

Electric Restructuring: Current Successes and Future Technological Innovation

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The Energy Retailer Research Consortium (ERRC) is an independent research consortium that supports retail energy choice. Each year, the ERRC issues the *Annual Baseline Assessment of Choice in Canada and the United States* (ABACCUS), a report about the status of retail electricity competition in North America. The ABACCUS report identifies the successful markets and examines the policy choices that led to those successes.

Members of the general public, who do not follow electric markets closely, are frequently surprised to learn about electric industry successes. Most people recall the California-Enron energy crisis of 2000–2001 and believe that electric industry deregulation was a failure. This mistaken viewpoint reveals a lot about the news cycle: spectacular failures make news, while quiet successes are not covered.

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The truth is that electric markets were not “deregulated”; they were “restructured” in about 20 states, and there have been several notable

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successes. Large electricity consumers view many state efforts as successful. Success is now spreading to residential consumers. Most important, innovation, investment, and the application of new technologies are likely to be outcomes of the market reforms. Retail electric markets may soon be associated with new words like “jobs,” “green,” “infrastructure investment,” and “technological innovation.”

These are a few of the findings in the ERRC’s ABACCUS report. ABACCUS is a report card on the electric industry’s achievements in electric industry restructuring. In the recent report, 12 states and provinces have been assessed as “excellent” or “good” with respect to the implementation of commercial and industrial retail choice.¹ According to the ABACCUS report, commercial and industrial customer choice is thriving in many U.S. states and Canadian provinces because well-structured and implemented electric markets foster the introduction of numerous product offerings and services that were not available in traditional electric markets (i.e., regions with regulated, vertically integrated energy utilities).

WHAT QUIET REFORMS HAVE TAKEN PLACE?

Today, a significant variety of products and services is available in restructured electric markets. For commercial and industrial customers, these products and services include locking in energy prices for a year or more, indexed energy prices, hourly energy pricing, green or renewable products, the bundling of maintenance services with electricity purchases, the development of on-site power generation, premium power quality services, backup power and reliability services, energy-efficiency services, and

opportunities for customers to participate in bulk power markets.

New infrastructure investments—such as advanced meters and new communications and control devices—allow entrepreneurial energy retailers to develop innovative pricing and service choices. In the future, residential consumers will have more choices, including ways to exert greater control to lower their total energy bills, options to reduce their impact on the environment, and alternatives that increase the value of electric service in their lives. Different consumers assign different values to such attributes as reliability, power quality, the environment, and billing options. With these options more readily available, consumers will be able to match their values with offers in the marketplace.

A well-designed market platform delivers clean energy options and consumer choice. The ABACCUS report identifies Texas and New York as leaders in restructuring electricity markets. Appropriate policies in these states helped create vibrant, competitive electricity markets with numerous retailers and many service choices for consumers of all sizes. The report also identifies the Canadian province of Alberta as a leader because its policies have fostered choice for residential electricity customers.

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Combined with appropriate public policies, choice can transform the electric industry. For example, in 2009 market forces delivered lower retail power prices as input fuel prices (especially natural gas prices) fell, and this was of great societal value against the backdrop of an economic slump. Additionally, new mechanisms have resulted in protections for all customers, programs to assist low-income consumers with payment assistance, robust energy-efficiency and demand-response programs based on solid economics and verification standards, and dramatic investments in renewable energy resources.

Restructuring has also occurred in combination with other reforms. In many states, restructuring was accompanied by compromises that resulted in a broader resource mix, including investments in renewable resources. There

is now more wind power production and associated capital investment in Texas than in any other state. Texas also adopted rules for new transmission investments to bring more wind power to the market—from windy West Texas to the population centers in Houston, Dallas, and San Antonio.

WHAT ARE THE SIMPLE MEASURES OF SUCCESS?

When an energy market is restructured, there are many measures of success, such as the level of energy prices, the reliability of power delivery, and the range of products and services offered to consumers. Energy prices are difficult to compare, however, because of regional characteristics (such as access to low-cost fuels) and federal policies (such as investments in hydroelectric power). Further, the states that took the lead on electric restructuring are generally the high-cost states, and thus changes in prices over time is one good indicator of success.

There are two other simple indicators of success.

