on which these fees would be assessed already pay the Public Utility Gross Receipts Assessment to the state. The PUCT's Self-Evaluation Report explains the assessment:

> PURA § 16.001 imposes a gross receipts assessment on each public utility, retail electric provider, and electric cooperative within the jurisdiction of the PUC that serves the ultimate consumer, including each interexchange telecommunications carrier. The revenues generated by this assessment are deposited into the General Revenue Fund. The assessment is set in statute at a rate of one-sixth of one percent of gross receipts from the sale of electric and telecommunications services to Texas customers. This assessment, which is collected by the Comptroller of Public Accounts, totaled approximately $50.3 million in fiscal year 2008.[63]

The Texas Comptroller of Public Accounts estimates that revenue from the gross receipts assessment will be $62.4 million this year.[64] The PUCT's budget this year of about $14.5 million means that the businesses that pay the assessment pay taxes to the state that are approximately four times the amount needed to fund the agency that regulates them. It is unclear why the state would need to assess additional fees on these entities.

Additionally, the *Staff Report* states, "No revenue gain to the State would result from this authority, assuming that revenues collected would be appropriated back to the agency for administering these functions." This is not accurate. No matter how the fee is classified, it would be counted as a revenue gain to the state, likely in either GR or GR dedicated funds. This is clearly seen that even if the amounts generated were appropriated back to the agency, the source of revenue previous used for this purpose would then be available for spending elsewhere. This recommendation is a tax, or fee, increase on an already heavily-taxed industry and group of consumers.

ISSUE 4: Current Statute Governing the Texas Telecommunications Market Restricts Competition, Increases Consumer Prices, and Reduces Consumer Welfare

TPPF Recommendations

- **4.1** Remove the authority of the PUCT to regulate rates, tariffs, terms, and conditions of service
- **4.2** Require the PUCT to Sunset all of its telecommunications rules
- **4.3** Introduce competition in telecommunications markets with a population between 30,000 and 100,000 and at least two providers
- **4.4** Adopt *Staff Report* recommendations 2.1, 2.2, 2.3, and 2.4

Key Findings

- The *Staff Report* correctly identifies that it has been the "State's policy to move telecommunications from a regulated to a less restricted, competitive industry."
- Even though more than 15 million Texans live in areas where telephone service has been significantly deregulated, there are still price controls in effect in those areas.
- Many mid-sized Texas telecom markets are ready for competition.

Texas has been one step ahead of the rest of the country in passing major telecom reform legislation, with reforms in both 1995 and 2005. Thanks to the most recent legislation—SB 5—local telephone service for more than 15 million Texans was significantly deregulated as of January 1, 2006. This was a major step forward in reducing costs and bringing new technologies and services to millions of Texans. But there is still room for improvement.

TPPF Recommendation 4.1: Remove the authority of the PUCT to regulate rates, tariffs, terms, and conditions of service

Even though more than 15 million Texans live in areas where telephone service has been significantly deregulated, there are still price controls in effect in those areas. For instance, companies must apply rates evenly across a deregulated market, consistent with pricing flexibility that was available on August 31, 2005. Companies are also subject to price floors for all services set at the service's long-run incremental cost. Finally, they are also subject to applicable PUC rules relating to "discriminatory"

Sales taxes levied on telecommunications services function in part as a "tax on a tax" since they are levied on other taxes.

and "predatory" pricing under Chapter 60 of the Public Utilities Code.

These relics of monopoly regulation—including price caps and floors—should be removed from the current system. Texas telecommunications policy should reflect the ongoing vibrant competition in many markets by immediately removing all price controls in deregulated markets to provide a positive incentive for companies to choose deregulation.

TPPF Recommendation 4.2: Require the PUCT to Sunset all of its telecommunications rules

Many of the provisions in the PUCT's rules are closely related to the antiquated telecommunications statutes. As the statute are changed or become obsolete with technological change, the rules also need changing. The Foundation supports the Sunset of the PUCT's Substantive Rules that applicable to telecommunications service providers.