1. *Number of new companies available:* We can take a snapshot of a state by considering how many new companies offer electric service. This is no longer your Dad's electric industry. Where one regulated utility may have offered one or two tariff options in the past, today there may be ten or more companies, each offering a mix of products and services. For large retail customers, the desirable options relate to fuel-price risk, price indexing, and the ability to provide enhanced reliability on the customer premises. **Exhibit 1** lists the states with 20 or more retailers making offers to large commercial and industrial (C&I) customers.
2. *Ability of customers to actually switch companies profitably:* In most restructured states' efforts, customers at first remain with the "incumbent"—that is, with a company derived from the former regulated utility. Therefore, a second indicator of success in the marketplace relates to the ability of new retailers (new market entrants) to entice customers away from the incumbent.

These retailers must not only offer better service at a lower price, but they must also win the trust and confidence of a consumer. Many new

Exhibit 1. Number of Retailers Making Offers to Large C&I Customers

Texas	60
Maryland	44
Massachusetts	40
New York	40
Pennsylvania	35
Michigan	26
Delaware	23
Illinois	23
New Jersey	21

Source: ABACCUS, p. 9.
 NOTE: A few jurisdictions make no distinction between licensed/certified companies and active companies, thus these data are not strictly comparable. Energy retailers have different names in different states, including Alternative Energy Supplier, Certified Electricity Service Provider, Competitive Electric Provider, Competitive Retail Electric Service Provider, Electric Retailer, Electric Service Provider, Energy Service Company, Licensed Electricity Supplier, Retail Energy Provider, or simply Retailer.

retailers have been highly successful in several states. **Exhibit 2** lists the states and provinces in which retailers have been able to convince more than 50 percent of large C&I customers to switch away from the incumbent retailer since the opening of the retail markets.

A quick assessment of several states and Canadian provinces reveals (1) reduced electric prices as a result of reduced fuel prices, (2) a significant number of new market entrants providing offers to consumers, and (3) a high rate of switching customers away from the incum-

Exhibit 2. Jurisdictions With Greater Than 50 Percent Large C&I Customer Switching

Illinois	94.4%
Maryland	93.5%
Maine	93.2%
Massachusetts	90.2%
New Jersey	83.4%
Alberta	81.8%
District of Columbia	78.2%
New York	76.6%
Texas	75.3%
Delaware	68.6%
Connecticut	65.0%

Source: ABACCUS, p. 10.
 NOTE: These jurisdictions use different definitions; therefore, these data are not strictly comparable.

bent to the new retailers. However, these quick measures do not tell the whole story. There are other determinants of success as well as other measures of success.

How Does ABACCUS Rank the States?

Falling prices, numbers of new retailers, and the percentage switching away from the incumbent are partial measures. A hallmark of the ABACCUS analysis and report is the breadth of the issues explored. The ABACCUS rankings and recommendations address market-design issues that are directly related to the ABACCUS methodology. ABACCUS is organized into four categories of performance: (1) retail market status, (2) wholesale market competition, (3) default or standard service design, and (4) facilitation of the choice of retailer.

This comprehensive assessment methodology was developed over several years through a collaborative effort among retailers and representatives from state regulatory commissions. The ABACCUS methodology applies data related to market structure and performance to score each state or province, which results in a ranking. The 2009 rankings are provided in **Exhibit 3**. **Exhibit 4** displays a map of the C&I market assessments.

The report also presents recommendations based on public policy choices that support the application of competitive forces. Chief among these is the design of default service. First of all, very large customers probably do not need default service because they do not need protection from the market. For smaller consumers, a poorly designed default service program can undermine retail competition because it attempts to provide services that a market can best provide, and therefore creates greater barriers to entry for competitive entities (new retailers) that are better suited to meet unique customer needs.

There are a number of actions that policy-makers can take to reduce the impediments of default service to competitive retail markets. Key among these is the movement of default service to a more market-reflective rate in the near term. Short-term prices are more efficient, exclude the premiums associated with long-term fixed prices, and allow consumers to better respond to price changes. For consumers who desire a longer-term, fixed-price product, competitive retailers offer these products.

Exhibit 3. 2009 ABACCUS Rankings and Assessments

Jurisdiction	Residential		Commercial/Industrial		
	2009 Rank	2009 Assessment	Jurisdiction	2009 Rank	2009 Assessment
Texas	1	Excellent	Texas	1	Excellent
New York	2	Excellent	New York	2	Good
Alberta	3	Good	Maryland	3	Good
Maryland	4	Marginal	Illinois	4	Good
Massachusetts	5	Good	Maine	5	Good
Maine	6	Marginal	Massachusetts	6	Good
Connecticut	7	Good	District of Columbia	7	Good
Illinois	8	Good	Alberta	8	Good
Pennsylvania	9	Good	Connecticut	9	Good
New Jersey	10	Marginal	New Jersey	10	Good
District of Columbia	11	Marginal	Pennsylvania	11	Good
Delaware	12	Marginal	Delaware	12	Good
New Hampshire	12	Marginal	New Hampshire	13	Marginal
Ontario	14	Marginal	Rhode Island	14	Marginal
Rhode Island	15	Marginal	California	15	Marginal
Ohio	16	Marginal	Ohio	16	Marginal
California	17	Unsatisfactory	Ontario	17	Marginal

Source: ABACCUS, pp. 10, 15.