TPPF Recommendation 4.3: Introduce competition in telecommunications markets with a population between 30,000 and 100,000 and at least two providers

The Texas Legislature introduced competition into any telecommunications market in Texas with over 100,000 in population. The results have been spectacular. However, for market with populations between 30,000 and 100,000, the Legislature provided a test that there must be at least three competitors of which:

(a) at least one is a telecommunications provider that holds a certificate of operating authority or service provider certificate of operating authority and provides residential local exchange telephone service in the market;

(b) at least one is an entity providing residential telephone service in the market using facilities that the entity or its affiliate owns; and

(c) at least one is a provider in that market of commercial mobile service as defined by Section 332(d), Communications Act of 1934 (47 U.S.C. Section 151 et seq.), Federal Communications Commission rules, and the Omnibus Budget Reconciliation Act of 1993 (Pub. L. No. 103-66), that is not affiliated with the incumbent local exchange company.

The result of this test is that few markets have been brought into competition. It should be modified.

Recommendation 2.1 in the staff reports is: Eliminate the statutory test for deregulating a telecommunications market with a population between 30,000 and 100,000, replacing it with a test developed by PUC in rule.

However, this could lead to a market test as strict as the current one. Instead, the test should be modified in statute to allow competition in these mid-sized markets which have at least two competitors, which could come from any of the categories listed in current statute.

TPPF Recommendation 4.4: Adopt Staff Report recommendations 2.2, 2.3, and 2.4

The *Staff Report* correctly identifies that it has been the "State's policy to move telecommunications from a regulated to a less restricted, competitive industry."[65] It continues:

Several statutory obstacles, however, impede this transition. Telecommunications statutes weave a complex web of old and new, highly interrelated policies and requirements that affect the movement toward deregulation, and with it, greater competition in the telecommunications market as envisioned by the Legislature. These policies involve complex issues such as the suitability and affordability of telecommunications products in the market, the cost of providing these services, and even the

continuing need to ensure that everyone has basic local telephone service, known as universal service, and the system of subsidies in place to support it.[66]

To address this, the *Staff Report* makes the following recommendations:

> ***2.2 Eliminate the requirement for PUC to approve customer-specific contracts.***
>
> ***2.3 Eliminate the requirement for telecommunications providers to routinely file contracts for private networks with PUC.***
>
> ***2.4 Eliminate the process for establishing new extended area service.***

The Foundation recommends the adoption of all of these. ✯

Appendix: A Brief History of Market Restructuring in Texas

Electricity

Statewide regulation of electricity came late to Texas, and markets came early. Texas became the last state to regulate retail electric rates when the Texas Legislature created the PUCT in 1975. But it wasn't long before Texas started heading in the other direction.

The move to competition began with 1995 revisions to the Public Utility Regulatory Act (PURA) that required all PUCT-regulated transmission owners to provide open access to wholesale buyers and sellers on terms comparable to those enjoyed by their own retail customers. The law's revisions empowered the PUCT to allow market prices ("market-based rates" rather than cost-based regulated rates) for both wholesale and retail services. It also initiated rulemakings to set transmission rates and to form an independent system operator (ISO) for Electricity Reliability Council of Texas (ERCOT). In 1996 ERCOT was designated by the PUCT as the first ISO authorized to manage wholesale markets in its footprint. Those markets began operating on September 1, 1996.

Texas then successfully transitioned to competition of wholesale power in 1997, requiring the ERCOT transmission owners to offer nondiscriminatory access to their lines. The foundation for retail competition was laid in 1997 when the Legislature said the public interest required that electric services and their prices should be determined by customer choices and the normal forces of competition. In 1999, the Legislature passed Senate Bill 7, which required the start of customer choice by January 2002 and the transition to full competition by January 2007.