NOTE: Several states received a qualitative assessment slightly inconsistent with the quantitative score. This is intentional. See the report for more information.

WHAT IS HAPPENING IN THE STATES?

Each state has a story to share on electric restructuring. The ABACCUS report includes an appendix that includes a high-level summary of ten years of restructuring activity, tables with switching statistics and the number of retailers, and information about prices. Additionally, the Appendix to this article provides a sense of the recent activities in these states.

CAN WE PREPARE FOR TECHNOLOGICAL INNOVATION?

During the past several decades, rapid technological innovation and commercialization took place on the power-supply side of the electric industry. Significant investments in generation in North America ensure plentiful power supply and competitive pricing in bulk power markets. For example, in Texas, independent power producers added most of the 43,000 megawatts of new capacity between 1995 and 2009 in response to the market signals.² Other markets in North America have added significant new generation capacity, including combined-cycle combustion turbines, efficient combined heat and power units, and wind turbines. Other infrastructure investment has included transmis-

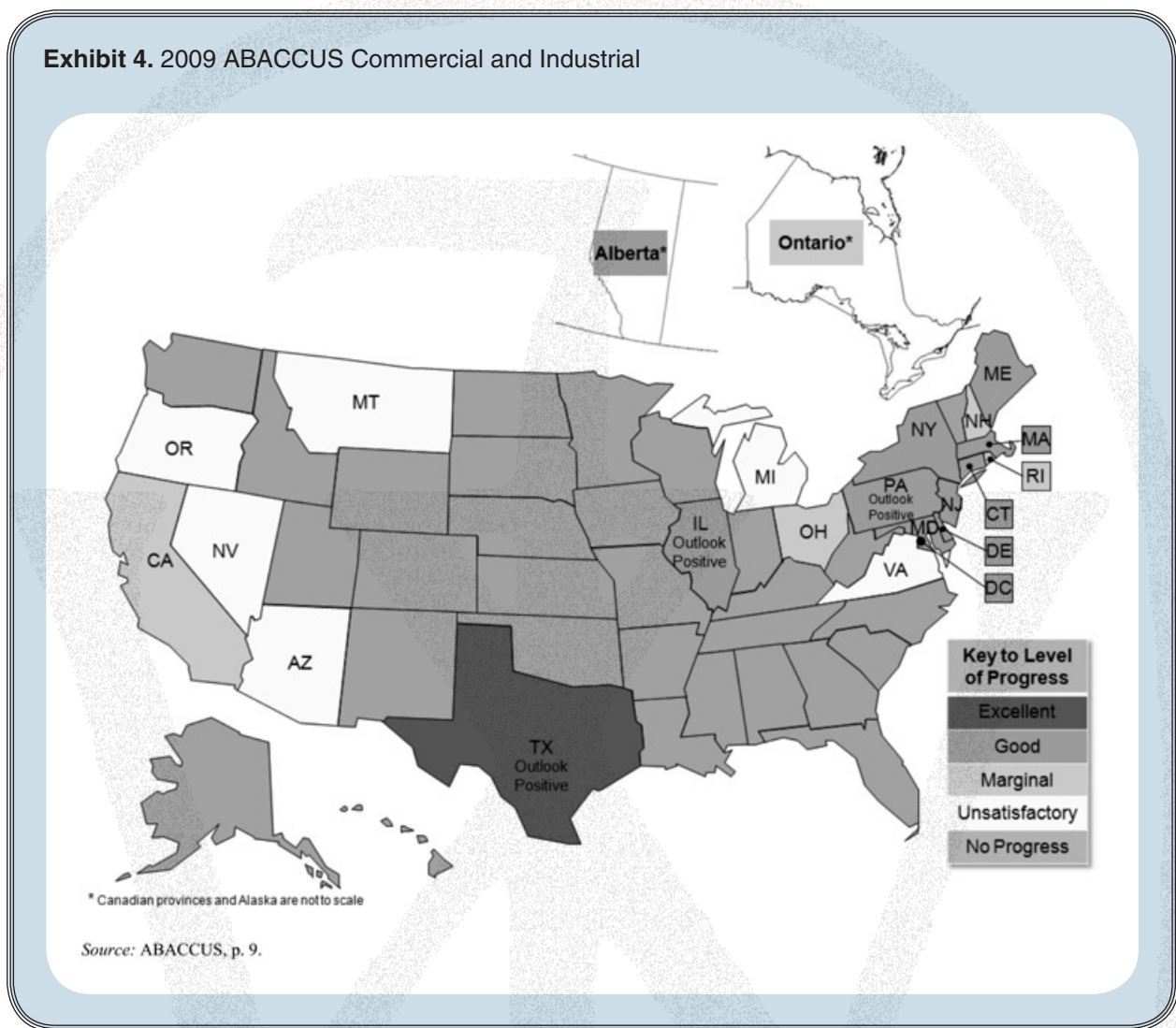
sion-line upgrades to accommodate new uses of the bulk power network.³

In future decades, innovation is likely to move to the customer side of the meter. First of all, many utilities are now adding new meters in response to regulatory mandates and as a result of improved cost-recovery signals. The new meters will serve as an information portal for the “smart grid” of the future. Customers of all sizes will have the ability to respond to new price signals every 15 minutes and curtail usage as the result of market signals.

Innovation is likely to move to the customer side of the meter.

Customers will have the ability to participate in the power markets and install new appliances and devices that are tied to the smart grid. Increased communications and more advanced controls will become the norm, and the smart appliances and devices of the future will interact with the market. Over time, new appliances and devices will be more capable of automated control and interaction with the smart grid as a result of market prices and reliability signals

Exhibit 4. 2009 ABACCUS Commercial and Industrial



that will be selected by the consumer or the consumer's service provider.

This technological innovation has just begun at the customer side of the meter. Some market observers draw a parallel between the electric industry today and the telecommunications industry several decades ago. We joke now about cumbersome car phones that were still a luxury at their height of usage. In contrast, today's teenager has a cell phone with greater mobility than a car phone and with much greater capability than a telephone: text messaging, sending images, Internet access, and "applications." We can speculate that the "apps" of the electric industry may one day be just as varied as those in consumer communications. But what apps will the energy consumer use?

No one can predict what energy consumer service applications will become popular. As suppliers, all companies with a stake in the con-

sumer side of the electric industry need to determine which markets to enter. A huge range of new products and services will likely be offered to retail consumers. Devices will interact with the marketplace and will provide savings and value to the consumer without much need for human monitoring. New companies will arise in the chaos that is likely in a new market at least for another decade.


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Businesses are also energy consumers. As consumers, they will need to determine which new technologies to adopt and use to manage usage and increase value. In the restructured markets, each business can determine how best to participate in the markets. The business may

prefer enhanced power quality or reliability, or it may seek to lower cost, even if it means less reliability. Other businesses must work hard to support their corporate sustainability goals. The packages of solutions will become as varied as the consumer preferences for energy services.

The ABACCUS report can provide some guidance to businesses *as suppliers* to answer the question, “Where is the action taking place?” The states that have made good progress with respect to electric restructuring are most likely to encourage innovation in new products and services. Consumers in those markets are more likely to experiment with new products and services because they are becoming more accustomed to energy-service choices.

The ABACCUS report can also provide guidance to businesses *as consumers* of energy. States that are performing well in the C&I segment of the industry are likely to represent regions where unique energy products and services will be found, and where energy prices are more likely

to be market-responsive. On the other hand, if an energy consumer is pleased with traditional regulation, the states that have not restructured are likely to provide the sorts of tariff you have been used to and would prefer. 

NOTES

1. Treadway, N. (2009, December 7). *Annual baseline assessment of choice in Canada and the United States* (ABACCUS). Houston, TX: Energy Retailer Research Consortium, p. 2. Available: <http://www.defgllc.com/content/defg/abacus2009.asp>.
2. Public Utility Commission of Texas. (2009). New electric generation plants in Texas, p. 1. Available at <http://www.puc.state.tx.us/electric/maps/gentable.pdf>.
3. Traditionally, electric utilities built power plants to serve their retail customers—that is, their local or “native” load. Power purchases and exchanges among utilities were not as common as they are today. The transmission network was primarily designed and constructed to serve a utility’s reliability needs, not market transactions among utilities. Today, electric transmission is used to accommodate long-distance economy transactions, and transmission planning and construction must address future market transactions. As a result, transmission is becoming more robust.