When customer choice began, the average consumer had the option of choosing from eight different plans offered by five different Retail Electric Providers (REPs). By the time competition was fully in effect, an average of 17 providers offered 53 plans. Today, the average Texan in ERCOT can choose from about 138 different plans offered by 29 different providers.

Additionally, almost 82 percent of consumers have actively chosen competitive rate plans, while the other 18 percent have benefitted from competition through lowered rates on old plans or getting competitive rates through move-ins. Almost everyone is participating in Texas' highly competitive electricity market. From the perspective of consumer choice, competition has been an unqualified success.

The road for prices was rougher. The two main factors that influenced prices during the transition to competition were the Price to Beat (PTB) and high natural gas prices.

The PTB was originally the regulatory price—both a price floor and ceiling—at which existing or incumbent providers had to sell their electricity. It was hoped that the floor would provide room for new providers to earn a profit by selling electricity at a lower price, while the ceiling was designed to keep prices from rising too high in the early days of limited competition. The PTB was a uniquely successful transition tool that allowed Texas to make the transition to competition where others failed; yet it also distorted prices and market behavior throughout 2005 and 2006.

The problem was that natural gas prices rose by an average of 49 percent between April and November, 2005, and the PTB was pegged to natural gas prices. However, political factors led to no increase in the PTB during this time. However, this delay in incorporating natural gas prices into the price of electricity led to extremely high and sticky prices in 2006 because of the PTB.

By the time 2006 rolled around, it was clear there was no longer any need for the PTB. Competition, in place of regulations, was ready to keep prices low. Yet the PTB served as a psychological price floor during that time, keeping prices higher than they would have been if left to competition. Regardless of the challenges of transition, once competition was fully introduced in 2007, the

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marketplace went to work on prices and produced superior results.

For instance, 2001 regulated rates in Texas' competitive areas (9.98 cents per kWh) averaged 15.8 percent above the national average. In 2010, however, the average competitive price (11.01 cents per kWh) is 8.71 per cent below the national average, while the average of the 15 lowest offers (9.27 cent per kWh) is 23.13 percent below the national average.

More good news for Texas consumers is that competitive prices have fallen not only relative to national prices, but are on average lower in real terms than regulated prices in Texas in 2001. Adjusted for inflation, the average competitive price today is 9.46 percent below the average 2001 regulated price; the average of the 15 lowest prices is 24.39 percent lower; and the lowest average price is 30.5 percent lower. Even without adjusting for inflation, however, most Texans can easily buy electricity today below 2001 regulated prices.

Introducing competition into Texas' retail and wholesale electricity markets has made Texas the greatest success story in the United States—if not the world—by moving away from the model of heavily regulated public utilities, i.e., government-mandated monopolies. That success is largely due to policymakers' willingness to let markets work and not manipulate prices or other policies for political reasons.

The transformation of American electricity markets was dominated elsewhere by a political competition to "design" markets. However, Texas did not "design" a market in any meaningful sense—it instead set general rules market participants and allowed them to compete.

The resulting predictability of Texas markets helps explain why ERCOT territory has seen investment in new generation to a level that continues to maintain reserve margins adequate for powering Texas' future economic growth.

Our research clearly shows that critics of the Texas electricity market have missed the mark. Though they claim that deregulation isn't working, the results under full deregulation have proven otherwise.

The same pattern of faulty reasoning held true across the country. For instance, deregulation was widely blamed for causing California's power crisis. However, the California electricity market was never deregulated. A poorly designed set of wholesale regulations combined with retail price controls led to that market's collapse when natural gas prices skyrocketed. These problems across the country led to the collapse of what had been a robust movement toward restructuring across the country.