Appendix. Current Level of State Activity

California

- In May 2007, the California Public Utilities Commission (CPUC) determined that it would investigate the potential to reopen the retail market for direct access. The CPUC determined in Phase I of the proceeding that it does not currently have authority to reinstitute direct access. This is because the California Department of Water Resources (DWR) still sells electricity under existing law, and the CPUC must extricate DWR from that role prior to the reopening of the market. Phase II of the proceeding is considering the public policy merits and prerequisites to reopening direct access.
- In October 2009, Governor Arnold Schwarzenegger signed into law SB 695 affecting electricity rates (creating two rate indexes for residential consumers) and lifted a cap on shopping by allowing a small segment of nonresidential consumers to shop for electricity subject to conditions. Direct-access sales can increase to the historically highest amount of annual direct-access sales for each utility.

Connecticut

- Connecticut regulators considered utility requests to permit long-term power contracts as a hedge against future cost increases. The risks associated

with hedging have significant consequences for retail market entry and the health of a competitive marketplace. Long-term contracts that become higher than future market prices will place a burden on consumers, while long-term contracts that become lower than market prices will effectively freeze competitors out of the marketplace.

- Connecticut placed limits on utility contracting for default service.
- Over the past year, residential switching has increased significantly from 6.6 percent of customers to 17.7 percent of customers. Likewise, business customer switching has reached 76.7 percent of sales overall, and large customer switching exceeds 91 percent.

Illinois

- The Illinois Commerce Commission has a new Office of Retail Market Development (ORMD). It prepared its first annual report in July 2008 pursuant to the Illinois Public Utilities Act.
- Other changes in the law were designed to remove barriers to competition for residential and small commercial customers.
- There have been new suppliers certified to offer products and services to small consumers.

- During the past two years, the commission has determined that larger customers are capable of securing power competitively.
- Depending on the utility service territory, the default service tariff has been eliminated for customers above a certain size and upon a certain date.
- While there is negligible residential customer switching, small-to-medium C&I customer switching rose in Illinois from 50.2 percent to 54.5 percent, and large (greater than one megawatt) C&I customer switching increased from 92.6 percent to 94.4 percent.

Maine

- In June 2009, the Maine PUC determined that ratepayers are best served by allowing the utilities' agreement with ISO (Independent System Operator)-New England to automatically renew for a two-year term. The MPUC had earlier assessed whether the ISO-NE's transmission cost allocation was equitable. The MPUC found that the ISO-NE structure benefits Maine's markets and consumers through operational control of the grid, market design and operation, and development of demand-response programs. The MPUC directed Maine's two largest utilities to aggressively pursue reforms of their relationship with the ISO-NE.
- In October 2009, the MPUC approved the first long-term contract since electric restructuring began by approving a 20-year contract with a wind developer delivery of the 60-megawatt Rolins wind project in Penobscot County.
- Although residential switching decreased slightly this past year, nonresidential switching increased in the state from 36 percent to nearly 45 percent among medium C&I customers. For large C&I customers, switching increased from 91.8 percent to 93.2 percent.

Maryland

- In December 2008, the Maryland Public Service Commission (MDPSC) issued a report ordered by the State General Assembly in 2007. The report stated that Maryland should not try to repurchase generating units that were sold at the beginning of electric market restructuring. The MDPSC urged new laws to protect consumers and partial reregulation by shifting the jurisdiction of future power plants to the state of Maryland.
- In February 2009, the Maryland State Finance Committee introduced Senate Bill 795, the "Maryland Electricity Reregulation and Energy Independen-

dence Act of 2009" with the support of the governor. The bill stated that competitive retail electric markets did not develop as envisioned. In April, Maryland's House Economic Matters Committee voted nearly unanimously to kill the bill.

- Residential switching increased from 3 percent to 4.2 percent, mid-sized C&I switching increased to 62.3 percent to 67.3 percent, and large C&I dropped from 94.3 percent to 93.5 percent of peak load obligation. (This is the second-highest rate in the country, just behind Illinois.)

Michigan

- In Michigan, a bill introduced in December 2007 (HB 5524) has become law and more or less rescinds restructuring, placing a utility-specific load cap of 10 percent.
- On October 6, 2008, Governor Jennifer Granholm signed a pair of bills: HB 5524 (2008 Public Act 286), amending the Customer Choice and Electricity Reliability Act, and SB 231 (2008 Public Act 295), addressing energy planning and renewable energy. PA 286 requires customers who have elected choice in the past to declare within 90 days whether they would continue to receive power from an alternative electric supplier. Customers are required to give notice of a return to regulated service and pay the higher (for one year) of average rates or market prices at the time of return. New customers would not be eligible for choice and would receive standard tariff service.