The fact that Texas is still moving forward makes us unique among the 50 states. Lynne Kiesling and Andrew Kleit put the Texas experience in context:

> Since the California escapade [of 2000-01], several states have moved backward with electricity restructuring, and no state has moved forward. No state, that is, except Texas. … Texas, alone among the U.S. states, [has] moved forward into a truly restructured and competitive electricity era.[67]

While restructuring has not always gone smoothly and has generated much debate, the problems—high natural gas prices, special interests, and intense media scrutiny—that in other states stopped restructuring in its tracks did not stop Texas, which is now moving forward into the frontier of electricity markets with very little company.

Telecommunications

Prior to 1995, rates for basic local service were dictated by what regulators deemed to be a "reasonable rate of return" on service providers' investments. The rates also were based on the line density in a given location. That is, higher rates were assigned for major cities, where the number of lines is largest, while rates were lowered in rural

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areas with fewer lines. This calculation wholly ignored the actual cost of service, which is greatest where line density is lowest.

Texas lawmakers recognized in 1995 that advances in technology and the concomitant changes in the telecom industry warranted regulatory reforms. Whereas past regulation was solely structured to control government-created monopolies, burgeoning competition rendered such regulation obsolete. So in 1995, the Texas Legislature established an "alternative" regulatory framework to allow incumbent service providers a modicum of pricing independence in return for network upgrades and service discounts to public institutions.

The 1995 amendments to the Public Utility Regulatory Act allowed for expedited review of rate adjustments and the pricing of service packages and promotions. Basic service rates remained strictly regulated, but lawmakers partially deregulated the rates of some "non-basic" services, such as speed dialing, three-way calling and paging, and set conditions for eliminating price caps on other non-basic services, such as call forwarding and caller ID.

But as well-intentioned as lawmakers may have been, the reforms were too limited, and regulatory constraints continued to inhibit investment and competition. One of the major advances in telecommunications has been the convergence of voice, video and data services across all types of telecommunications media. Yet the regulation and taxation of telecommunications services did not keep pace with the technological changes, resulting in regulatory inconsistency between various products and service providers. So the Legislature made more changes in 2005.

In that year, Texas became the first major state to address the disparate treatment of different technologies and services when it passed SB 5. This legislation restructured Texas telecommunication laws in order to foster increased competition throughout the industry, bringing substantial benefits to Texas consumers, businesses, and the economy.

One of the most significant aspects of SB 5 is its provision for a statewide video franchise. Texas was the first major state to allow new entrants to receive a state franchise in order to provide video service that competes with existing cable providers. Companies no longer were required to endure the slow, expensive and anti-competitive process of receiving franchises from local governments.

SB 5 also greatly reduced price regulation for service to a majority of the state's telephone customers. Local telephone service for more than 15 million Texans was moved into competition as of January 1, 2006. And no one has looked back since.

Of course, the telecommunications market is facing potential new regulation in the name of net-neutrality. "Proponents of 'net neutrality' offer no explanation of how our government's regulation of the Internet would differ from that of the Chinese government. In fact, the attack of current providers for prioritizing data is odd, considering both sides of the debate generally agree that prioritization is necessary—the FCC has included a 'reasonable network management' exception to each of the proposed rules."[68]

Yet these regulatory interventions are coming from the federal level. State telecommunications policy is still firmly on track toward competition. ✯

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About the Author

Bill Peacock is the vice president of research and director of the Texas Public Policy Foundation's Center for Economic Freedom. He has been with the Foundation since February 2005. Bill has extensive experience in Texas government and policy on a variety of issues including, economic and regulatory policy, natural resources, public finance, and public education. His work has focused on identifying and reducing the harmful effects of regulations on the economy, businesses, and consumers. Prior to joining the Foundation, he served as the Deputy Commissioner for Coastal Resources for Commissioner Jerry Patterson at the Texas General Land Office and as the Deputy Assistant Commissioner for Intergovernmental Affairs for then-Commissioner Rick Perry at the Texas Department of Agriculture.

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900 Congress Ave., Suite 400 | Austin, Texas 78701 | (512) 472-2700 phone | (512) 472-2728 fax | www.TexasPolicy.com