The Michigan Public Service Commission (MPSC) determines how to treat first-come-first-served provisions of the law. In the Consumers Energy service territory, maximum (10 percent) has been reached. Within the DTE Energy service territory, 8 percent of load has switched, and it is expected to soon reach the maximum, placing pressure on the legislature to revisit the cap provisions given customer interest.

New Jersey

- In late 2009, the 2010 resource auction became under way. New Jersey is dividing the segments of power into smaller amounts. In the JCP&L service area, for example, there is a transition toward more tranches of approximately 100 megawatts each. There will be 18 tranches this year, but by the 2012 auction there will be 53 tranches. The average default service generation price next year will include power procured in the 2008, 2009, and 2010 auctions, with 2010 auction fixed-price

contracts replacing those from 2007. (See below for more on default service.)

- While there is negligible residential customer switching, medium-C&I customer switching rose in New Jersey from 13 percent to nearly 18 percent and large C&I customer switching remained at about 83 percent.

New York

- In New York, nearly three-quarters of large industrial consumers and over one-half the commercial customers are purchasing power from competitive suppliers. Numerous electric-rate offerings from numerous suppliers are available, including guaranteed savings programs, fixed and variable prices, and green power. New York benefits from an intrastate ISO with advanced policies regarding demand response. These policies allow retail customers to participate directly in the bulk power market and to provide services needed for the operation of the transmission system. New York is fine-tuning its market rules including how to place sanctions on retailers who do not follow the rules—a compromise between taking back their license to operate in New York and doing nothing.
- New York is also working on timelier dispute resolution and training of retailer representatives.
- Nearly 17 percent of residential consumers are purchasing power from competitive suppliers. Switching rates continue upward by several percentage points in each category in New York, reaching 46.5 percent of retail sales in the state, and over 90 percent of electricity sales to large industrial customers in two urban service territories.

Pennsylvania

- Like several other states, Pennsylvania is pursuing additional energy-efficiency programs while aggressively fostering retail market development.
- In October 2008, HB 2200 became law as Act 129 of 2008. The Act expanded the PUC's responsibilities regarding the reduction of energy consumption and demand. The PUC must adopt an Energy Efficiency and Conservation Program, conduct rigorous evaluation of the program, and analyze the costs and benefits subject to the total resource cost test.
- In the future, the PUC is required to address electric distribution utility and default service provider responsibilities, conservation service providers, smart meter technology, time-of-use rates, real-time pricing plans, default service procurement, market misconduct, alternative energy

sources, and cost recovery. Meetings in September and October 2009 addressed the draft audit plan for the statewide program. The PUC approved default service plans for PPL, PECO, and MetEd/Penelec, which include market-reflective pricing, purchase of receivables, and other tools to foster retail market development.

- Two of the seven major utility service territories saw increases during the past year in switching rates, increasing to 51 percent and 60 percent of sales in those regions, respectively. Significant migration is expected in PPL in 2010, as rate caps expire and numerous residential and nonresidential competitive suppliers enter the market.

Texas

- Texas has made excellent progress by adopting rules that encourage numerous power producers and retailers to compete and to offer a variety of services. Texas laws do not give incumbents undue advantage.
- Texas ended its "price-to-beat" (default service) at the end of 2006 after five years and residential consumers made a smooth transition to a competitive rate. Today, 99-plus percent of the Texans who are eligible to choose a retail energy provider (REP) are served with a competitive product (not state-regulated). Forty-seven percent of eligible residential customers receive service from nonincumbent retail electric providers. Those who remain with the incumbent have, for the most part, made an observable choice (electing service with a specific term). Switching rates continued to rise by several percentage points in each category in Texas, reaching 64.9 percent of total eligible retail sales in the state.
- Texas has advantages over other states including a state-regulated (intrastate) ISO with responsibility for reliability, open-access transmission, settlement in the energy-only market, managing retail switches, and managing renewable energy credit trading. Texas also has policies that promote investments in generation, a healthy economy, a favorable business climate, and consistent regulations. However, it is not these features alone that have resulted in robust electricity choice. Rather, it has been the deliberate policy choices made by the Texas Legislature, the Public Utility Commission of Texas, the ISO (ERCOT, the Electric Reliability Council of Texas), and electricity market participants that have provided a new platform from which competitive services could be offered.